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Editor's Note: University and college teachers and students of Economics, Political Science and Sociology/Social Anthropology are invited to send to us questions of wider interest on the subjects of their study. We shall endeavour to publish in subsequent issues of the journal answers to selected questions received by us. This will form a separate section of the journal. The authors of the selected questions shall receive complimentary copies of one year's issues of the journal, as a token of our appreciation.

## EDITOR'S NOTE FOR THE SILVER JUBILEE VOLUME

It is a matter of pleasure and pride to publish the twenty fifth volume of the journal. Indian School of Political Economy started bringing out this journal from 1989. Following the object of the School, the journal has been devoted to the study of development of Indian economy, polity and society.

Since its inception in 1970, the School has attached great importance to promoting research on our important societal issues and educating public opinion on them through a critical analysis of them. For a number of years, the School conducted training programmes for the elected representatives, especially at the local governmental level, as also for University and college teachers. As the response of the elected representatives to such training programmes appeared to become less enthusiastic with the imposition of Emergency in the country in the mid-'seventies and as the University Grants Commission of the country started itself sponsoring refresher courses for University and college teachers, we felt the need for dissemination of analytical studies on current developmental issues in a different format. Hence, came the idea of starting a journal devoted to this purpose.

On the occasion of the release of the Silver Jubilee volume of the journal, we have placed soft copies of all volumes, excepting the last one, on the website of the School, [www.ispe.org.in](http://www.ispe.org.in). For this silver jubilee volume, we have prepared author-wise and subject-wise consolidated indices of the articles published in the journal. These appear at the end of this volume. While preparing the subject-wise consolidated index, where appropriate, we have re-classified some of the items, for example, from the subject-head of Finance to Banking or Public Finance and Fiscal Issues or from Planning and Economic Development to Macroeconomics or Investments, Money and Prices. Where relevant, some items have been shown under more than one subject-head, for the convenience of the readers.

Apart from serving its principal useful purpose of easily locating the articles, incidentally, the subject index shows that over the years, the relative number of articles on themes in different areas seem to have undergone some change, perhaps as the changing economic, political and social situation have marked a change in the importance which the researchers have attached to different themes.

Over the years, the journal has covered research articles on themes in a wide range of areas, including agriculture, rural economy, industry, labour, foreign trade and balance of payments, money, banking, finance, government finances, planning and development, education, health, population, urbanisation, water resources, women's studies, politics, law and constitution, administration and governance and political economy, etc. As we depend mainly on the articles submitted for publication by researchers, the relative coverage of these different areas of study has been naturally somewhat uneven. For example, articles on themes in areas such as agriculture, rural economy, industry, public finance, planning and development and politics seem to dominate in numbers.

Earlier years saw a large number of research papers devoted to themes related to agriculture. In fact, the initial years of the journal saw a number of surveys on different aspects of agriculture contributed by the Honorary Fellows and the staff of the School. These included surveys on development of administration of agriculture (since the Famine Commission in 1880), institutional finance for agriculture, agricultural credit, growth and investment in agriculture, irrigation and water management, impact of irrigation on productivity of land, dairy development through cooperative milk producers' societies, etc. The survey of growth and investment in agriculture highlighted not only the reduction in the growth of real fixed capital formation in agriculture but pointed out that the increasing dependence on private investment had resulted in an uneven regional development of

agriculture and neglect of agriculturally poor regions. A similar highly uneven regional distribution of agricultural credit emerges in the survey of agricultural credit. A paper which revisited the critical theme of food management carefully describes and analyses the working of the system of public distribution of food grains in the country brings out its shortcomings and presents a new approach to the management of the food economy. The new problems and pressures on the food economy of the country brought to the forefront by the adoption of the National Food Security Act, including the need for adequately providing for food and nutritional security to the country's population while keeping the food subsidy under control for our own fiscal balance if not for eventually arriving at a permanent solution to food subsidy and public stockholding for food security to be worked out with World Trade Organisation, also call for another revisit to the country's food economy. Apart from these important themes, the earlier years saw the coverage of themes such as government intervention in agricultural markets; agrarian relations in India since Independence; agrarian relations and poverty; distribution of land holdings in India; land reforms and agrarian structure in Maharashtra; a perspective on land-use planning for eastern India; etc. Many of these issues still afflict Indian agriculture, and so, the importance of these earlier themes has hardly diminished. While the number of research papers on agriculture has somewhat declined over time, some new themes such as water rates for water supplied from the reservoirs; political economy of irrigation development; Panchayati irrigation management systems; institutional imperatives for watershed development programmes; social change through voluntary action; foreign trade in selected agricultural food commodities; and agrarian crisis in Andhra Pradesh, etc, have received researchers' attention.

Important surveys relating to the area of administration, such as, Development of Administrative Services in India, Salaries of Central Government Employees in India, and Issues in Decentralised Governance, were published in the journal mainly through special efforts of the then editor and the staff of the School. The paper on the salaries of Central Government employees reviews pay revisions right from the earliest revision, which took place in 1856 up to the recommendations in 1983 of the Fourth Pay Commission after Independence. It provides detailed statistics on the census of employees and the wages and salaries of the Central Government employees and concludes (tongue in cheek) that the country "now has a well provided Central Service". It ends by quoting a Planning Commission's observation that "high wage public employment could well limit our ability to sustain a more broad-based programme for employment generation and poverty alleviation." Subsequent pay revisions at the Centre and state levels have continued to throw in disarray the Union and state government finances and evoke a number of research papers on the subject. However, an update examining the question of re-structuring government and public sector employment and wage and salary structure in the context of the new policy of liberalisation may be very much in order.

A fair number of papers in the areas of Industry, Labour, Foreign Trade and Balance of Payments have been published in the journal. A unique experiment of the transfer of ownership and management of sick unit, namely, Kamani Tubes Ltd. to the workers' union in the company, following a Supreme Court decision to this effect, was reported and examined in an early issue of the journal. Papers on Household Purchases of Textiles: 1972-1987, and Household Purchases of Textiles: 1972-1987, A Disaggregated Analysis, based on the rich data of the Market Wing of the Textile Committee were published in the journal in the early years of the journal. Given the

relatively limited thrust in R&D activities in industry in the country, writings on this theme are also somewhat limited. Against this backdrop, the journal published a summary of a thesis on Research and Development in India, reviewing the extent of progress of R&D activity in the country. It subsequently followed it up by a summary of a book on technological self-reliance in Indian industry bringing out analytically the factors determining R&D activities, such as the sales and expenditure thresholds and the market-pull necessary in the form of competition, and outlining the necessary policies to encourage greater R&D activities in the country, implied by the analysis. Follow-up studies and papers on how far the new economic policy removing capacity constraints on industry and encouraging greater competition, internally and externally, has promoted technological development of industry and other sectors of the economy are very much warranted now. The journal also published papers related to individual industries, for example, on Indian tea industry, on stabilising sugar industry, the political economy of Indian sugar, political economy of jute industry modernisation, technology issues in India's machine tool sector, liberalisation, firm size and R&D performance of Indian pharmaceutical industry, pesticides industry in India: performance and constraints: performance of Indian iron and steel industry and competitiveness of the firms, and electronics industry under liberalisation. There were papers on different important aspects of industry also, like: the development of public sector policy in India; the trends in capacity utilisation in the Indian manufacturing sector, 1951-1986; market concentration in Indian manufacturing sector; and employment growth in modern small scale industries. A special theme paper, Governance, Supervision and Market Discipline: Lessons from Enron (in the US), got prepared at the initiative of the then Editor, attracted a large number of Comments, which were also published in the journal. A paper, defining and characterising the co-operative as a special and distinct form of

organising and managing a firm, outlines a strategy for reviving the co-operatives, drawing on the maximising principles appropriate for the co-operative firm.

In the area of Labour, papers on important diverse aspects of labour were published, for example, characteristics and trends of employment in India, 1977-8 to 1999-00; an inter-regional analysis of employment in the organised manufacturing sector of India; factors determining choice of mode of employment by the rural non-farm workers; youth employment and unemployment in India: flexibility and rigidity in labour market; magnitude, characteristics and correlates of child labour in India in the 1990s; the conceptual and administrative boundaries of Bonded Labour System Abolition Act, 1976, to name a few.

The areas of Foreign Trade and Balance of Payments included papers on a number of themes related to foreign trade, such as gold exports from India during the period 1931-1939; the impact of diversification of composition of exports; intra-industry trade in Indian capital goods industries; and the growth in India's intra-industry trade. A survey of India's balance of payments - 1948-49 to 1984-85 was followed by a review of India's balance of payments: 1985-86 to 1993-94; making the need to update the survey to the present years apparent. Establishment of WTO saw a number of papers on different aspects of WTO and impact thereof, giving rise to publications such as: An Unequal Treaty: World Trading Order after GATT; India's Rice Trade in a WTO Regime; and WTO and Sri Lanka's Farm Trade. A paper on trade dispute settlement in WTO covered a detailed account and evaluation of the various cases of disputes at the WTO initiated either by or against India.

In the area of Banking, papers on Basel II from the Indian perspective and the implications of Basel II for Indian banks were published in recent

years. New research papers on Basel III would be welcome now. In the area of Finance, some important papers covered themes such as finances of the private corporate sector; and the impact of stock market reforms on liquidity, based on the evidence from Bombay Stock Exchange.

In the area of Public finance and fiscal policy, the flow of papers was more or less even over the years. A detailed historical review of democratic decentralisation in India under the Panchayati Raj system also addressing the issues of Panchayati Raj finances for playing the vital role in promoting rural development in the widest sense was published in the journal even before the 73rd and 74th Constitutional Amendments which sought to place the third tier on a firmer footing. Later papers on the subject published in the journal continue to emphasise the role of the Panchayati Raj system in providing accountability to, and improving the planning and monitoring of, local level developmental initiatives and in promoting a more balanced regional development. However, the authors of these papers also lament the inadequate devolution of powers by the states, enabled but not mandated by the Constitutional Amendments, which has greatly hampered the Panchayati Raj institutions in delivering on these expectations. Some of the other important issues examined in the area of Public Finance and Fiscal Policy were: tax structure developments in India during 1950-80; fiscal stress and fiscal dependency of Indian States; continuous deterioration and bleak prospects of state finances; an estimate of Government revenue from seigniorage and inflation tax in India for the period 1952-2000; the role of population in criteria-based revenue sharing in India, and another paper critiquing it; and in more recent years, a paper comparing the rule-based fiscal consolidation acts in India and the treaties in European Union. Papers on dynamics of inflations and fiscal deficits drawing implications for inflation targeting, and the discretionary monetisation of fiscal deficit for fiscal discipline, and on the Indian experience in

sterilising capital inflows are relevant in the context of recent developments in monetary and fiscal policy for the country. In the areas of Macroeconomics and Investment, money and prices, papers reporting studies on business cycle analysis in the Indian context, analysing money-output dynamics over the business cycle in the Indian context, and the empirical tests of the real business cycle model of the Indian economy, may be mentioned.

The journal published a number of important papers over the years on Planning and Development. The founder-Director and the first editor of this journal especially prepared a paper titled Development Planning: The Indian Experience, on the basis of Professor Sukhamoy Chakravarty's book on the subject to present his "distilled experience of Indian planning". A comprehensive review of the planning and macroeconomic models of the Indian economy was presented in another paper. A paper presenting probably the first model-based estimation of the potential growth rates for the Indian economy and the Indian version of the Okun's Law was published in the journal. Another paper on inter-state and intra-state variations in economic development and standard of living, published in the journal, constructed for the first time constant price comparable series of state domestic product. The journal published several well-known papers by Professor Suresh Tendulkar and his co-authors on inter-temporal and inter-fractile - group movements in real levels of living for rural and urban population of India and related themes, presenting detailed analysis of the costs and levels of living based on the data from National Sample Surveys. These and other contributions have led to eventual use of the price and quantity data from the National Sample Surveys for construction of commodity and population group-wise price indices, including their later use in measurement of poverty. A Report of the Committee on Consumer Price Index Numbers, appointed by the Ministry of Labour, Government of India

submitted as early as in February 1978 (also re-printed in the Documentation section of this journal) had strongly recommended such a construction of the Consumer Price Indices in India. It took nearly 30 years for the Government to implement this very sensible proposal. Attention needs to be drawn to a paper reporting a careful comparison of employment, income and food intake of the poor, based on daily recording of work, income and food intake of the poor in tribal and non-tribal villages of Odisha and a non-tribal village of Kerala. One cannot avoid the temptation to draw attention to two important findings of this rare piece of research. One, lower consumption of food and calories goes hand in hand with lesser time devoted to productive work, implying that the now well-known observation about declining calorie consumption by the poor may very well reflect reduced work effort due to lack of availability of work. Second, with good land and water management, better accessibility of food from the public distribution system and better implementation of government job creation programmes, the per capita real per day income and the real per day food expenditure in the tribal village of Orissa were higher than those for the highly literate and better educated populace of the Kerala village, predominantly dependent on wage employment in agriculture and non-agricultural work, and with an inadequate coverage of public distribution food and availability of work. A seminal paper on development and environment, examining the interface of income, health and environment through an econometric investigation, was also published in our journal recently, which happened to be the last publication of the eminent econometrician, the late Professor A. L. Nagar.

Papers like, *The Inefficiency Syndrome in the Indian Power Sector - Main Issues and Conclusions of a Study*, *State Road Transport Undertakings in India: Critical Issues, Constraints and Emerging Options*, *Indian Railway Finances - A*

*Critical Review of Basic Issues and Emerging Options*, cover crucial areas of power and transport sectors.

A number of papers covering significant aspects of education were published in the journal. These included *A Survey of Progress of Education of Women in India: 1881-1981*, reporting the progress of female literacy from 0.3 per cent in 1881 to 8.9 per cent in 1951 to a still very low level of 29 per cent in 1981 and also drawing attention to the socio-economic effects of women's literacy and education. A paper updating the survey of this important theme would undoubtedly be very useful. Some other themes related to education addressed in the papers published in the journal were political economy of education in India; wastage and non-participation in education; higher education under structural adjustment; changing patterns of financing education; and internationalisation of higher education in the context of GATS. A paper comparing the trends in public expenditure on education in two educationally backward states, namely, Andhra Pradesh and Rajasthan shows that through sustained public expenditure on education Rajasthan, which was much behind Andhra Pradesh, has been able to out-perform it in educational development. Yet another paper reports how devolution of powers to local bodies as part of decentralised planning in Kerala could make a salutary impact on aided government lower primary schools, which were facing a threat of closure due to declining enrolment.

The journal being devoted to the study of the development of Indian economy, polity and society, includes a wide range of research papers in the areas of political science and sociology besides. A significant number of important research papers in Politics, Law, and Constitution have been published in the journal. A Review Article, *Do's and Don'ts in Constitutional Amendments*, among other things criticised the 73rd and 74th Amendments for disturbing the

basic structure of the Constitution by creating a third tier of constitutional organs thus curtailing the power of the States. Four papers specially written for the journal by the late Professor Satyaranjan Sathe on judicial activism were later published together separately as a well-known book on the subject. A leading paper in the volume on Political Parties and Elections in Indian States: 1990-2003, entitled *From Hegemony to Convergence: Party System and Electoral Politics in The Indian States, 1952-2002* provided an overview of the evolution of party system at the state level and brought out a paradox involving a trend towards opening of competition among political parties leading to "the tendency for the major players in the party political arena to become like one another". Some other noteworthy papers in the area of Politics, Law, and Constitution are: *Development and Decay of The Indian Polity*; *Supreme Court Guidelines on Reservation Policy: An Evaluation*; *The Political Economy of Populist Programmes*; *Panchayats in India - Approaches and Ground Realities in a Historical Perspective*; *Party Politics and Outsourcing Policies in US: Implications for India's IT-BPO Industry*; etc. A seminar on the theme of political response to economic restructuring stimulated a research paper on *Voters' Response to Economic and Governance Outcomes and Electoral Trade-off between Inflation and Growth: Evidence from 2009 Lok Sabha Election*. The paper finds evidence that vote shares for the Indian National Congress and the Bharatiya Janata Party in the states in the 2009 Lok Sabha elections were influenced by consumer price inflation, growth rate of per capita net state domestic product, the density of rural and urban roads, the employment and income supplement provided under the National Rural Employment Guarantee Act and subsidised food grains provided through Public Distribution System in the states. It identifies the *electoral trade-off* between consumer price inflation rate and the growth rate of per capita NSDP and the other factors causing shifts in this trade-off relationship. The results

need to be further examined by considering other elections (for instance, the decisively path-changing verdict of the 2014 Lok Sabha elections), larger data sets (for example, analysing voting patterns at constituency level) and more refined econometric methods (such as the seemingly unrelated error estimation or the probit or logit models). The possibility of incorporating the electoral trade-off between inflation and the growth rate with the *long-run* economic trade-off between them in the familiar macroeconomic models also holds promise to take the analysis of the related policy choice further.

Research papers in sociology were relatively fewer in number, especially in the earlier years. They mainly related to the study of the disadvantaged sections of society. An insightful leading paper in the volume devoted to the theme: *The Scheduled Castes: An Inter-Regional Perspective* pointed out "Today one might as well say that the changing situation of the Backward Classes, of which the Scheduled Castes form an important part, provides the best insight into Indian society as a whole." Summing up the situation assessed in a paper on Tamil Nadu in the same volume, it observes that "the possibility of different Dalit castes coming together looks remote at the moment" and asks to what extent the story would not be the same in other parts for "Party politics does change things, but the social structure has a way of reasserting itself when too many things are sought to be changed in too short a time." Some other papers in this area include: *Development of Policy towards Socially and Educationally Backward Classes*; *Dalit Question of Inequality, Exploitation and Mobilisation (A Micro View of Ground Realities)*; *Integrating Dalits with Caste-Hindus: The Story of Ekatma Samaj Kendra*; *The Traditional Maharashtrian Village: Gavgada, Resume and Reflections*; and *Continuity and Change in A Tamil Sambavar Village*. In the area of women's studies, the journal published research papers such as *Employment of Women in India, Progress of*



Education of Women in India: 1881-1981, Women and Public Policies in India, Increasing Gender Bias in Rural Economy of Madhya Pradesh, and Violence and Atrocities against Dalit Women in Rural Uttar Pradesh.

Recent issues/volumes of the journal have sometimes been theme-based. These have included themes, such as The Scheduled Castes: An Inter-Regional Perspective; Political Parties and Elections in Indian States: 1952-2003; Is There a Case for Re-Organisation of States? These have been based on the annual Dandekar Memorial Seminars organised by the School. The School made a grant to the Centre for Study of Developing Societies, New Delhi, to include in the exit polls conducted by them questions to attempt to find out why people voted the way they did. This resulted in a volume of the journal largely devoted to the theme on caste dynamics and political process in Bihar. Two volumes of the journal were devoted to the important topical theme of "Is There a case for Re-Organisation of States?", one including selected research papers and Notes prepared for the seminar on the theme and extensively revised after the seminar and the other reporting fully the proceedings of valuable deliberations in the seminar by eminent economists, political scientists, sociologists, activists and political leaders. The papers and proceedings bring out the richly diverse economic, political, administrative, ethnic arguments for and against re-organisation of the states.

The present twenty-fifth volume of the journal is devoted to the theme of urbanisation. It includes three papers on the trends in urbanisation since 1951, urban employment in manufacturing and issues relating to urban transport and urban transport policy. The School has been focusing on this critical area in recent years and has been conducting research in it and organising seminars on related themes. We are thankful to Professor

S. Sriraman, Honorary Fellow of the School and Joint Editor of the journal, for editing this special volume.

A unique feature of the journal has been a section of Documentation, which includes extensive excerpts from official (and sometimes other) documents, which are not readily accessible. Some of the notable inclusions under this section have been: M.G. Ranade's Lectures on Trade (a translation by the late Professor N. V. Sovani of the original lectures in Marathi, delivered in 1872-73); Report on the Territories Conquered from the Paishwa, Submitted to the Supreme Government of British India by the Hon'ble Mountstuart Elphinstone, Commissioner, 1872; Report of the Deccan Riots Commission appointed in India (on The Causes of the Riots which took place in the year 1875, in the Poona and Ahmednagar Districts of the Bombay Presidency.); Royal Commission on Indian Currency and Finance, 1926; Report of the Royal Commission on Agriculture, 1928; Report of the University Education Commission, December 1948 - August 1949; Report of the States Reorganisation Commission, 1953; Ambedkar, B.R., Thoughts on Linguistic States, 1955; Indian Tax Reforms, Report of a Survey, 1956, by Nicholas Kaldor; Report of The Committee on Consumer Price Index Numbers, Government of India, Ministry of Labour, February 1978, Report of The Committee on Controls and Subsidies, 1979; Report of the Commission on Centre-State Relations; Report of the Land Acquisition Review Committee on Land Acquisition Act, 1894; Urban Land Policy; Urban Housing; Industrial Policy Resolutions of the Government of India, from 1956 to 1999; Conclusions and Recommendations from the Report of the Backward Classes Commission (Kalelkar). 1955; Report of the Backward Classes Commission (Mandal) 1980; the Judgement of Supreme Court of India on Kesavananda v. State of Kerala (1973); Committee on Child Labour, 1979; Report; National Policy on Child Labour, 1987;

United Nations Convention on the Rights of the Child, 1989; Methods of Estimation of States' Tax Revenue by Different Finance Commissions; The Text of the General Agreement on Tariffs and Trade, Geneva, July 1986; World Trade Agreement, 1994; Basel Committee on Banking Supervision International Convergence of Capital Measurement and Capital Standards, July 1988; Basel Committee on Banking Supervision, International Convergence of Capital Measurement and Capital Standards, A Revised Framework, June 2004.

The journal occasionally also included specially compiled Statistical Supplements providing statistics on important aspects. Noteworthy among these are: Statistical Supplement to the issue on The Scheduled Castes: An Inter-Regional Perspective, based on the Census, All-India Educational Surveys and National Sample Surveys; Statistical Supplement relating to Elections in India, 1952-2003, and updates for 2004-2009; Selected Educational Statistics

1990-91 and 2003-2004; Analysis of Budgeted Expenditure on Education 1998-99 to 2000-01, and 2002-03 to 2004-05; Statistical Supplement based on Crime in India, National Crime Records Bureau, 1999, 2003, 2007.

We conclude this Note by placing on record our deep appreciation for the tireless efforts made by the previous editors of the journal, the late Professors V. M. Dandekar and A.S. Nadkarni and Professor Nilakantha Rath, the authors who contributed to the journal for their scholarship, referees who enabled the journal to keep a high standard, the staff of the School for their commitment to the work of the School, and to the readers for their support to the journal. It is hoped that this brief review of the writings published in the journal during the past twenty five years will stimulate greater interest among the researchers to contribute to the further development of the journal and among the readers to keep reading the journal critically.

# OVERVIEW OF NON-FARM SECTOR IN URBAN MAHARASHTRA

Sharadini Rath

*Dynamics of the non-farm economy has been shifting quite dramatically over the period between 1991 and 2005, showing very significant impact on the potential for employment in this whole sector. While urban areas have added large numbers of non-farm (other) workers by 2001, they have not found regular enterprise jobs, since these very areas have lost hiring capacity by 2005. The increase in enterprises in rural areas seems to have been able to absorb the smaller increases in rural other workers. This can be extrapolated to mean that urban areas added mostly casual, not regular, employment in the non-farm sector, and rural workers might have fared better by getting regular jobs in greater proportion.*

## 1. INTRODUCTION

This note sets out some salient features of the patterns of changes in the non-farm sector of urban Maharashtra. The data sets used here are mainly the Economic Census of 1998 and 2005, along with references to the population census of 1991 and 2001 and the series of Annual Surveys of Industries from 1998 to 2008. All these data sets shed light on different aspects of the non-agricultural economy of the state. An exhaustive review of all this data in all its possible permutations will be too complex. A more limited attempt undertaken here has been to focus on the following aspects of this economy:

1. After giving some initial figures for the rural - urban distribution of basic parameters, to focus on the urban non-farm economy.
2. After some basic overview of all sectors of the non-farm economy, to focus mainly on manufacturing and its various components.
3. To analyse the data from the point of view of employment generation capacity of the enterprises in this sector and its evolution.

The reasons behind these choices are dominated by the fact that while GDP growth rates are quoted in order to point out the increasing contribution of the manufacturing sector, it would be interesting to see in some detail how employment has fared in this growth story. While migration might be considered an indicator of distress in agricultural employment, does the

non-farm economy, when studied in some detail, throw up distress signals that point to underlying weaknesses?

The other major reason for focus on these aspects is to study the intra-state, district level variations. Do regional imbalances in the non-farm sector remain predictable, or are there indications of rooting of manufacturing in new areas of the state? Against the background of difficulties of land acquisition for industry, have urban areas other than the traditional Mumbai - Thane - Pune patch seen a significant rise in this sector, and if so what is its nature?

The aim is to create as diverse a picture of urban non-farm industry and employment as possible, so as to create a factual basis on which past and present policies can be discussed.

## 2. THE DATA BASE

There are 3 basic data bases used in this note. The population census of 1991 and 2001 are used sparingly, mainly for an estimate of the agricultural and non-agricultural worker numbers in the two years. The annual growth rates for these will be used to make simple projections for the two main years for which data is presented here. The main data that has been analysed in some detail is from the Economic Census for two years; 1998 and 2005. This is a census of all enterprises other than crop husbandry and is a remarkable exercise of the Central Statistical Organisation (CSO). All

non-farm enterprises are covered, private and public, own account and hiring. This does not count casual labour, but gives other information about these enterprises, such as owner profiles, fuel, seasonality and so on. Not all these parameters will be covered here. The focus will be on the employment aspect, by various sectors.

The other set of data is the Annual Survey of Industries (ASI). These pertain to an annual sample survey of all registered industries; those with 10 or more workers which use some source of power, and those with 20 or more workers which have none. This gives data on all workers,

regular and contract, along with input and output values, which is not available in the Economic Census.

The Economic Census gives data up to a four digit classification of enterprise and covers all sectors of the non-farm economy, while the ASI gives data mainly for manufacturing up to a two digit classification. The ASI sample includes closed units, but the Economic Census does not.

### 3. SOME BASIC NUMBERS

Maharashtra is among the most urbanised states in India. In the years 1991 and 2001, the basic population figures looked as follows:

**Table 1. Basic Comparative Demographic Figures for 1991 and 2001**

Population Census	1991			
	Rural	Urban	Total	Urban share %
(1)	(2)	(3)	(4)	(5)
Main workers	21,357,892	9,648,217	31,006,109	31.12
Cultivators	9,880,708	291,400	10,172,108	2.86
Agri labour	7,817,104	496,119	8,313,223	5.97
Other workers	3,660,080	8,860,698	12,520,778	70.77
Marginal workers	2,646,955	462,853	3,109,808	14.88
Total workers	24,004,847	10,111,070	34,115,917	29.64
Total population	48,335,701	30,601,486	78,937,187	38.77
2001				
Main workers	21,853,804	12,894,249	34,748,053	37.11
Cultivators	9,963,811	217,897	10,181,708	2.14
Agri labour	7,282,065	359,154	7,641,219	4.70
Other workers	4,607,928	12,317,198	16,925,126	72.77
Marginal workers	5,407,627	1,017,671	6,425,298	15.84
Total workers	27,261,431	13,911,920	41,173,351	33.79
Total population	55,777,647	41,100,980	96,878,627	42.43
% rise				
Main workers	2.32	33.64	12.07	
Cultivators	0.84	-25.22	0.09	
Agri labour	-6.84	-27.61	-8.08	
Other workers	25.90	39.01	35.18	
Marginal workers	104.30	119.87	106.61	
Total workers	13.57	37.59	20.69	
Total population	15.40	34.31	22.73	

Urban Maharashtra added both population and workers in far greater measure than rural areas. While remaining dominant in absolute terms, the rural workforce stagnated, and most main workers were added in urban areas. Main workers in urban areas remained largely nonagricultural, while in rural areas agricultural labour reduced, adding other workers in greater proportion. Urban areas increased their share of other workers from 70.77% to 72.77% and remained dominant in non-farm employment generation. While marginalisation of labour occurred everywhere in large measure, urban areas contributed a very small proportion of them, about 15%. Urban

population rise, saturation of employment in agricultural, and the steady march of non-farm occupations is the main story of the decade of the 1990's in Maharashtra.

Keeping in mind the analysis that will follow, it is worth taking a closer look at the regional dimensions of these phenomena in the urban context. The four districts of Mumbai, Pune, Thane and Nagpur have traditionally been the most industrialised and urbanised in the State. They continued to hold this status, and by 2001 had an even larger share of these aspects of the state than in 1991.

**Table 2. Contribution of Urban Areas of Mumbai, Pune, Thane and Nagpur Districts to Urban Maharashtra**

Mumbai, Pune, Thane, Nagpur	1991	2001	% rise	% share in 1991 urban total	% share in 2001 urban total
(1)	(2)	(3)	(4)	(5)	(6)
Main workers	6,033,801	8,278,064	37.19	62.54	64.20
Cultivators	49,357	40,374	-18.20	16.94	18.53
Agri labour	54,263	43,229	-20.33	10.94	12.04
Other workers	5,930,181	8,194,461	38.18	66.93	66.53
Marginal workers	334,506	544,927	62.91	72.27	53.55
Total workers	6,368,307	8,822,991	38.55	62.98	63.42
Total population	18,157,041	24,695,511	36.01	59.33	60.08

About 60% of the urban population of the state remained concentrated in these four districts. The share of urban Mumbai, Pune, Thane and Nagpur (MPTN) districts in urban main workers rose from 63.54% to 64.20%. So the contribution of the remaining 26 districts of Maharashtra put together to urban main workers actually dropped from 37.46% in 1991 to 35.80% in 2001. They also contributed a full 66% of other workers to the state economy. Marginalisation was low in MPTN areas and their share reduced further from 72.27% in 1991 to 53.55% in 2001, giving a pointer to the distress in rural employment on the one hand, and the relative vitality of the non-farm sector in these areas, on the other.

A similar urban - rural picture can be figured out from the Economic Census of enterprises for 1998 and 2005 in Table 3. This will help to fill in at least part of the story behind the 'other workers' in the population census.

Table 3 gives a fairly complete picture of the evolution of non-farm enterprises in the state. Enterprises remain evenly divided between rural and urban areas in the two years. In 1998, the more intuitive sense of urban areas carrying most of the hired workers, with workers per enterprise being much higher than in rural areas prevailed. However, this has changed quite drastically by 2005 in somewhat strange shifts. It is rural Maharashtra that is seen to be adding workers, total and hired, while urban areas have lost ground heavily, with an actual drop in hired workers of 3.4%. The share of urban areas in total workers dropped from 64.69% in 1998 to 60.88% in 2005. Overall, the hiring capacity of non-farm enterprises has dropped from 3.23 workers per enterprise in 1998 to 2.67 in 2005, but the most significant of this reduction has been in urban areas. Rural enterprises remain largely own account, with very low hiring capacity. It will help to look at this shift in slightly different terms.

**Table 3. Basic Parameters from the Economic Census of 1998 and 2005**

Economic Census	1998			% urban share
	Rural	Urban	Total	
(1)	(2)	(3)	(4)	(5)
No. enterprises	1,613,352	1,620,670	3,234,022	50.11
Total workers	3,688,254	6,756,464	10,444,718	64.69
Hired workers	1,495,398	4,781,505	6,276,903	76.18
Total workers/ent	2.29	4.17	3.23	
Hired workers/ent	0.93	2.95	1.94	
2005				
No. enterprises	2,112,365	2,121,575	4,233,940	50.11
Total workers	4,424,042	6,884,468	11,308,510	60.88
Hired workers	2,082,094	4,618,725	6,700,819	68.93
Total workers/ent	2.09	3.24	2.67	
Hired workers/ent	0.99	2.18	1.58	
%rise				
No. enterprises	30.93	30.91	30.92	
Total workers	19.95	1.89	8.27	
Hired workers	39.23	-3.40	6.75	

**Table 4. Rural - Urban Divide by Number of Hired Workers in Number of Enterprises**

Enterprises	1998			
	Rural	Urban	Total	urban share
No. hired workers				
(1)	(2)	(3)	(4)	(5)
0	1294517	968671	2263188	42.80
1 to 10	299905	589287	889192	66.27
11 to 50	16713	53006	69719	76.03
51 to 99	1102	5168	6270	82.42
100 & more	1115	4538	5653	80.28
Total	1613352	1620670	3234022	50.11
2005				
0	1443882	1084078	2527960	42.88
1 to 10	646339	991552	1637891	60.54
11 to 50	19583	37873	57456	65.92
51 to 99	1292	4354	5646	77.12
100 & more	1269	3718	4987	74.55
Total	2112365	2121575	4233940	50.11
% rise				
0	11.54	11.91	11.70	
1 to 10	115.51	68.26	84.20	
11 to 50	17.17	-28.55	-17.59	
51 to 99	17.24	-15.75	-9.95	
100 & more	13.81	-18.07	-11.78	
Total	30.93	30.91	30.92	

Table 4 makes the rural - urban shift between 1998 and 2005 clear by separating enterprise number by number of hired workers. The dominant category in both rural and urban areas remained the own account, non-hiring (0) enterprise with a steady growth of about 11% over 7 years. The biggest growth has come in the low hiring enterprises (1 to 10 hired workers) in rural (115.51%) and urban (68.26%) areas. For higher hiring enterprises, urban areas dominated in absolute numbers in 1998. But by 2005 all the growth has taken place in rural areas and in fact, urban areas have lost ground heavily, leading to a drop in their share and overall growth rate for these enterprises.

It can thus be seen that the dynamics of the non-farm economy has been shifting quite dramatically over the period between 1991 and 2005, showing very significant impact on the potential for employment in this whole sector. While urban areas have added large numbers of non-farm (other) workers by 2001, they have not found regular enterprise jobs, since these very areas have lost hiring capacity by 2005. The increase in enterprises in rural areas seems to have been able to absorb the smaller increases in rural other workers. This can be extrapolated to mean that urban areas added mostly casual, not regular, employment in the non-farm sector, and rural workers might have fared better by getting regular jobs in greater proportion. Using the annualised growth rate of other workers from 1991 to 2001, we can extrapolate their numbers for 1998 and 2005. By subtracting the enterprise workers from the Economic Census data, we can arrive at an estimate of casual labour for the two years. There were 50.17 lakh casual workers and 104.44 lakh enterprise workers in Maharashtra in 1998. They rose to 77.85 lakh casual workers and 113.08 lakh enterprise workers by 2005. Casual labour rose by 55.17%, while regular enterprise workforce rose by only 8.27%.

The rise of the tiny unit with 1 to 10 hired workers and the simultaneous loss of large units do not portend well for this entire sector, and we will look at this in more detail in subsequent sections. The regional dimensions of this phenomenon also reveal some startling results.

The population and enterprise census from 1991 to 2005 give a very interesting picture of urbanisation on the one hand, and the generation of non-farm employment on the other. The relationship between the two is not simple.

With this brief tour of the rural - urban balance in non-farm employment in Maharashtra, we shall now move on to focus only on urban areas and look at the sectoral spread within nonfarm enterprises and their employment evolution. We shall also look at regional variations in these parameters at the district level.

#### 4. SECTORS OF THE NON-FARM ENTERPRISES

The Economic Census enterprises can be classified at several levels. The first is the most broad, dividing them up in ten sectors. This is used across many agencies and is as follows:

1. Animal husbandry, agricultural services, forestry and fishing (primary)
2. Mining and quarrying (mining)
3. Manufacture and repair (manufacture)
4. Electricity, gas and water (EGW)
5. Construction (construction)
6. Wholesale and retail trade (trade)
7. Hotels and restaurants (hotels)
8. Transport, storage and communications (TSC)
9. Financial intermediaries, real estate, business services (finance)
10. Public administration, defence and other community, social and personal services (social)

This broad classification can be used with the enterprise census data for 1998 and 2005 for urban Maharashtra to give a preliminary insight into the sectoral behaviour of non-farm enterprises and employment.

**Table 5. Broad Sectoral Evolution of Number of Enterprises in Urban Maharashtra from 1998 to 2005 by Hired Workers**

Enterprises Hired workers	1998					Total	% share
	0	1 to 10	11 to 50	51 to 99	100 & more		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Category							
Primary	24,676	3,868	269	18	9	28,840	1.78
Mining	255	159	69	8	16	507	0.03
Manufacture	188,769	148,638	16,582	813	988	355,790	21.98
EGW	62	381	176	21	31	671	0.04
Construction	12,203	7,368	683	31	21	20,306	1.25
Trade	507,185	241,297	4,196	159	107	752,944	46.51
Hotels	32,225	40,403	4,348	182	98	77,256	4.77
TSC	81,940	28,523	2,048	278	387	113,176	6.99
Finance	37,831	38,063	8,758	994	472	86,118	5.32
Social	82,885	79,467	15,742	2,659	2,405	183,158	11.31
Total	968,031	588,167	52,871	5,163	4,534	1,618,766	100.00
%share	59.80	36.33	3.27	0.32	0.28	100.00	

**2005**

Primary	17,627	6,326	160	11	4	24,128	1.14
Mining	766	875	59	7	6	1,713	0.08
Manufacture	194,701	226,637	8,956	836	838	431,968	20.36
EGW	305	925	334	45	33	1,642	0.08
Construction	16,515	12,134	304	32	22	29,007	1.37
Trade	534,149	422,324	3,824	286	215	960,798	45.29
Hotels	28,462	54,814	2,484	132	87	85,979	4.05
TSC	119,495	53,749	1,629	236	333	175,442	8.27
Finance	49,099	69,169	5,958	517	449	125,192	5.90
Social	122,959	144,599	14,165	2,252	1,731	285,706	13.47
Total	1,084,078	991,552	37,873	4,354	3,718	2,121,575	100.00
% share	51.10	46.74	1.79	0.21	0.18	100.00	

**%rise**

Primary	-28.57	63.55	-40.52	-38.89	-55.56	-16.34	
Mining	200.39	450.31	-14.49	-12.50	-62.50	237.87	
Manufacture	3.14	52.48	-45.99	2.83	-15.18	21.41	
EGW	391.94	142.78	89.77	114.29	6.45	144.71	
Construction	35.34	64.69	-55.49	3.23	4.76	42.85	
Trade	5.32	75.02	-8.87	79.87	100.93	27.61	
Hotels	-11.68	35.67	-42.87	-27.47	-11.22	11.29	
TSC	45.83	88.44	-20.46	-15.11	-13.95	55.02	
Finance	29.79	81.72	-31.97	-47.99	-4.87	45.37	
Social	48.35	81.96	-10.02	-15.31	-28.02	55.99	
Total	11.99	68.58	-28.37	-15.67	-18.00	31.06	



Table 5 shows that the pre-eminence of Wholesale and Retail trade was maintained as the largest contributor to enterprises with a share of 45 - 46% in both years, with a growth rate of 27.61% over the 7 years. In 1998, Manufacturing and Repair was the next largest contributor with 21.98% share, with Public Administration and Others being in third place with 11.31%. However, by 2005, this picture has changed. Manufacturing has declined to a share of 20.36% with a growth rate of only 21.41%, Public Administration has increase its share to 13.47%, with a growth rate of 55.99%. The other sector that has made a strong showing is Transport, Storage and Communications, with a healthy growth rate of 55.02% and a share of 8.27% in 2005. This sector contains all computer and peripheral related development activity, including hardware and software.

However, none of these big contributors to the enterprise count in urban Maharashtra show any growth in the hiring categories larger than 1 to 10 hired workers. In fact, they show a sharp decline across the board.

Own account, non-hiring enterprises remained the largest proportion across sectors. However, their share declined from 59.8% in 1998 to 51.1%

in 2005. The lowest hiring enterprises increased their share substantially from 36.33% in 1998 to 46.74% in 2005. All higher hiring categories lost ground across sectors. To look at the effect of this pattern of growth on employment, let us look at hired workers in a similar table. The impact of the growth of own account and low hiring enterprises over this period becomes apparent in Table 6.

Urban Maharashtra lost 3.25% hired workers over this 7 years period<sup>1</sup>. In terms of growth of hired workers, both Manufacture and Public administration have lost ground, with growth rates of -12.62% and -16.53%. Even Transport, Storage and Communications has a negative growth of hired workers, at -8.54%. So the big ticket sectors have grown in terms of the number of units, but have not hired workers at the same rate. Hired workers in low hiring enterprises saw a large jump both in absolute numbers (49.3%) and in their share of total hired workers from 32.37% in 1998 to 49.95% in 2005. This was at the cost of hired workers in larger units.

In order to view these numbers in the proper perspective, it is instructive to see what kind of units were being set up in the low hiring category, by examining their fuel use status.

**Table 6. Number of Hired Workers by Sector and Hired Worker Category for 1998 and 2005**

Hired workers	1998				Total	% share
	1 to 10	11 to 50	51 to 99	100 & more		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Category						
Primary	11,608	4,900	1,276	1,584	19,368	0.41
Mining	622	2,000	526	18,164	21,312	0.45
Manufacture	458,754	330,555	56,570	500,970	1,346,849	28.21
EGW	1,374	4,230	1,451	14,738	21,793	0.46
Construction	22,340	13,296	2,201	4,504	42,341	0.89
Trade	508,820	75,700	10,674	30,800	625,994	13.11
Hotels	131,447	75,908	12,328	27,759	247,442	5.18
TSC	67,328	43,831	19,149	210,424	340,732	7.14
Finance	119,751	194,618	67,583	124,998	506,950	10.62
Social	223,247	344,915	184,671	848,055	1,600,888	33.54
Total	1,545,291	1,089,953	356,429	1,781,996	4,773,669	100.00
% share	32.37	22.83	7.47	37.33	100.00	

**2005**

Primary	12,125	2,821	753	3,543	19,242	0.42
Mining	2,506	1,279	552	8,170	12,507	0.27
Manufacture	630,470	178,918	59,122	308,408	1,176,918	25.48
EGW	3,286	7,599	3,112	16,035	30,032	0.65
Construction	30,115	6,552	2,283	6,133	45,083	0.98
Trade	799,903	72,082	20,219	48,469	940,673	20.37
Hotels	157,146	48,320	8,979	22,763	237,208	5.14
TSC	112,285	34,555	16,384	148,401	311,625	6.75
Finance	199,955	124,752	35,359	149,163	509,229	11.03
Social	359,349	319,932	155,286	501,641	1,336,208	28.93
Total	2,307,140	796,810	302,049	1,212,726	4,618,725	100.00
% share	49.95	17.25	6.54	26.26	100.00	

**% rise**

Primary	4.45	-42.43	-40.99	123.67	-0.65	
Mining	302.89	-36.05	4.94	-55.02	-41.31	
Manufacture	37.43	-45.87	4.51	-38.44	-12.62	
EGW	139.16	79.65	114.47	8.80	37.81	
Construction	34.80	-50.72	3.73	36.17	6.48	
Trade	57.21	-4.78	89.42	57.37	50.27	
Hotels	19.55	-36.34	-27.17	-18.00	-4.14	
TSC	66.77	-21.16	-14.44	-29.48	-8.54	
Finance	66.98	-35.90	-47.68	19.33	0.45	
Social	60.96	-7.24	-15.91	-40.85	-16.53	
Total	49.30	-26.90	-15.26	-31.95	-3.25	

**Table 7. Percentage Rise in Number of Enterprises with no Source of Power Between 1998 and 2005 by Sector and Number of Hired Workers**

% Rise in enterprises without power Sector	Hired workers					Total
	0	1 to 10	11 to 50	51 to 99	100 & more	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Primary	-32.85	73.24	-63.16	-68.75	-50.00	-21.82
Mining	161.67	395.83	-76.32	0.00	-85.71	191.40
Manufacture	-8.38	52.01	-42.85	-48.28	-16.67	10.45
EGW	269.81	101.32	49.12	46.67	-17.65	101.64
Construction	25.57	44.22	-70.85	-42.86	-26.67	28.88
Trade	-4.63	52.41	-33.00	43.22	104.92	13.04
Hotels	1.71	57.38	-47.56	-20.00	-4.76	26.30
TSC	34.29	63.06	-40.23	-38.77	-40.47	41.27
Finance	8.26	49.17	-51.27	-63.93	-40.98	18.15
Social	42.20	61.43	-21.94	-28.09	-41.88	42.10
Total	-0.10	54.16	-34.96	-35.64	-36.88	17.12

Table 7 shows that the number of units without any source of power in the low hiring category of 1 to 10 hired workers grew by 54.16% and this growth came from all sectors, including manufacture. What kind of growth of manufacturing took place that required very few workers and no power source?

Table 8 gives a clear picture of this and shows that some of the biggest manufacturing items that have seen a rise in the tiny unit, such as textiles, wearing apparel, tanning leather, basic metals, furniture making, have also seen a rise in being without power. It is a strange phenomenon, to say the least. We shall look into details of manufacturing in other aspects in the following sections.

The whole picture of the urban non-farm economy over this period looks precarious at best

and on a downward spiral when employment generation is considered. The urban nonfarm economy was largely driven by casual labour on one hand, and low skill jobs in low hiring enterprises, many of which required no power, on the other. Both these categories are marked by the lack of security of employment and other benefits that come from being a regular employee in large, organised units. Was this a distress response to the lack of regular employment in large hiring, stable units? It appears so. Just as migration and proliferation of own account non-specific retail trade is often a sign of distress in rural agricultural employment, the tiny powerless unit is likely to be a response to distress in urban non-farm employment.

In the next section we will expand our enquiry to a district-wise examination of the urban non-farm economy between 1998 and 2005.

**Table. 8 Number of Units in 1998 and 2005 Hiring 1 to 10 Workers Operating Without Power Source by Major Manufacturing Type, Along with Percentage Rise During this Period**

Manufacture type	Number of enterprises without power source & hiring 1 to 10 workers		
	1998	2005	% rise
(1)	(2)	(3)	(4)
Food and beverages	3756	9278	147.02
Tobacco products	537	1246	132.03
Textiles	3787	10672	181.81
Wearing apparel	21193	29420	38.82
Tanning and dressing of leather	1961	4371	122.90
Wood, cork, straw products	3788	2982	-21.28
Paper and paper products	567	1076	89.77
Publishing and printing	1975	3060	54.94
Coke, refined petroleum	31	62	100.00
Chemicals and chemical products	915	1287	40.66
Rubber and plastic	1160	1489	28.36
Nonmetal minerals (glass, ceramic, clay)	1163	2129	83.06
Basic metals	146	853	484.25
Fabricated metals	4083	4444	8.84
Machinery and equipment	897	781	-12.93
Office, accounting, computing equipment	106	38	-64.15
Electrical machinery	283	618	118.37
Radio, TV, communication equipment	244	630	158.20
Medical, precision, optical, clocks and watches	83	286	244.58
Motor vehicles, trailers	2525	224	-91.13
Other transport equipment	210	336	60.00
Furniture and others	5268	17795	237.79
Recycling, repair of household goods	13001	9799	-24.63
<b>Total</b>	<b>67679</b>	<b>102876</b>	<b>52.01</b>

#### 5. REGIONAL SPREAD OF URBAN NON-FARM ECONOMY

While urban Maharashtra as a whole has seen some interesting shifts in its non-farm economy over a period, we also saw in Table 2 that urbanisation had taken place dominantly in four districts of the state, Mumbai, Thane, Pune and Nagpur.<sup>2</sup> The four districts accounted for 60% of the urban population, 62 - 64% of main workers, and even more important, 66% of non-farm workers in the state over the 1991 to 2001 period.

A more detailed look at the regional changes reflected in the enterprise census of 1998 and 2005 is in order.<sup>3</sup> Table 9 gives the district-wise break up of the number of enterprises in urban areas in the two years, their percentage share, and the percentage rise in each district.

It becomes clear that MTPN districts retain their supremacy in non-farm enterprises, with some of them growing quite fast over the 7 year period, contributing a total of about 56% of total enterprises over the period. Both Thane and

Pune have increase their share by about 1.5%, their enterprises. Aurangabad has made strong growing by 50% and 60% over the period. Other showing over these 7 years, doubling its than Solapur, all other districts have increased enterprises.

**Table 9. Number of Urban Enterprises in 1998 and 2005 by District, Their Percentage Share in Each Year, and Percentage Rise Over The Whole Period Arranged in Descending Order of Percentage Share in 1998**

District	No. Enterprises 1998	% share 1998	No. Enterprises 2005	% share 2005	% rise
(1)	(2)	(3)	(4)	(5)	(6)
Mumbai	485492	29.96	573094	27.01	18.04
Thane	175353	10.82	261638	12.33	49.21
Pune	136592	8.43	218991	10.32	60.32
Nagpur	108674	6.71	150489	7.09	38.48
Nashik	67176	4.14	93987	4.43	39.91
Solapur	65851	4.06	54742	2.58	-16.87
Kolhapur	51382	3.17	79964	3.77	55.63
Amravati	45026	2.78	62744	2.96	39.35
Jalgaon	39191	2.42	50362	2.37	28.50
Akola	38941	2.40	40018	1.89	2.77
Ahmadnagar	36932	2.28	49269	2.32	33.40
Sangli	36114	2.23	39991	1.88	10.74
Aurangabad	33507	2.07	67471	3.18	101.36
Dhule	32929	2.03	33849	1.60	2.79
Yavatmal	24288	1.50	29262	1.38	20.48
Satara	23942	1.48	32726	1.54	36.69
Nanded	23539	1.45	33436	1.58	42.05
Buldana	22352	1.38	24777	1.17	10.85
Chandrapur	22065	1.36	26786	1.26	21.40
Raigarh	20824	1.28	30670	1.45	47.28
Parbhani	20491	1.26	26428	1.25	28.97
Bhandara	18393	1.13	23519	1.11	27.87
Latur	16783	1.04	24366	1.15	45.18
Bid	16101	0.99	17661	0.83	9.69
Wardha	14980	0.92	19017	0.90	26.95
Jalna	11592	0.72	15833	0.75	36.59
Ratnagiri	10368	0.64	11975	0.56	15.50
Osmanabad	9767	0.60	15004	0.71	53.62
Sindhudurg	6290	0.39	7217	0.34	14.74
Gadchiroli	5735	0.35	6289	0.30	9.66
Total	1620670	100.00	2121575	100.00	30.91

In terms of hired workers, Tables 6 and 9 in Appendix II show that Mumbai has lost total workers (-14.09%) and hired workers (-17.92%) mainly in the service and social sectors. However, it has also lost them in manufacturing. Thane and Pune have done well in this regard, with Aurangabad picking up in manufacture and services. Wholesale and retail trade have seen large increases across the state but this sector is not discussed in this note. Nashik is an odd case, losing workers heavily in manufacture, and not doing very well in services.

A complete analysis of all sectors for all districts will be too voluminous a task for this note. However, we shall point out the interesting

cases for some of the sectors. We will focus on manufacture for a more exhaustive treatment, especially from the point of view of employment generation.

### 5.1. Animal Husbandry, Agricultural Services, Forestry and Fishing (Primary):

The interesting story in this sector is to be found in the districts of Satara, Kolhapur, Osmanabad and Latur and is dominated by animal husbandry. It should be remembered that this is urban animal husbandry, which makes it more interesting. It is also the story of the growth of own account enterprise. Table 10 gives the figures for the four districts for animal husbandry only.

**Table 10. Animal Husbandry in Urban Satara, Kolhapur, Osmanabad and Latur**

Districts	1998			
	No. Enterprises	Total workers	Hired workers	Total workers per ent.
(1)	(2)	(3)	(4)	(5)
Satara	812	1469	126	1.81
Kolhapur	2986	4383	280	1.47
Osmanabad	155	316	75	2.04
Latur	67	119	37	1.78
Total	4020	6287	518	1.56
2005				
Satara	962	1829	70	1.90
Kolhapur	4134	6525	1079	1.58
Osmanabad	501	881	365	1.76
Latur	124	233	90	1.88
Total	5721	9468	1604	1.65
%rise				
Satara	18.47	24.51	-44.44	
Kolhapur	38.45	48.87	285.36	
Osmanabad	223.23	178.80	386.67	
Latur	85.07	95.80	143.24	
Total	42.31	50.60	209.65	

Kolhapur is unusual in the sense that almost its entire non-farm economy (rural and urban) consists of animal husbandry. The widespread animal husbandry in Kolhapur and Satara is dominated by the low hiring household unit, shown by the low worker per enterprise ratio. While this is a traditional occupation in this region known for irrigation, sugar cultivation and large cooperative milk processing units, something has changed in Osmanabad to make this an attractive proposition as a household enterprise. It is possible that urban growth has led to a demand for milk and milk products, giving an impetus to keeping cattle. However, this is a dry region, not exactly known for its agriculture. So it would be interesting to see how inputs like fodder and water are being managed year round.

## 5.2. Transport, Storage and Communications (TSC):

This is a major service sector in urban India, but has not done very well in the period 1998 to

2005. It has added enterprise (55.02%), but has lost hired workers (-8.54) (Tables 5, 6). Mumbai and Nagpur have lost total workers and hired workers in this sector heavily. In fact, if one looks at the high growth rate districts in this sector, it is possible to see that this can almost act as a defining feature of two factors: new urbanisation and connectivity.

Table 3, Appendix II shows that the high growth districts in this sector are: Ahmदनगर, Kolhapur, Aurangabad, Nanded, Latur, Jalgaon and Bhandara, along with Thane and Pune. These are all districts that fall along major highways and have also added large cities to the urban landscape of the state; which are the two conditions necessary for a rise in road and air transport on the one hand, and telecommunications on the other. Table 11 gives this picture very clearly. Most of the loss of hired workers can be accounted by Mumbai alone, in spite of large gains in other districts, indicating its gravitational pull on the economy of the state.

**Table 11. Number of Hired Workers in the Transport and Communications Sector for Some Districts by Hired Worker Categories in 1998 and 2005, Along with Percentage Rise Over the Years**

Hired workers	1 to 10	11 to 50	51 to 99	100 & more	Total
District	1998				
(1)	(2)	(3)	(4)	(5)	(6)
Mumbai	29015	27722	13585	158173	228495
Thane	8121	4080	1515	8335	22051
Jalgaon	874	188	65	1529	2656
Ahmadnagar	868	377	123	250	1618
Pune	5318	2782	911	7219	16230
Kolhapur	1876	611	465	2816	5768
Aurangabad	1228	221	80	489	2018
Nanded	534	78	134	150	896
Latur	248	231	60	133	672
Nagpur	3826	1984	350	17277	23437
Bhandara	421	261	136	565	1383
Total	52532	38643	17486	197728	306389

(Contd.)

Table 11. (Concl.)

Hired workers	1 to 10	11 to 50	51 to 99	100 & more	Total
2005					
Mumbai	47662	16379	7217	84144	155402
Thane	15465	3287	1536	14087	34375
Jalgaon	959	187	310	1567	3023
Ahmadnagar	1391	409	145	1858	3803
Pune	11975	4082	2366	11101	29524
Kolhapur	2451	385	112	1584	4532
Aurangabad	1885	482	385	2391	5143
Nanded	719	288		2901	3908
Latur	780	519	202	964	2465
Nagpur	9828	1971	666	1290	13755
Bhandara	1209	450	267		1926
Total	94706	28580	13292	122203	258781
% rise					
Mumbai	64.27	-40.92	-46.88	-46.80	-31.99
Thane	90.43	-19.44	1.39	69.01	55.89
Jalgaon	9.73	-0.53	376.92	2.49	13.82
Ahmadnagar	60.25	8.49	17.89	643.20	135.04
Pune	125.18	46.73	159.71	53.77	81.91
Kolhapur	30.65	-36.99	-75.91	-43.75	-21.43
Aurangabad	53.50	118.10	381.25	388.96	154.86
Nanded	34.64	269.23	-100.00	1834.00	336.16
Latur	214.52	124.68	236.67	624.81	266.82
Nagpur	156.87	-0.66	90.29	-92.53	-41.31
Bhandara	187.17	72.41	96.32	-100.00	39.26
Total	80.28	-26.04	-23.98	-38.20	-15.54

Except for Mumbai, Kolhapur and Nagpur, most other districts have added hired workers in all categories on enterprises in this sector. This is especially true of the newly urbanising districts as pointed out above. Pune has performed the best in terms of volumes and growth rates, and shows that in this period it was still very much a destination economy for services.

### 5.3. Financial Intermediaries, Real Estate, Business Services (Finance):

This is another large service sector that thrives in urban environs. According to Tables 5 and 6, the number of enterprises grew by 45.37%, but hiring stagnated at 0.45%. Table 12 gives an idea of the sources of this lopsided growth.



**Table 12. Number of Hired Workers in the Finance Sector for Some Districts by Hired Worker Categories in 1998 and 2005, Along with Percentage Rise Over the Years**

Hired workers	1 to 10	11 to 50	51 to 99	100 & more	Total
District	1998				
(1)	(2)	(3)	(4)	(5)	(6)
Mumbai	56724	120289	52263	101264	330540
Thane	8905	9132	2073	2435	22545
Jalgaon	1818	1604	319	120	3861
Ahmadnagar	2278	2165	385	775	5603
Pune	12528	15882	4429	4893	37732
Kolhapur	4427	4264	1334	475	10500
Aurangabad	1840	2234	503	883	5460
Nanded	1077	998	146	285	2506
Latur	706	1048	61		1815
Nagpur	5216	7380	1710	5612	19918
Bhandara	958	953	210	2121	
Total	97063	166575	63433	116742	443813
2005					
Mumbai	83272	56568	16609	97600	254049
Thane	19677	10681	3547	14476	48381
Jalgaon	3478	1389	250	104	5221
Ahmadnagar	3986	2198	322	477	6983
Pune	24664	16963	6340	25813	73780
Kolhapur	6574	2946	1098	854	11472
Aurangabad	2790	1894	250	200	5134
Nanded	1770	971	237	254	3232
Latur	1652	834	92		2578
Nagpur	10726	5806	1345	2483	20360
Bhandara	1532	638	319	135	2624
Total	161131	101538	30409	142602	435680
% rise					
Mumbai	46.80	-52.97	-68.22	-3.62	-23.14
Thane	120.97	16.96	71.10	494.50	114.60
Jalgaon	91.31	-13.40	-21.63	-13.33	35.22
Ahmadnagar	74.98	1.52	-16.36	-38.45	24.63
Pune	96.87	6.81	43.15	427.55	95.54
Kolhapur	48.50	-30.91	-17.69	79.79	9.26
Aurangabad	51.63	-15.22	-50.30	-77.35	-5.97
Nanded	64.35	-2.71	62.33	-10.88	28.97
Latur	133.99	-20.42	50.82		42.04
Nagpur	105.64	-21.33	-21.35	-55.76	2.22
Bhandara	187.17	72.41	96.32	-100.00	39.26
Total	66.01	-39.04	-52.06	22.15	-1.83

In this sector, too, Mumbai has been the weight on the state in terms of loss of hired workers, growing only in the low hiring units and losing elsewhere. This sector sees a much greater concentration in the 1 to 10 hiring enterprises across many otherwise better performing districts, and accounts for the stagnation in employment capacity. Thane and Pune have again been the best performers here.

It is possible to extract some interesting tales from this data in mining, fisheries, and above all in the social services sector, which have not been discussed here. However, these are not discussed here.

From a regional perspective it is seen that not much attention has been paid to the eastern Vidarbha districts. With the exception of Nagpur, most of these districts show very low growth, both in urbanisation and the non-farm sector as a whole. There are some interesting points in Bid, Bhandara, Akola and Chandrapur, but they will at best be illustrative of unique, highly local phenomena. While it is true that the unique, local growth impetus is highly desirable in the making of a sustainable economy, all of them cannot be included in this note.

With this illustration of some of the regional variation in different sectors, we shall turn our attention to the manufacturing sector for a more detailed analysis.

## 6. MANUFACTURE

As seen from Table 9, Appendix II, the period between 1998 and 2005 has been particularly bad for manufacturing in urban Maharashtra. As we saw in Table 4, urban areas lost workers while rural areas held on with small growth in hiring. Most of this impact is due to the slide in the fortunes of Mumbai, but most other districts have

not fared any better when it comes to manufacture, including the otherwise well performing Pune and Thane.

Urban manufacturing as a whole added 21.41% enterprises, but lost 12.42% hired workers. As we saw in Table 8, the number of manufacturing units without any source of power rose sharply by 52.01%. The growth in enterprises took place in smaller hiring tiny units, and large units shut down. Perhaps as a result of the global downturn in 2000 to 2002, manufacturing suffered.

We shall focus, as examples, on four districts: Nashik, Pune, Ahmadnagar and Jalna. The first two have a large manufacturing base, but show loss of hired workers. The latter two have a much smaller base but show gains in hiring.

Table 13 gives an idea of what happened to the employment prospects in the various manufacturing types in these four districts and clearly shows why Nashik and Pune have lost ground, while Ahmadnagar and Jalna have picked up.

Nashik is an odd case. In spite of the increasing number of hiring enterprises, it seems to have gone into a deep slump in manufacturing in this period. Except for tobacco products, it has lost hiring capacity in all other industry, usually precipitately as in leather processing, leading to an overall halving of its hired employment, from 14.38 in 1998 to 7.07 in 2005. Pune seems to have gone through a similar process, a rise in number of hiring units accompanied by loss of hiring capacity. It has seen a sharp rise in hiring in manufacture of office, accounting and computing equipment, and some gains in radio, TV, communications equipment, along with medical and precision instruments. Otherwise, Pune has suffered, with a drop of the average number of hired worker per industry from 11.43 to 5.67.

**Table 13. Number of Hired Workers Per Hiring Enterprise in Major Manufacturing Type for 1998 and 2005**

Hired workers per ent	Nashik		Ahmednagar		Pune		Jalna	
Manufacturing type	1998	2005	1998	2005	1998	2005	1998	2005
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Food and beverages	5.60	2.98	5.05	7.49	2.96	2.90	5.62	3.14
Tobacco products	29.39	59.62	22.91	49.54	16.13	3.10	90.00	136.78
Textiles	10.10	5.40	9.55	1.91	17.05	5.16	11.03	3.00
Wearing apparel	1.97	1.72	2.12	1.65	2.36	2.28	1.92	1.93
Tanning and dressing of leather	103.77	7.53	1.59	7.58	4.01	6.92	2.58	5.68
Wood, cork, straw products	7.91	4.78	3.46	3.00	3.66	3.12	2.47	3.57
Paper and paper products	43.86	6.28	32.33	13.69	20.24	7.74	10.00	11.50
Publishing and printing	10.14	14.77	5.30	2.63	4.81	4.21	2.06	10.92
Coke, refined petroleum	105.33	12.50	3.00		13.40	13.17	39.00	
Chemicals and chemical products	61.11	21.75	6.56	49.97	30.21	22.06	19.38	9.91
Rubber and plastic	38.35	8.72	3.42	18.98	10.60	8.46	16.54	24.50
Nonmetal minerals (glass, ceramic, clay)	16.81	6.74	6.58	7.01	10.86	5.46	19.68	6.25
Basic metals	50.57	9.74		106.77	17.33	13.48	63.00	120.65
Fabricated metals	20.31	5.41	2.34	3.82	12.01	5.01	27.68	8.27
Machinery and equipment	31.82	7.58	11.00	52.65	21.86	12.16	3.09	1.00
Office, accounting, computing equipment	42.06	2.33	2.50	9.00	16.54	76.44		
Electrical machinery	32.08	34.40	5.06	80.86	13.95	13.52	2.53	
Radio, TV, communication equipment	126.94	10.06	2.68	61.27	15.99	18.24	1.00	5.00
Medical, precision, optical, clocks and watches	28.11	18.63		1.00	5.33	11.98	1.00	
Motor vehicles, trailers	209.89	58.66	2.67	13.03	20.10	21.12	2.11	7.00
Other transport equipment	373.11	231.44	230.33	7.88	98.73	36.35	4.00	4.57
Furniture and others	4.17	2.20	1.52	2.34	5.44	2.67	2.71	2.18
Recycling, repair of household goods	2.70	2.25	2.35	1.87	2.76	2.20	1.96	1.84
<b>Total</b>	<b>14.38</b>	<b>7.07</b>	<b>4.99</b>	<b>12.14</b>	<b>11.43</b>	<b>5.67</b>	<b>9.17</b>	<b>10.67</b>
<b>Total hiring enterprises</b>	<b>7439</b>	<b>8836</b>	<b>2802</b>	<b>3782</b>	<b>12464</b>	<b>21725</b>	<b>850</b>	<b>1354</b>

Ahmadnagar seems to have gained where Nashik has lost; chemicals, rubber and plastics, machinery and equipment, electrical machinery and radio/TV manufacture, raising its employment potential from 4.99 in 1998 to 12.14 in 2005. Jalna has seen more modest increases, with some setbacks. It has gained in basic metals, but lost in chemicals, for example. However, overall, it has improved its capacity. Both these districts are much smaller than Nashik and Pune in the terms of the size of the manufacturing sector. However, this gives an idea of what can lie underneath the big numbers for the highly industrialised dis-

tricts.

Table 14 shows the underlying weakness of the apparent growth in Nashik and Pune. The fall of Nashik district in manufacturing has been remarkable, losing units in all but the lowest hiring category. Pune has done slightly better in the 51 to 99 category, but its apparent growth has been the result of tiny units. On the other hand, both Ahmadnagar and Jalna show that even a modest growth in absolute number of units with high hiring can lead to big gains in overall employment profile of the sector.

**Table 14. Number of Hiring Enterprises by Number of Hired Workers in the Four Districts for 1998 and 2005, With Percentage Rise Over the Period**

Hired workers	Nashik	Ahmadnagar	Pune	Jalna
(1)	(2)	(3)	(4)	(5)
<b>1998</b>				
1 to 10	6014	2708	11247	708
11 to 50	1239	75	985	121
51 to 99	75	5	94	15
100 & more	111	14	138	6
<b>Total</b>	<b>7439</b>	<b>2802</b>	<b>12464</b>	<b>850</b>
<b>2005</b>				
1 to 10	8177	3566	20562	1247
11 to 50	582	156	921	59
51 to 99	33	15	129	15
100 & more	44	45	113	33
<b>Total</b>	<b>8836</b>	<b>3782</b>	<b>21725</b>	<b>1354</b>
<b>% rise</b>				
1 to 10	35.97	31.68	82.82	76.13
11 to 50	-53.03	108.00	-6.50	-51.24
51 to 99	-56.00	200.00	37.23	0.00
100 & more	-60.36	221.43	-18.12	450.00
<b>Total</b>	<b>18.78</b>	<b>34.98</b>	<b>74.30</b>	<b>59.29</b>

The questions that cannot be answered here, but are perhaps the most interesting arising from this study of manufacturing are the following:

- \* This whole trend of the loss of big units and proliferation of small ones is often portrayed as the logical disaggregation of the manufacturing process, each small unit making one small part of the larger whole. This is not really borne out by this data. There are certain sectors where this can be imagined as being feasible and economical. There has been a drop in large units making wearing apparel, and a large increase in small ones. It is possible to think of many small units performing the function of a few large ones, though there will have to be some changes to uniformity of product and so on. Can this happen in cases such as chemicals, rubber and plastics, fabricated metals? And that too, without the benefit of power? Which production processes are being disaggregated and which are being lost completely, because they can only take place in large units? It is not possible to answer this

from this data.

- \* During the same period that Pune and Nashik slumped, what made Ahmadnagar and Jalna grow? What was the attraction of the new areas over the old established order? How does capital behave in slow times? In fact, the considerations behind certain regional choices being made are very curious in the case of other sectors as well.

To round off this picture of the manufacturing sector, we turn to the data from the Annual Survey of Industries over the period 1998 to 2008.

## 7. SOME INSIGHTS FROM ASI

Annual Survey of Industries collects very different kind of information and its base data for sampling also comes from a different source. The sample is taken from industries that registered with the Department of Industries and pertains largely to the manufacturing sector. These are:

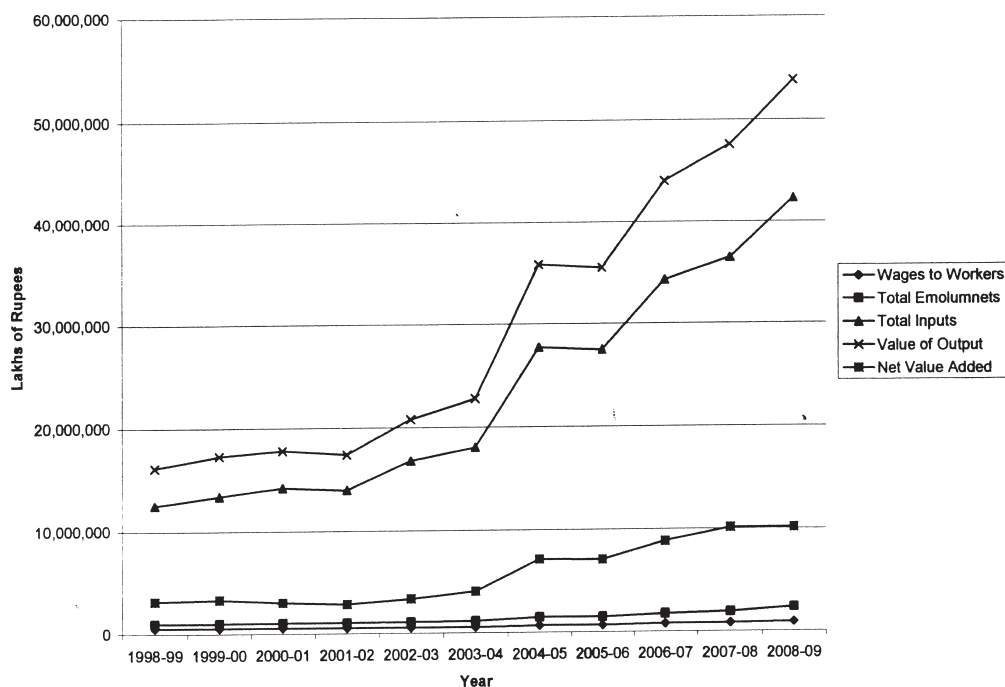
those who have 10 or more workers and use some source of power, and those who have 20 or more workers without a source of power. The data is taken from the information provided by the industries while registering and updated from time to time by the department. The sample includes closed units. The data collated and published by the CSO from this survey includes details of number of workers (including contract), input and output values, and gross and net values of income, profit, capital formation and so on. This data is available for the state as a whole and separation of urban areas is not possible. It also comes disaggregated by a two digit classification within manufacturing, as given in Section 5 above.

In the present note, we will only look at the aggregate state level data for all industries put together. The time series data by industry type is extremely voluminous and will not add significantly more to the insights from the aggregate data.

Values used here are real, using the index figures for industrial labour from the Labour Bureau's series for the appropriate years.

Graph 1 shows that the slump seen in manufacturing in the Economic Census data is reflected in the ASI data for the period 1998-99 to 2003-04 in the net value added.

**Graph 1. Real Wages to Workers, Total Emoluments, Total Inputs, Value of Output and Net Value Added from 1998 to 2009 in Lakhs of Rupees**



However, the pick up seen from 2003-04 is not reflected in wages and emoluments. Table 15 shows some relevant figures.

Table 15 shows that there was a clear reduction in the number of factories and workers until 2003-04, and it is only by 2006-07 that both are beginning to get back to the 1998-99 levels.

While real wages per worker have increased steadily over this period, their share of inputs has dropped by half, with emoluments showing a slightly less precipitous decline in share of inputs.

In terms of trends, this matches very well with the enterprise census that has been discussed in detail above.

**Table 15. Various Figures for the ASI Time Series Data**

Year	No. of factories	No. of workers	Real wage per-worker (Rs)	Worker wages as % of total inputs	Emoluments as % of total inputs
(1)	(2)	(3)	(4)	(5)	(6)
1998-99	19390	813900	64341	4.19	7.68
1999-2000	19009	854349	63076	4.03	7.31
2000-01	18528	817305	67500	3.89	7.21
2001-02	17853	816501	65467	3.84	7.39
2002-03	17570	829305	63209	3.13	6.43
2003-04	17474	773976	68561	2.94	6.23
2004-05	18711	879248	73001	2.32	5.23
2005-06	18711	879248	72317	2.32	5.23
2006-07	18612	1005380	74223	2.18	5.00
2007-08	18304	953097	81344	2.13	5.17
2008-09	20450	1034201	84271	2.06	5.48

## 8. CONCLUSIONS AND QUESTIONS

Urban Maharashtra shows interesting and at the same time contradicting patterns in urbanisation over a period and the rise of non-farm enterprise and employment. Over the period 1991 to 2001, most of the urbanisation in Maharashtra happened in the four districts of Mumbai, Thane, Pune and Nagpur. Non-farm workers were added mostly in urban areas during this period, with agricultural employment stagnating and rural marginal labour showing large increases.

However, a rural - urban picture of the enterprise census data for 1998 and 2005 shows that this employment generation of urban non-farm workers did not conform to this picture. Over this period, urban regular enterprise jobs stagnated and casual labour increased sharply. Hiring

capacity declined in urban areas, and it was only in rural areas that a positive trend was seen in hired labour.

This happened across all sectors of the economy, and is seen to be especially severe in the dominant districts of Mumbai, Pune and Thane fared slightly better in service sectors. However, manufacturing in these districts declined sharply, especially in terms of hired labour. The low hiring tiny unit that many times did not use any source of power proliferated and large hiring organised units vanished. This decline of manufacturing is further corroborated by data from the Annual Survey of Industries, which also shows that wages to workers as a proportion of inputs have been declining steadily over the period 1998 to 2009.

While the global slowdown during the period 2000 to 2003 can perhaps account for some of these features, this phenomenon was not across all regions of the state. While the dominant industrialised districts declined in manufacturing, others with smaller economies prospered, adding enterprises and hired workers. Though the picture of the state as a whole might be dismal, its regional dimensions throw up some pleasant surprises. This also raises some questions that need to be answered:

- \* The regional variations need to be examined in detail. Why were newly urbanised areas preferred over the more industrialised districts when it came to setting up large industry? What considerations did capital have in making these choices?
- \* The logic of the 'break up of large industry in favour of small units' needs to be examined further. This phenomenon does

not bode well for the vast pool of casual labour that is trapped without the hope of regular employment. It is also not desirable from the point of view of employment security and benefits.

- \* How is state policy over this period seen to be influencing these trends? Land use, input subsidies, infrastructure, power and other factors where the state plays a major role need to be examined to understand the choices that are open to those who wish to start or expand industry.

The answers to these questions do not lie in the data that has been the basis of this note. There are many other factors of the data itself that have not been fully explored here. The role of the service sectors, the low economies of the eastern districts, and unique, local phenomena of sharp change, are all matters of great interest and should be examined in detail.

**Appendix I District Map of Maharashtra**



**Appendix II District Tabulation for 1998 and 2005 Economic Census Data****1. Urban Enterprises 1998:**

District	Primary	Mining	Manu- facture	EGW	Constru- ction	Trade	Hotels	TSC	Finance	Social	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mumbai	1240	26	91050	119	4678	252258	25823	33040	31380	44067	483681
Thane	3221	58	47219	85	2692	73971	7623	13722	6793	19969	175353
Raigarh	673	7	3933	21	362	9074	1103	2281	790	2580	20824
Ratnagiri	348	28	1487	12	271	4507	561	1073	413	1668	10368
Sindhudurg	237	5	1227		127	2878	367	514	230	705	6290
Nashik	346	39	14810	33	781	30694	2906	6160	2956	8450	67175
Dhule	674	2	7732	8	360	15675	1412	1957	1369	3740	32929
Jalgaon	396	3	8071	16	378	19319	1895	1917	1488	5708	39191
Ahmadnagar	2254	3	8025	10	382	15979	2384	1433	1730	4732	36932
Pune	1099	26	27729	95	2497	60478	5325	13518	8918	16906	136591
Satara	816	2	4122	3	487	10050	1001	830	3173	3458	23942
Sangli	3358	6	7631	23	802	15189	1447	1894	1765	3999	36114
Solapur	1215	78	25378	8	398	24963	2338	2944	2447	6082	65851
Kolhapur	3015	13	17891	15	343	18081	1921	2353	2597	5144	51373
Aurangabad	341	10	6256	6	486	16197	1846	2096	1677	4591	33506
Jalna	198	5	2570	2	355	5153	669	982	302	1355	11591
Parbhani	276	9	3811		335	9926	1145	1531	1132	2326	20491
Bid	171	43	2760	1	158	8276	1041	628	938	2085	16101
Nanded	226	26	4832	9	194	12014	1630	754	860	2993	23538
Osmanabad	155	2	1889	5	100	4404	695	233	583	1698	9764
Latur	67	8	2904	4	150	9182	1058	439	767	2137	16716
Buldana	278	16	4439	19	135	10602	1199	1534	1031	3098	22351
Akola	1485	11	7408	3	714	19132	1706	2507	1796	4179	38941
Amravati	1496	1	10106	4	419	20308	1902	2979	2086	5725	45026
Yavatmal	475	45	4157	7	411	12461	1156	1701	1086	2789	24288
Wardha	608		3127	1	118	6707	554	902	551	2412	14980
Nagpur	1833	14	24184	144	1513	45626	4147	11544	5487	14175	108667
Bhandara	768	5	5819	14	189	6832	896	562	875	2433	18393
Chandrapur	808	16	4148	3	386	10822	1194	886	710	3091	22064
Gadchiroli	763		1075	1	85	2186	312	262	188	863	5735
Grand Total	28840	507	355790	671	20306	752944	77256	113176	86118	183158	1618766

**2. Urban Enterprises 2005:**

District	Primary	Mining	Manu- facture	EGW	Constru- ction	Trade	Hotels	TSC	Finance	Social	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mumbai	889	185	129828	472	6152	253289	17810	53463	40311	70695	573094
Thane	1134	536	57460	169	3405	116098	13426	22194	12415	34801	261638
Raigarh	413	49	4633	45	484	14891	1282	2686	1382	4805	30670
Ratnagiri	239	19	1825	7	108	5464	667	1091	476	2079	11975
Sindhudurg	105	8	1294	3	196	3361	376	582	310	982	7217
Nashik	412	112	18350	105	1068	44151	3806	7480	4362	14141	93987
Dhule	419	30	6190	41	255	17213	1031	1827	2025	4818	33849
Jalgaon	366	37	8703	22	466	26145	1806	2812	2351	7654	50362
Ahmadnagar	2434	10	8473	25	367	22767	2730	2383	2574	7506	49269
Pune	894	244	41292	147	4337	96512	10218	20119	14530	30698	218991
Satara	1099	9	5850	25	476	14664	1571	1847	2340	4845	32726
Sangli	3595	27	6026	57	627	18746	965	1603	2815	5530	39991
Solapur	1046	26	11958	41	429	26053	2348	3198	2788	6855	54742
Kolhapur	4166	44	23307	91	1653	28820	2867	5849	4528	8639	79964
Aurangabad	198	48	10181	34	767	32802	3331	8288	2893	8929	67471
Jalna	136	8	2741	24	156	7564	797	1368	684	2355	15833
Parbhani	379	9	5483	27	57	12454	1506	1202	1223	4088	26428
Bid	267	3	2740	33	90	8004	1193	528	2274	2529	17661
Nanded	252	67	5479	30	413	17295	1664	1788	1785	4663	33436
Osmanabad	513	1	2760	8	81	6561	1088	584	896	2512	15004
Latur	125	6	4760	25	122	12094	1471	1084	1345	3334	24366
Buldana	117	16	4563	1	371	12444	798	1587	1110	3770	24777
Akola	954	27	9033	21	1031	23509	1086	4294	2670	7519	50144
Amravati	724	17	9572	18	558	24443	1772	5137	2777	7600	52618
Yavatmal	384	16	5497	35	674	13819	1271	1612	1725	4229	29262
Wardha	55	15	3809	13	124	9734	637	1004	847	2779	19017
Nagpur	1743	91	29116	79	3480	64918	5930	16640	8465	20027	150489
Bhandara	821	40	5427	25	618	9810	1206	1513	1308	2751	23519
Chandrapur	205	12	4599	0	290	13837	989	1399	1743	3712	26786
Gadchiroli	44	1	1019	19	152	3336	337	280	240	861	6289
Grand Total	24128	1713	431968	1642	29007	960798	85979	175442	125192	285706	2121575

**3. Percentage Rise in Urban Enterprises 1998 to 2005:**

District	Primary	Mining	Manu- facture	EGW	Constru- ction	Trade	Hotels	TSC	Finance	Social	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mumbai	-28.31	611.54	42.59	296.64	31.51	0.41	-31.03	61.81	28.46	60.43	18.49
Thane	-64.79	824.14	21.69	98.82	26.49	56.95	76.12	61.74	82.76	74.28	49.21
Raigarh	-38.63	600.00	17.80	114.29	33.70	64.11	16.23	17.76	74.94	86.24	47.28
Ratnagiri	-31.32	-32.14	22.73	-41.67	-60.15	21.23	18.89	1.68	15.25	24.64	15.50
Sindhudurg	-55.70	60.00	5.46		54.33	16.78	2.45	13.23	34.78	39.29	14.74
Nashik	19.08	187.18	23.90	218.18	36.75	43.84	30.97	21.43	47.56	67.35	39.91
Dhule	-37.83	1400.00	-19.94	412.50	-29.17	9.81	-26.98	-6.64	47.92	28.82	2.79
Jalgaon	-7.58	1133.33	7.83	37.50	23.28	35.33	-4.70	46.69	58.00	34.09	28.50
Ahmadnagar	7.99	233.33	5.58	150.00	-3.93	42.48	14.51	66.29	48.79	58.62	33.40
Pune	-18.65	838.46	48.91	54.74	73.69	59.58	91.89	48.83	62.93	81.58	60.33
Satara	34.68	350.00	41.92	733.33	-2.26	45.91	56.94	122.53	-26.25	40.11	36.69
Sangli	7.06	350.00	-21.03	147.83	-21.82	23.42	-33.31	-15.36	59.49	38.28	10.74
Solapur	-13.91	-66.67	-52.88	412.50	7.79	4.37	0.43	8.63	13.94	12.71	-16.87
Kolhapur	38.18	238.46	30.27	506.67	381.92	59.39	49.25	148.58	74.36	67.94	55.65
Aurangabad	-41.94	380.00	62.74	466.67	57.82	102.52	80.44	295.42	72.51	94.49	101.37
Jalna	-31.31	60.00	6.65	1100.00	-56.06	46.79	19.13	39.31	126.49	73.80	36.60
Parbhani	37.32	0.00	43.87		-82.99	25.47	31.53	-21.49	8.04	75.75	28.97
Bid	56.14	-93.02	-0.72	3200.00	-43.04	-3.29	14.60	-15.92	142.43	21.29	9.69
Nanded	11.50	157.69	13.39	233.33	112.89	43.96	2.09	137.14	107.56	55.80	42.05
Osmanabad	230.97	-50.00	46.11	60.00	-19.00	48.98	56.55	150.64	53.69	47.94	53.67
Latur	86.57	-25.00	63.91	525.00	-18.67	31.71	39.04	146.92	75.36	56.01	45.76
Buldana	-57.91	0.00	2.79	-94.74	174.81	17.37	-33.44	3.46	7.66	21.69	10.85
Akola	-35.76	145.45	21.94	600.00	44.40	22.88	-36.34	71.28	48.66	79.92	28.77
Amravati	-51.60	1600.00	-5.28	350.00	33.17	20.36	-6.83	72.44	33.13	32.75	16.86
Yavatmal	-19.16	-64.44	32.23	400.00	63.99	10.90	9.95	-5.23	58.84	51.63	20.48
Wardha	-90.95		21.81	1200.00	5.08	45.13	14.98	11.31	53.72	15.22	26.95
Nagpur	-4.91	550.00	20.39	-45.14	130.01	42.28	42.99	44.14	54.27	41.28	38.49
Bhandara	6.90	700.00	-6.74	78.57	226.98	43.59	34.60	169.22	49.49	13.07	27.87
Chandrapur	-74.63	-25.00	10.87	-100.00	-24.87	27.86	-17.17	57.90	145.49	20.09	21.40
Gadchiroli	-94.23		-5.21	1800.00	78.82	52.61	8.01	6.87	27.66	-0.23	9.66
Grand Total	-16.34	237.87	21.41	144.71	42.85	27.61	11.29	55.02	45.37	55.99	31.06

**4. Urban Enterprise Workers 1998:**

District	Primary	Mining	Manu- facture	EGW	Constru- ction	Trade	Hotels	TSC	Finance	Social	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mumbai	6877	182	547260	7620	16002	585412	162321	263504	363655	663201	2616034
Thane	9251	1670	385380	1487	9026	153702	32123	36421	29805	126439	785304
Raigarh	2378	19	29884	635	1471	17994	5398	5984	4635	20538	88936
Ratnagiri	1825	139	3697	1074	988	9697	2288	2704	2299	15158	39869
Sindhudurg	1072	10	3331		255	5854	1070	918	953	4000	17463
Nashik	863	249	128084	451	2714	66375	11699	11658	13583	72414	308090
Dhule	1778	4	21062	92	1347	29923	4514	4652	5203	28470	97045
Jalgaon	1107	8	31079	1566	1031	33837	5375	4615	5217	58000	141835
Ahmadnagar	4613	5	24283	43	1090	30449	7881	3179	7253	39243	118039
Pune	2999	175	176364	916	11022	131513	25477	30197	47059	152073	577795
Satara	1506	4	10938	7	2256	20930	4817	2604	8762	30618	82442
Sangli	6083	8	27482	577	2442	27812	4417	6103	7415	37857	120196
Solapur	2289	119	81175	249	992	46672	7723	5961	9662	38865	193707
Kolhapur	4418	83	64828	337	833	36163	7064	8189	12598	34194	168707
Aurangabad	701	75	21814	10	1393	34230	7066	4353	7370	37516	114528
Jalna	453	16	11825	12	630	10402	2593	1771	1579	12110	41391
Parbhani	632	45	11897		772	20926	4358	4338	3706	24896	71570
Bid	342	110	7482	4	402	18571	3754	1573	2668	20176	55082
Nanded	562	78	11460	106	449	24160	5425	1717	3396	26265	73618
Osmanabad	316	24	4995	72	401	8618	2381	1412	1861	12328	32408
Latur	119	28	11823	95	308	25536	3454	1196	2719	18831	64109
Buldana	574	42	9264	81	375	19767	3911	3143	4542	27113	68812
Akola	2957	60	17889	6	2148	31773	4152	4258	6182	26227	95652
Amravati	3089	42	28139	38	825	34702	5210	6466	6245	51342	136098
Yavatmal	942	2720	12440	47	1251	25409	3579	2798	3450	23739	76375
Wardha	1008		11250	5	193	11387	1405	1525	2083	19248	48104
Nagpur	3271	178	81109	6399	4592	82641	13772	35024	25666	97867	350519
Bhandara	1381	1767	14669	114	559	11955	2058	1978	2949	22122	59552
Chandrapur	1082	14273	12538	7	894	19066	3031	1692	2828	30500	85911
Gadchiroli	1001		2128	2	194	3606	730	573	716	8069	17019
Grand Total	65489	22133	1805569	22052	66855	1579082	349046	460506	596059	1779419	6746210

**5. Urban Enterprise Workers 2005:**

District	Primary	Mining	Manu- facture	EGW	Constru- ction	Trade	Hotels	TSC	Finance	Social	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mumbai	2846	7815	558539	11002	19268	598119	108032	205359	289954	447339	2248273
Thane	3861	2567	291454	1959	9162	260776	46193	55935	60495	154944	887346
Raigarh	1367	120	21349	420	1723	34356	5773	9633	5262	28878	108881
Ratnagiri	1421	42	6431	56	399	13678	2804	3435	2311	13768	44345
Sindhudurg	200	23	2958	17	293	5729	1151	2340	1265	4884	18860
Nashik	1355	307	84504	2883	2385	78750	13015	15368	14776	69344	282687
Dhule	1021	66	14099	354	501	28570	2963	4761	6084	30978	89397
Jalgaon	519	81	19441	1744	917	43692	4595	5874	7319	30743	114925
Ahmadnagar	5154	27	55900	3184	945	45819	9431	6376	9470	41349	177655
Pune	2777	1068	171197	1502	13608	222323	42683	51134	88217	165071	759580
Satara	1981	16	13543	200	1068	25808	5616	4257	8713	23536	84738
Sangli	4998	56	15648	1279	1221	32355	3193	5484	10492	30126	104852
Solapur	2312	56	57906	710	909	52950	7528	7744	9437	52485	192037
Kolhapur	6575	101	71012	883	3395	52637	7810	9246	15153	31260	198072
Aurangabad	361	117	26186	346	1382	51903	9459	13583	7976	45323	156636
Jalna	236	20	17968	785	408	18451	3077	4354	2573	15419	63291
Parbhani	630	9	11825	141	114	23386	5079	4116	3722	24316	73338
Bid	618	5	5664	185	275	16596	3506	1419	6523	18990	53781
Nanded	471	199	11387	120	915	32138	4734	5682	5017	29197	89860
Osmanabad	894	2	5435	29	158	13086	3159	1466	2712	15634	42575
Latur	236	15	15604	81	238	24955	4695	3471	3786	19937	73018
Buldana	171	34	9186	11	561	22254	2227	2616	4131	24721	65912
Akola	1409	99	18537	266	1944	41161	3548	8455	7754	38867	122040
Amravati	1375	20	19871	209	1025	41253	5184	8026	7568	41637	126168
Yavatmal	775	38	11526	349	1373	24684	3360	3812	4750	22728	73395
Wardha	86	51	12696	404	254	20379	1700	2643	2380	14666	55259
Nagpur	3044	1315	80630	1365	7551	131714	18684	30534	28869	109736	413442
Bhandara	1963	91	15118	267	1651	21241	3206	3605	4007	16445	67594
Chandrapur	3421	15	8605	0	1895	24605	3162	2052	5710	29520	78985
Gadchiroli	68	2	1931	250	262	5680	791	1013	681	6848	17526
Grand Total	52145	14377	1656150	31001	75800	2009048	336358	483793	627107	1598689	6884468

**6. Percentage Rise in Urban Enterprise Workers 1998 to 2005:**

District	Primary	Mining	Manu- facture	EGW	Constru- ction	Trade	Hotels	TSC	Finance	Social	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mumbai	-58.62	4193.96	2.06	44.38	20.41	2.17	-33.45	-22.07	-20.27	-32.55	-14.06
Thane	-58.26	53.71	-24.37	31.74	1.51	69.66	43.80	53.58	102.97	22.54	12.99
Raigarh	-42.51	531.58	-28.56	-33.86	17.13	90.93	6.95	60.98	13.53	40.61	22.43
Ratnagiri	-22.14	-69.78	73.95	-94.79	-59.62	41.05	22.55	27.03	0.52	-9.17	11.23
Sindhudurg	-81.34	130.00	-11.20		14.90	-2.14	7.57	154.90	32.74	22.10	8.00
Nashik	57.01	23.29	-34.02	539.25	-12.12	18.64	11.25	31.82	8.78	-4.24	-8.25
Dhule	-42.58	1550.00	-33.06	284.78	-62.81	-4.52	-34.36	2.34	16.93	8.81	-7.88
Jalgaon	-53.12	912.50	-37.45	11.37	-11.06	29.12	-14.51	27.28	40.29	-46.99	-18.97
Ahmadnagar	11.73	440.00	130.20	7304.65	-13.30	50.48	19.67	100.57	30.57	5.37	50.51
Pune	-7.40	510.29	-2.93	63.97	23.46	69.05	67.54	69.33	87.46	8.55	31.46
Satara	31.54	300.00	23.82	2757.14	-52.66	23.31	16.59	63.48	-0.56	-23.13	2.78
Sangli	-17.84	600.00	-43.06	121.66	-50.00	16.33	-27.71	-10.14	41.50	-20.42	-12.77
Solapur	1.00	-52.94	-28.67	185.14	-8.37	13.45	-2.52	29.91	-2.33	35.04	-0.86
Kolhapur	48.82	21.69	9.54	162.02	307.56	45.55	10.56	12.91	20.28	-8.58	17.41
Aurangabad	-48.50	56.00	20.04	3360.00	-0.79	51.63	33.87	212.04	8.22	20.81	36.77
Jalna	-47.90	25.00	51.95	6441.67	-35.24	77.38	18.67	145.85	62.95	27.32	52.91
Parbhani	-0.32	-80.00	-0.61		-85.23	11.76	16.54	-5.12	0.43	-2.33	2.47
Bid	80.70	-95.45	-24.30	4525.00	-31.59	-10.63	-6.61	-9.79	144.49	-5.88	-2.36
Nanded	-16.19	155.13	-0.64	13.21	103.79	33.02	-12.74	230.93	47.73	11.16	22.06
Osmanabad	182.91	-91.67	8.81	-59.72	-60.60	51.84	32.68	3.82	45.73	26.82	31.37
Latur	98.32	-46.43	31.98	-14.74	-22.73	-2.28	35.93	190.22	39.24	5.87	13.90
Buldana	-70.21	-19.05	-0.84	-86.42	49.60	12.58	-43.06	-16.77	-9.05	-8.82	-4.21
Akola	-52.35	65.00	3.62	4333.33	-9.50	29.55	-14.55	98.57	25.43	48.19	27.59
Amravati	-55.49	-52.38	-29.38	450.00	24.24	18.88	-0.50	24.13	21.18	-18.90	-7.30
Yavatmal	-17.73	-98.60	-7.35	642.55	9.75	-2.85	-6.12	36.24	37.68	-4.26	-3.90
Wardha	-91.47		12.85	7980.00	31.61	78.97	21.00	73.31	14.26	-23.81	14.87
Nagpur	-6.94	638.76	-0.59	-78.67	64.44	59.38	35.67	-12.82	12.48	12.13	17.95
Bhandara	42.14	-94.85	3.06	134.21	195.35	77.67	55.78	82.25	35.88	-25.66	13.50
Chandrapur	216.17	-99.89	-31.37	-100.00	111.97	29.05	4.32	21.28	101.91	-3.21	-8.06
Gadchiroli	-93.21		-9.26	12400.00	35.05	57.52	8.36	76.79	-4.89	-15.13	2.98
Grand Total	-20.38	-35.04	-8.28	40.58	13.38	27.23	-3.64	5.06	5.21	-10.16	2.05

**7. Urban Enterprise Hired Workers 1998:**

District	Primary	Mining	Manu- facture	EGW	Constru- ction	Trade	Hotels	TSC	Finance	Social	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mumbai	5106	151	434159	7545	10457	271861	130831	228495	330540	617942	2037087
Thane	4271	1603	329020	1474	5996	63956	22603	22051	22545	106209	579728
Raigarh	868	11	24159	634	1049	5526	3815	3492	3968	18329	61851
Ratnagiri	1330	103	1852	1073	677	4091	1562	1561	1983	13976	28208
Sindhudurg	670	3	1650		77	2176	545	341	709	3410	9581
Nashik	293	142	106967	419	1751	23549	7340	5276	10707	64141	220585
Dhule	440	2	9161	91	776	7283	2219	2491	3745	24883	51091
Jalgaon	456	4	20895	1563	575	9974	2858	2656	3861	52720	95562
Ahmadnagar	265	2	13985	34	553	10251	4640	1618	5603	35088	72039
Pune	1067	139	142478	876	8044	54702	18620	16230	37732	134924	414812
Satara	156	1	4950	3	1615	7432	3280	1586	5579	26752	51354
Sangli	859	2	17570	569	1516	8601	2469	4026	5931	34118	75661
Solapur	396	5	49211	247	498	16173	4646	2919	7260	33311	114666
Kolhapur	280	66	42846	335	429	14199	4518	5768	10500	29499	108440
Aurangabad	192	61	13124	8	822	11963	4342	2018	5460	32789	70779
Jalna	87	10	7798	11	171	2805	1480	570	1262	10785	24979
Parbhani	169	31	6395		265	7571	2670	2384	2469	22573	44527
Bid	72	33	3384	3	221	7148	2285	857	1639	18087	33729
Nanded	77	2	4523	103	201	8738	3029	896	2506	23474	43549
Osmanabad	75	23	2202	68	253	2439	1182	1165	1212	10736	19355
Latur	37	12	7909	92	116	14360	1996	672	1815	16861	43870
Buldana	197	16	3491	76	204	6007	2213	1351	3477	24058	41090
Akola	455	37	8146	4	1258	8111	1832	1591	4173	21640	47247
Amravati	731	40	14218	38	326	9006	2691	3334	3846	46112	80342
Yavatmal	242	2634	6723	40	723	9522	2036	955	2272	21180	46327
Wardha	119		7231	5	50	3242	682	593	1574	17211	30707
Nagpur	372	162	48562	6377	2899	25931	8360	23437	19918	84442	220460
Bhandara	45	1754	6601	99	319	3336	916	1383	2121	20225	36799
Chandrapur	31	14263	7024	4	398	5315	1424	708	1996	27903	59066
Gadchiroli	10		615	2	102	726	358	308	547	7510	10178
Grand Total	19368	21312	1346849	21793	42341	625994	247442	340732	506950	1600888	4773669

**8. Urban Enterprise Hired Workers 2005:**

District	Primary	Mining	Manu- facture	EGW	Constru- ction	Trade	Hotels	TSC	Finance	Social	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mumbai	1762	7626	423134	10652	13248	333828	89641	155402	254049	382796	1672138
Thane	2125	1998	230935	1838	5689	134745	31692	34375	48381	121026	612804
Raigarh	776	60	15900	394	1237	16240	4169	6991	3991	24828	74586
Ratnagiri	1088	23	4506	55	295	7463	2082	2378	1954	12141	31985
Sindhudurg	80	16	1581	16	84	2083	739	1807	1046	4205	11657
Nashik	733	175	62429	2853	1268	28485	8382	8060	10742	56503	179630
Dhule	409	26	6776	326	217	8929	1719	2917	4205	26807	52331
Jalgaon	79	40	9569	1732	404	14619	2356	3023	5221	23705	60748
Ahmadnagar	652	16	45923	3179	489	17567	5807	3803	6983	34178	118597
Pune	1559	794	123111	1418	8645	104585	30076	29524	73780	134163	507655
Satara	72	4	6463	187	507	8926	3709	2393	6734	19070	48065
Sangli	784	30	8734	1252	508	11931	2103	4015	8217	25458	63032
Solapur	1038	28	44226	695	483	23184	4749	4581	6848	46604	132436
Kolhapur	1092	46	42424	825	1609	19670	4299	4532	11472	23475	109444
Aurangabad	117	68	15549	316	600	16543	5780	5143	5134	37050	86300
Jalna	67	13	14447	776	195	8902	2107	2825	1819	13067	44218
Parbhani	278	0	5409	117	37	9227	2905	2910	2357	20274	43514
Bid	283	3	2541	161	161	7681	2078	885	4058	16821	34672
Nanded	187	120	5298	104	492	13032	2716	3908	3232	25286	54375
Osmanabad	367	1	2365	24	77	6036	1942	925	1866	13601	27204
Latur	92	9	10574	61	116	12669	3169	2465	2578	17257	48990
Buldana	14	15	3997	11	166	8510	1289	1086	3151	21740	39979
Akola	257	69	8742	256	880	15782	2262	4162	5164	32300	69874
Amravati	472	2	8827	205	436	13540	3036	2811	4712	34781	68822
Yavatmal	307	20	5293	328	675	9482	1840	2195	3067	18895	42102
Wardha	24	31	8211	403	111	8983	910	1554	1448	12186	33861
Nagpur	1043	1223	47962	1337	3836	58594	11786	13755	20360	91807	251703
Bhandara	275	47	7977	263	932	8759	1538	1926	2624	13969	38310
Chandrapur	3188	3	3285	0	1577	9036	1920	533	3603	25951	49096
Gadchiroli	22	1	730	248	109	1642	407	741	433	6264	10597
Grand Total	19242	12507	1176918	30032	45083	940673	237208	311625	509229	1336208	4618725



**9. Percentage Rise in Urban Enterprise Hired Workers 1998 to 2005:**

District	Primary	Mining	Manu- facture	EGW	Constru- ction	Trade	Hotels	TSC	Finance	Social	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mumbai	-65.49	4950.33	-2.54	41.18	26.69	22.79	-31.48	-31.99	-23.14	-38.05	-17.92
Thane	-50.25	24.64	-29.81	24.69	-5.12	110.68	40.21	55.89	114.60	13.95	5.71
Raigarh	-10.60	445.45	-34.19	-37.85	17.92	193.88	9.28	100.20	0.58	35.46	20.59
Ratnagiri	-18.20	-77.67	143.30	-94.87	-56.43	82.42	33.29	52.34	-1.46	-13.13	13.39
Sindhudurg	-88.06	433.33	-4.18		9.09	-4.27	35.60	429.91	47.53	23.31	21.67
Nashik	150.17	23.24	-41.64	580.91	-27.58	20.96	14.20	52.77	0.33	-11.91	-18.57
Dhule	-7.05	1200.00	-26.03	258.24	-72.04	22.60	-22.53	17.10	12.28	7.73	2.43
Jalgaon	-82.68	900.00	-54.20	10.81	-29.74	46.57	-17.56	13.82	35.22	-55.04	-36.43
Ahmadnagar	146.04	700.00	228.37	9250.00	-11.57	71.37	25.15	135.04	24.63	-2.59	64.63
Pune	46.11	471.22	-13.59	61.87	7.47	91.19	61.53	81.91	95.54	-0.56	22.38
Satara	-53.85	300.00	30.57	6133.33	-68.61	20.10	13.08	50.88	20.70	-28.72	-6.40
Sangli	-8.73	1400.00	-50.29	120.04	-66.49	38.72	-14.82	-0.27	38.54	-25.38	-16.69
Solapur	162.12	460.00	-10.13	181.38	-3.01	43.35	2.22	56.94	-5.67	39.91	15.50
Kolhapur	290.00	-30.30	-0.98	146.27	275.06	38.53	-4.85	-21.43	9.26	-20.42	0.93
Aurangabad	-39.06	11.48	18.48	3850.00	-27.01	38.28	33.12	154.86	-5.97	13.00	21.93
Jalna	-22.99	30.00	85.27	6954.55	14.04	217.36	42.36	395.61	44.14	21.16	77.02
Parbhani	64.50	-100.00	-15.42		-86.04	21.87	8.80	22.06	-4.54	-10.18	-2.28
Bid	293.06	-90.91	-24.91	5266.67	-27.15	7.46	-9.06	3.27	147.59	-7.00	2.80
Nanded	142.86	5900.00	17.13	0.97	144.78	49.14	-10.33	336.16	28.97	7.72	24.86
Osmanabad	389.33	-95.65	7.40	-64.71	-69.57	147.48	64.30	-20.60	53.96	26.69	40.55
Latur	148.65	-25.00	33.70	-33.70	0.00	-11.78	58.77	266.82	42.04	2.35	11.67
Buldana	-92.89	-6.25	14.49	-85.53	-18.63	41.67	-41.75	-19.62	-9.38	-9.64	-2.70
Akola	-43.52	86.49	7.32	6300.00	-30.05	94.58	23.47	161.60	23.75	49.26	47.89
Amravati	-35.43	-95.00	-37.92	439.47	33.74	50.34	12.82	-15.69	22.52	-24.57	-14.34
Yavatmal	26.86	-99.24	-21.27	720.00	-6.64	-0.42	-9.63	129.84	34.99	-10.79	-9.12
Wardha	-79.83		13.55	7960.00	122.00	177.08	33.43	162.06	-8.01	-29.20	10.27
Nagpur	180.38	654.94	-1.24	-79.03	32.32	125.96	40.98	-41.31	2.22	8.72	14.17
Bhandara	511.11	-97.32	20.85	165.66	192.16	162.56	67.90	39.26	23.72	-30.93	4.11
Chandrapur	10183.87	-99.98	-53.23	-100.00	296.23	70.01	34.83	-24.72	80.51	-7.00	-16.88
Gadchiroli	120.00		18.70	12300.00	6.86	126.17	13.69	140.58	-20.84	-16.59	4.12
Grand Total	-0.65	-41.31	-12.62	37.81	6.48	50.27	-4.14	-8.54	0.45	-16.53	-3.25

**NOTES**

available for them and could be included in Table 3. There were no such missing data points in the 2005 census data.

1. Table 3 shows a decline in hired workers for urban Maharashtra as 3.4%. This small discrepancy is arising due to the fact that in the 1998 data obtained from the Central Statistical Organisation, 1904 enterprises (out of a total of 1,620,670) carried no sectoral marking and therefore, had to be left out of Table 6. However, all other information was

2. For ready reference see district map of Maharashtra in Appendix I.

3. Detailed tabulation for number of enterprises, total workers and hired workers by broad ten sectors for all districts is given in Appendix II.



# URBANISATION IN MAHARASHTRA 1961-2001

Abhay Tilak

*National level urbanisation patterns along with their peculiarities have been extensively studied over the years in India. However, an in-depth enquiry into the dynamics of urban spread at the state level seems to have become necessary - especially to undertake implementation of local and state level, action oriented civic and administrative policies. An attempt has been made in this note to analyse the evolution of urbanisation in the state of Maharashtra which has been the leading state in terms of urbanisation since its formation in 1960.*

## 1. INTRODUCTION

It has been well recognised that the process of urbanisation amongst developing countries has been characterised by an interesting phenomenon wherein, although the rate of urbanisation is not very high, the rate of growth of urban population is significantly high. The statistics compiled by the United Nations in one of its monitoring reports [UN: 1983] highlights this contrast vividly. During the three time periods of 1970-75, 1975-80 and 1980-85, the rate of growth of urbanisation, (i.e., the rate at which the average level of urbanisation changes) in developing countries stood at 1.43, 1.58 and 1.56 per cent per annum respectively. However, during the same period, the annual average rate of growth of urban population among developing countries was 3.9, 3.7 and 3.6 per cent, respectively. Though the projected growth rates for the period 2010-25 indicate a tendency towards tapering off, the vertical gap between the two has not shown signs of similar reduction. The same report has also projected that though the rate of growth of urbanisation among developing countries would be 1.32 per cent per annum during the period of 2010-25, the urban population would grow at an average annual rate of 2.5 per cent during the same period.

There is an additional dimension to the above phenomenon. The incidence of urbanisation among developing countries is uneven. Further, it has also been observed that the process of urbanisation is skewed or polarised since growth continues to concentrate in few urban centres of

a certain size. According to the aforementioned report, "Urbanisation of world population has continued at a very rapid pace, with an increasingly marked trend in the developing countries towards concentration in very large metropolises" (p. 1). Such a pattern of progress of urbanisation poses severe challenges for urban administrators and policy makers as far as managing growth of metro-cities is concerned. While focusing on this issue, the report states, "Even a moderate rate of urbanisation can, nevertheless, have negative consequences for individual cities if urban growth is concentrated in one or in a few urban places. In fact, many developing countries are characterised by a strong concentration of urban population growth in a primate city, which is usually substantially larger than the next smaller cities. Such a concentration of the urban population not only produces enormous problems for the primate city but tends to perpetuate the regional disparities in social and economic opportunities of which it is a reflection, and it is widely viewed as a major obstacle to development" (p. 181). It is against this backdrop that we felt a study of the spread of urbanisation in our country would prove to be a useful exercise.

A very preliminary analysis of data pertaining to incidence of urbanisation in India indicates that, the process as well as the progress of urbanisation in our country is in conformity with the peculiar characteristic features of the process in other developing countries. The imbalance in the incidence of urbanisation is visible at two levels, namely, at the national level as well as at the level of urban areas of different sizes. At the national

level, wise six large states of Andhra Pradesh, Gujarat, Maharashtra, Karnataka, Tamil Nadu and West Bengal continue to account for more than half of the total urban population of the country. As per the Census data pertaining to the year 1981, these six states accounted for 42.52 per cent of the total population of the country. However, 54.67 per cent of the total urban population of the country in the same year was concentrated in these six states. The trend has persisted in the same direction even in the later period. According to the Census statistics for the year 2001, these six states accounted for 40.71 per cent of the total population of the country. However, the urban population of these six states accounted for 51.89 per cent of the total urban population of the country in 2001.

Further, as far as the average level of urbanisation is concerned, these six states have been consistently above the national average. Year-wise statistics presented in the following Table 1 would reveal this:

**Table 1. Level of Urbanisation in Six States of India (%)**

	1981	1991	2001
(1)	(2)	(3)	(4)
Andhra Pradesh	23.32	26.89	27.08
Gujarat	31.10	34.49	37.35
Karnataka	28.89	30.92	33.98
Maharashtra	35.03	38.69	42.40
Tamil Nadu	32.95	34.15	43.86
West Bengal	26.46	27.48	28.03
INDIA	23.70	25.71	27.78

Source: 1. Report of the National Commission on Urbanisation, Vol. 2: P. 9.

2. Urban Growth in India: 1951 - 1981; A Statistical Analysis, Census Monograph No. 1. P. 38.

3. Oxford Handbook of Urbanisation in India, Second Edition, 2007, p. 5.

Over this period, only Andhra Pradesh has remained closed to the national average level of urbanisation.

Relevant statistics also further indicate that among areas designated as "urban", the phenomena of urban population growth is concentrated in urban areas of certain size only. Among the six size classes of the urban areas specified by the Census authorities, Class I urban areas with a population of 1, 00,000 and above (which are designated as "cities") account for the largest share of the total urban population. This tendency can be observed at the national as well as at the state level. The data presented in the following Table 2 support this impression:

**Table 2. Urban population in Class I urban areas (%)**

	1981	1991	2001
(1)	(2)	(3)	(4)
Andhra Pradesh	53.69	66.88	75.31
Gujarat	57.92	66.43	76.50
Karnataka	58.60	64.60	67.20
Maharashtra	75.24	77.85	79.70
Tamil Nadu	62.19	65.96	56.35
West Bengal	76.84	81.71	83.54
INDIA	60.32	64.89	68.67

Source: Oxford Handbook of Urbanisation in India, Second Edition, pp. 65-68.

This tendency of the urban population to concentrate in the Class I size urban areas is also seen among larger states having relatively low incidence of overall urbanisation. The following data (Table 3) reveals this trend:

**Table 3. Urban population in Class I urban areas (%)**

	1981	1991	2001
(1)	(2)	(3)	(4)
Bihar	54.12	52.62	59.31
Madhya Pradesh	46.84	50.38	55.77
Orissa	41.63	44.43	48.41
Rajasthan	46.52	50.09	57.23
Uttar Pradesh	51.49	55.99	62.16
INDIA	60.32	64.89	68.67

Source: Oxford Handbook of Urbanisation in India, Second Edition, pp. 65-68.

It must be noted that the economies of the above mentioned (five) states are primarily agrarian in nature. The average level of urbanisation in all these five states has been consistently lower than the national average over the past three decades.

National level urbanisation patterns along with their peculiarities have been extensively studied over the years in India. However, an in-depth enquiry into the dynamics of urban spread at the state level seems to have become necessary - especially to undertake implementation of local and state level, action oriented civic and administrative policies. Such a study could raise the following questions:

- \* How does the pattern of process and progress of urbanisation depicted at the national level conform to the incidence of urbanisation in some of the more urbanised states of the country?
- \* What are the state specific characteristic features of urban spread and growth?
- \* Do national level imbalances in the incidence of urbanisation manifest across different states / sub-state levels?

An attempt has been made in this note to analyse the evolution of urbanisation in the state of Maharashtra which has been the leading state in terms of urbanisation since its formation in 1960. More specifically, it makes a modest attempt to study the primary features of the process and progress of urbanisation in the State of Maharashtra during the period 1961-2001. In terms of the evolution of urban Maharashtra, statistics as compiled and published in the Census of India documents for the census years 1961, 1971, 1981, 1991 and 2001 have been used. It needs to be admitted that this exercise is purely exploratory and has the limited objective of understanding the broad patterns and trends prevalent in the urban mosaic of the state of Maharashtra.

## 2. URBANISATION IN MAHARASHTRA: AN OVERVIEW

The state of Maharashtra came into existence as a separate state entity on 1st May 1960. The then newly created State consisted of 26 Districts and 229 Tehsils which were organised under four Revenue Divisions namely, Konkan, Pune, Aurangabad and Nagpur. Subsequently, the four districts of Sindhudurg, Jalna, Latur and Gadchiroli were carved out of Ratnagiri, Aurangabad, Osmanabad and Chandrapur respectively at the beginning of 1980s. Furtheron, five more districts were created in the decade of 1990s. The Mumbai suburban district was separated from the erstwhile Mumbai district, while the remaining four districts of Nandurbar, Hingoli, Washim and Gondiya were formed by reorganising the districts of Dhule, Parbhani, Akola and Bhandara. With this, the number of districts in the State increased to 35. The number of tehsils increased to 353 by the Census year 2001. The total number of Revenue Divisions in the State also increased from four to six with the creation of two new divisions, namely, Nashik and Amravati.

With reorganisation of the Revenue Divisions and Districts within the State of such an order, any kind of spatial-temporal comparison of the growth and spread of urbanisation becomes difficult and un-meaningful. For the purpose of this study, therefore, all the districts and their population statistics have been reorganised, for all Census years, in accordance with the District and Revenue Division compositions as reported in the Census publications for the year 2001.

Since its inception, Maharashtra has been at the fore front in terms of growth of urbanisation in India. The level of urbanisation in Maharashtra has been consistently and considerably higher than the national average throughout the period between 1961 and 2001. At the national level, the average percentage of total population residing in urban areas stood at 17.97 in the year 1961. The percentage for the same for Maharashtra was

28.22. As per the Census statistics for the year 2001, the average level of urbanisation for the nation as a whole was 27.98, while for Maharashtra it stood at 42.43.

The population of Maharashtra accounted for about nine per cent of the Country's population in the year 1961, while the urban population of Maharashtra accounted for about 14 per cent of the total urban population of the Country in the same year. The Census figures for the year 2001 put Maharashtra's share in the total as well as urban population of the country marginally higher at the levels of 9.43 per cent and 14.40 per cent, respectively. Maharashtra has managed to maintain its primacy in this respect during the entire period between 1961 and 2001. Even as far as the absolute size of the urban population is concerned, Maharashtra continues to occupy the top most rank during the period of 1961 to 2001. The total urban population of the country registered an increase of about 263 per cent between 1961 and 2001. Urban population of Maharashtra registered a rise of 268 per cent during the same period. During the period between 1961 and 2001, the decadal growth rate of urban population of the state has been higher than the national average with the lone exception of the decade of 1971-1981. While the urban population of the country registered a decadal growth of 46.14 per cent; the urban population of the state grew by 39.99 per cent. It is interesting to note that, the urban population of the state as per the 2011 census (4, 11, 00, 980) was higher than the total population of the state in 1961 (3, 95, 53,718).

In view of the fact that Mumbai happens to be both the political and financial capital of the state and the country, respectively, it would be worthwhile to ascertain the primacy of Mumbai in the overall urban landscape of Maharashtra as well as that of India. As has been mentioned earlier, the average level of urbanisation of Maharashtra has been consistently higher than that of the national average all these years. The

picture does not change when we compare both the averages by excluding Mumbai. However, the vertical distance between the average level of urbanisation at the national and at state level contracts noticeably as soon as one excludes Mumbai for purpose of calculation. While, the average level of urbanisation at the national level stood at 17.97 per cent inclusive of Mumbai, in the year 1961, the average for Maharashtra then was 28.22 per cent. Excluding Mumbai, while the national average works out to be 17.19 per cent, the revised average level of urbanisation for Maharashtra slips to the level of 19.80 per cent. As per the Census statistics for the year 2001, the average level of urbanisation, inclusive of Mumbai, stood at 27.78 per cent and 42.43 per cent at the national level and at the state level, respectively. Excluding Mumbai, the two percentages work out to be 26.93 and 34.30, respectively.

The process of urbanisation in the state indicates a tendency, though slowly, to decentralise and spread to other parts of Maharashtra. Mumbai accounted for about 37 per cent of the total urban population of the state in the year 1961. By the year 2001, this share had come down to about 29 per cent. The decadal growth rate of urban population of Maharashtra, inclusive of Mumbai, for the four decades of 1961-71, 1971-81, 1981-91 and 1991-2001 works out to be 40.75 per cent, 39.99 per cent, 38.87 per cent and 34.57 per cent respectively. Yet on excluding Mumbai, the decadal growth rates stand at 38.94 per cent, 41.16 per cent, 49.93 per cent and 41.26 per cent respectively. This could primarily because decadal growth rate of population of Mumbai has decelerated markedly over the period. The population of Mumbai registered a growth of 43.80 per cent during the decade of 1961 and 1971. Data for subsequent decades show the decadal growth rates of 1971-81, 1981-91 and 1991-2001 to be 38.07 per cent, 20.41 per cent and 20.68 per cent, respectively.

In regards to the level of urbanisation, Maharashtra continued to maintain its first position in the country during the period between 1961 and 1991. It was displaced for the first time in 2001 [Census, 2001] by the state of Tamil Nadu with its level of urbanisation becoming 44.04 per cent, marginally higher than the average level of urbanisation of 42.43 per cent for Maharashtra that year. However, it appears that Tamil Nadu could attain this marginal edge on account of a *technical discretion* exercised by its concerned authorities. As explained by Sivaramakrishnan "In Tamil Nadu, as many as 399 towns have been added in 2001 to the urban list of the state. This action has been significant in determining the urban growth rate of the state between 1991-2001 and level of urbanisation in 1991. This growth rate has, in fact, doubled up from 1991. Percentage of urban population among the major states is also highest. However, the inclusion of a large number of towns by a statutory notification has been entirely a matter of state discretion. Tamil Nadu could have notified these towns in the previous census of 1991 itself, which would have reduced the striking differences of urban growth and level of urbanisation between 1991 and 2001. It appears the state government decided on the inclusion of these towns only because of the 74th Amendment and the state government's perception that all these settlements should be regarded as urban" (Pp. 18-19). It has been further observed that, "A large number of town panchayats have been brought into the urban list of 2001 as statutory towns, making application of demographic criteria irrelevant. Further, most of the village panchayats, considered statutory towns in 1991, have also been given town panchayat status, qualifying these as statutory towns. This is evident from the fact that the number of statutory towns has gone up while that of census towns has gone down in 2001, as mentioned before. This is attributable to the fact that Tamil Nadu has simply followed the definition of statutory towns, as stipulated by the Registrar General, in identifying the urban centres in 2001" [Sivaramkrishnan, et.al., 2005, p. 21].

That the urbanisation process in Maharashtra has a much stronger foundation is borne out by the fact that the absolute size of the urban population of Maharashtra was around 50 per cent more than that of the urban population of Tamil Nadu in 2001. Hence, as far as the numerical size of the urban population is concerned, Maharashtra has retained its primacy in the country between 1961 and 2001. Further, the decadal growth rate of urban population of Maharashtra during the two decades of 1971-81 and 1981-91 was markedly higher than that of Tamil Nadu. During the aforesaid decades, the decadal growth rate of urban population of Maharashtra stood at 39.99 per cent and 38.87 per cent, respectively. In contrast, the decadal growth rate of the urban population of Tamil Nadu during the corresponding decades worked out to be 27.98 per cent and 19.28 per cent, respectively.

### 3. URBANISATION AND ECONOMIC DEVELOPMENT

There appears to exist a biological relationship between urbanisation and the process of overall economic development of any region. In a way, spread of urbanisation is an outcome as well as an architect of the forward march of development. The process of economic development brings about certain structural changes in the fabric of economic activity of the region which provide the initial impetus for the emergence and evolution of a qualitatively different and complex form of spatio - economic - social unit called a "Town". Geographically the larger, more populated and socio-economically highly diversified town is termed as a "City". Urbanisation, hence, is described to be a process which is characterised by the emergence and enlargement of towns and cities of varying sizes and complexities.

Evolution of urbanisation in the different parts of the world over a period of a few centuries, depicts, a somewhat uniform sequence and pattern. Invariably, the initial impetus to emergence of towns and cities is triggered by advancements

in agriculture. Increasing agricultural productivity and the concomitant rise in the per capita earnings of the people engaged in farming pave the way for new enterprises engaging in the task of manufacturing a variety of non-food items required by the public. While, rising farm production facilitates greater supply of agricultural raw materials for the newly born non-farm activities, increased supply of food articles sustains enlarging population. This, in turn, leads to the next round of rising demand for a variety of non-farm goods and services. Improvements in farm practices coupled with application of advanced science and technology in production processes enhances agricultural productivity freeing a large section of population to work in other (non-farm) activities. The "surplus" manpower no longer dependant on agriculture embarks on a multitude of experiments in other walks of life and thence on the gamut of non-farm activities begins to multiply. Unlike agriculture, non-agricultural activities are not land intensive and hence not wedded to a particular location. These activities tend to gravitate around certain locations on number of counts like availability of threshold size of market, proximity to assured sources of raw material, presence of pool of skilled personnel .... Development of non-farm enterprises at such locations begin attracting manpower, artisans, traders, transporters, bankers and other vocations. This results in swelling of the local population. Interdependence of multitude of economic activities warrants their co-existence in close proximity thereby leading to the increase in the density of population of that area. The confluence of such plentiful non-agricultural enterprises at such a location naturally alters the employment pattern of the local area. A highly integrated interplay of all such factors results in the emergence of a totally modified socio-economic-politico-spatial unit called a "Town". The term "City" has been defined in a very specific manner by the Census authorities in our system. This is so because, although, concentration of population has been the essential *sine qua*

*non* of any urban area, concentrations beyond certain size are designated as cities. This has happened everywhere throughout the long journey of urbanisation.

The process of economic development is marked by the emergence and growth of non-agricultural sectors. Development occurs and proceeds via such structural changes. Emergence and growth of towns and cities of different sizes is an outcome of this very same process of structural changes which give rise to expansion of non-farm activities. Concentrations of such non-farm activities at certain places alter the socio-economic as well as demographic characteristic features of that location. The definition of URBAN as adopted in the Indian context incorporates the demographic as well as the economic features that such a locality acquires once the transformation of the same from RURAL TO URBAN is concluded.

#### 4. URBANISATION IN MAHARASHTRA: GROWTH OF TOWNS

The absolute urban population of Maharashtra stood at 1, 11, 62,561 in 1961. This total urban population was spread over 268 urban centres. The absolute urban population of Maharashtra increased to 4,11,00,928 in 2001. The total number of urban centres in the state had also increased to 378 by the year 2001. It must be noted that, while the urban population of the state registered a substantial rise of 268 per cent between 1961 and 2001, there was an absolute addition of only 110 urban centres during the intervening period. Number of urban centres in the state, thus, registered an increase of mere 41 per cent during the same period. This implies that, most of the accretion to the urban population of the state has been due to an increase in the size of the population of already existing urban centres. Urbanisation progresses on two counts, namely, increase in the size of urban population one, and two due to emergence of newer urban centres. Divergence in the advancement of these two



parameters depicts a strong tendency towards concentration of population in existing urban centres.

The Census volumes provide basic demographic statistics for Rural and Urban areas separately. "Village" forms the unit of classification for rural areas and "Town" the unit of classification for urban areas. Further, since the Census of 1961, Census of India has adopted a twofold classification mechanism for (i) identification of a Town and (ii) categorisation of the identified towns, in the country. These two classes of towns are termed as (i) Statutory Towns and (ii) Census Towns. Accordingly, **"All statutory places with a municipality, corporation, cantonment board or notified town area committee" are termed and classified as "Statutory Towns". While, "A place satisfying the three criteria simultaneously, namely (i) a minimum population of 5,000 (ii) at least 75 per cent of male working population engaged in non-agricultural pursuits; and (iii) a density of population of at least 400 persons per sq. km. (1000 per sq. mile)" are termed and classified as "Census Towns".** According to these definitions, there were 228 Statutory Towns and 40 Census Towns in Maharashtra in 1961. The number of Statutory Towns had gone up by 23 and reached a figure of 251 by 2001. The number of Census Towns, on the other hand, had increased considerably to 127 during the same period.

Although, the absolute rise in the number of Census Towns during 1961 and 2001 appears impressive when compared to the increase in the number of Statutory Towns, the relative share of urban population accommodated in the Census Towns has been tiny right from the beginning. The population of the Census Towns accounted for a mere 2.87 per cent of the urban population of Maharashtra in 1961. The same had registered a small growth and reached a level of 4.17 per cent by the year 2001.

Regional distribution of the towns in the State and the dynamics therein exhibits noteworthy changes. Of the 268 towns that existed in the State in 1961, the highest numbers of towns, viz., 60 were located in Pune division. Aurangabad division occupied the second position with 53 towns. Nagpur division was at the bottom with only 28 towns. However, by the year 2001, Konkan division had occupied the first rank with 79 of the 378 towns in the State. Pune division was relegated to the second position with 76 towns. Nagpur, which was at the sixth position in 1961 had moved up to the third rank with 60 towns. Aurangabad, which had held the second position in this respect in 1961 was pushed to the fifth rank with 57 towns. Amravati division assumed the lowest position in this hierarchy with 47 towns in 2001. It must be noted here, that, among the six Revenue Divisions of the State, the two divisions of Aurangabad and Amravati exhibited the lowest absolute rise in the number of towns between the period 1961 and 2001. Aurangabad division had 53 towns in 1961. This number increased to 57 by 2001. As far as Amravati is concerned, the number of towns went up from 39 in 1961 to 47 in 2001. This implies that, of the accretion to urban population of these two divisions that occurred during the intervening period, a large part was primarily by way of addition to the population of the existing towns of these regions.

Based on the type of statutory local body, Statutory Towns in the State could further be classified in to three categories, namely, Municipal Corporations, Municipal Councils and Cantonment Boards. Accordingly, there were three Municipal Corporations, 220 Municipal Councils and five Cantonment Boards in the State in 1961. By 2001, the number of Municipal Corporations in the State had gone up to 15, the number of Municipal Councils had increased to 229 and the number of Cantonment Boards had increased to seven. Between the two types of civic bodies, namely, Municipal Corporations and the

Municipal Councils, as the Census data reveals, the highest absolute increase in the number, (i.e., 12) has occurred in the case of Municipal Corporations between 1961 and 2001. The number of Municipal Councils went up by nine during the same period.

It needs to be noted further that a large part of accrual to total number of Municipal Corporations in the State occurred during the recent two decades of 1981-91 and 1991-2001. Between 1961 and 1981, the number of Municipal Corporations in the State had increased from three to five. However, during the decade of 1981 and 1991, six more Municipal Corporations came into existence and the tally of Municipal Corporations rose to 11 by Census of 1991. During the subsequent decade, four more Municipal Corporations came into being and the total number increased to 15 by 2001. This means, 10 out of the 15 Municipal Corporations that existed in the State at the time of Census 2001, have come into being in during the period 1981 to 2001.

The absolute rise in the number of Municipal Councils in the State, too, depicts a somewhat parallel phenomenon. Between 1961 and 1981, there was an addition of only one Municipal Council to the total of 220 Municipal Councils in the State at the time of Census 1961. During the decade of 1981 and 1991, seven more Municipal Councils came into existence. Again, in the subsequent decade of 1991 and 2001, there was an addition of just one Municipal Council.

The number of Cantonment Boards increased merely by two between 1961 and 2001. Formation as well as administration of Cantonment Boards is governed by an altogether separate authority structure. Further, their absolute number is not only small (plus stagnated); the relative share of urban population in the State that resides in Cantonment areas also has been quite insignificant right from the beginning. The five Cantonment Boards those existed in the State in 1961

accounted for about 1.59 per cent of the then total urban population of the State. Although, the number of Cantonment Boards increased from five to seven during 1961 and 2001, their population share depicted a decline from 1.59 per cent to 0.80 per cent. Hence, we may afford to exclude this category of urban towns from further analysis.

The dynamics of growth in the number as well as type of urban civic towns in the State appears very interesting. As the statistics indicates the, total number of towns in the State increased by 110 (from 268 to 378) during 1961 and 2001. 90 per cent of this growth in the number was contributed by Municipal Corporations (whose number increased from three to 15) and Census Towns (which increased from 40 to 127). A Municipal Corporation is the highest form of an urban area while a Census Town is the lowest form of an urban area in every respect. It therefore becomes clear that only the highest and the lowest urban forms have been primarily contributing to the absolute increase in the number of urban centres in the State.

Further, there is a marked regional variation in this growth dynamics of the number of towns of different types. In the year 1961, there were three Municipal Corporations of Mumbai, Pune and Nagpur, that is one in each Revenue Divisions of Konkan, Pune and Nagpur. The total number of Municipal Corporations in the State had increased to 15 by 2001. Of the increased 12 new Municipal Corporations, 8 were located in just two Revenue Divisions of Konkan and Pune. With this, Konkan and Pune Divisions accounted for 10 out of 15 Municipal Corporations that existed in the year 2001. However, it must be noted that, seven out of the eight new Municipal Corporations that sprang up in the two Revenue Divisions of Konkan and Pune came into existence via an up-gradation of their civic status - from Municipal

Council to Municipal Corporation. The Municipal Corporation of Navi Mumbai in Thane district of Konkan division was the lone exception to this.

As far as the number of Municipal Councils in the State goes, at the aggregate level, the number went up by nine (from 220 to 229) between 1961 and 2001. Out of the six Revenue Divisions, only Nagpur Division witnessed the creation of five new Municipal Councils in the intervening period. Two Divisions of Pune and Aurangabad witnessed an actual reduction in the number of Municipal Councils (five in Pune and one in Aurangabad) due to their up-gradation into Municipal Corporations. No new Municipal Councils were formed in these two afore mentioned Divisions during 1961 and 2001. On the other hand, the two Divisions of Konkan and Nashik were characterised by up-gradation of some of the Municipal Councils into Municipal Corporations along with creation of new Municipal Councils. There was a net addition of 10 Municipal Councils in these two Divisions (five in each) between 1961 and 2001. As far as Amravati Division is concerned, although three new Municipal Corporations came into being during 1961 and 2001, two Municipal Councils got converted into a Municipal Corporation while the remaining one was merged with another Municipal Council. With this reorganisation, the total number of Municipal Councils in the Division remained unchanged between 1961 and 2001.

The emergence and growth of Census Towns across six Revenue Divisions of the State reveal interesting patterns and trends. As far as the type and hierarchy of urban areas that exists in our system is concerned, Census Towns are the most primary form of an urban settlement and hence lie at the bottom of the organisational structure. The transition of an erstwhile "rural" settlement into an "urban" form brings with it structural transformation in the economic fabric of the region. It transforms the economic base of the

region and eventually lends a completely modified appearance to that location. One may safely state that the seeds of subsequent urban sprawl are sown through the germination of Census Towns.

With this background, now, it would be interesting to take an overview of the pattern of growth and spread of Census Towns in the state of Maharashtra. There were 40 Census Towns in the State in 1961 with 32 of them (80 per cent of the total) being located in the two Revenue Divisions of Konkan and Pune. The two Revenue Divisions of Aurangabad and Amravati did not have a single Census Town then. The entire Nagpur Division had just one Census Town. By the year 2001, although, there was an addition of 87 Census Towns (with the total number rising to 127), almost 59 per cent of this increase occurred in the two Revenue Divisions of Konkan and Nagpur alone. With this, the three divisions of Konkan, Nagpur and Pune accounted for close to 80 per cent of total Census Towns in the State. The two Revenue Divisions of Aurangabad and Amravati together had only 10 Census Towns in 2001. Further, 8 out of these 10 Census Towns have come into existence during the single decade of 1991 to 2001. This suggests that only 10 locations in these two Divisions (three in Aurangabad and seven in Amravati) which comprise of in all 13 Districts (eight in Aurangabad and five in Amravati), acquired the necessary demographic as well as economic characteristic features during the period of four decades between 1961 and 2001, that lend them to qualify as "Census Towns".

It has been seen that, in many instances in several states, the demographic criteria laid down by the Census authorities for identification and the subsequent demarcation of a location as "Census Town" is not adhered to rigorously. While commenting on the practical difficulties associated with the process of identification and

demarcation of Census Towns, K. C. Sivaramkrishnan, et al., state that, "the information on population, number of workers, and workers outside agriculture, for the census year (necessary for applying the demographic criteria) becomes available only through the census operation. Urban and rural settlements, however, need to be identified well in advance in order to conduct the census. There is, thus, no option but to identify the census towns on the basis of information available in the office of Registrar General and directorates of census operations much before the census date. Understandably, the identification of towns is based on the population and its growth rate, reported in the previous census and a few other factors likely to affect the demographic growth and workforce structure. This implies that discretion exercised by the state directorates or even officials at the district level cannot be totally ruled out, no matter how rigorously we may like to implement the demographic criteria" (p. 17). Notwithstanding this, the fact that barely 10 locations in 13 districts of Maharashtra qualify for the necessary demographic as well as economic characteristic features over a long period of four decades speaks volumes about the extent and intensity of economic stagnancy prevalent across the region. Does this stagnancy suggest the absence of forces which trigger the process of overall economic development? Does it imply that the basic impetus required for kick starting the process of structural transformation has failed to muster the necessary support and strength?

Census of India classifies all the towns in the country (both, Statutory as well as Census) into six population size categories. Towns with population of one lakh and above are called as **Class I** and are termed "**Cities**". Towns with population between 50,000 and 99,999 are denoted as **Class II** towns. Urban centres with population between 20,000 and 49,999 are called as **Class III** towns. Towns with population between 10,000 and 19,999 are termed as **Class IV** towns. Urban centres with population between 5,000 and 9,999

are called **Class V** towns. Finally, all urban centres with population below 5,000 are referred to as **Class VI** towns. The urbanisation process and its progress in India could be described to be "top heavy" in the sense that, Class I towns account for the largest share of the total urban population of the Country. Of the then total urban population of the Country, Class I cities accounted for about 51 per cent of the urban population in 1961. By the year 2001, this concentration of the urban population in Class I cities had increased to the level of almost 69 per cent.

Maharashtra, which has always been at the fore as far as process and progress of urbanisation in the Country is concerned, has not been an exception. In fact, the tendency for the urban population of the State to concentrate in Class I cities is much more pronounced as compared to the trend observed at the national level. As the statistics for the Census year 2001 indicates, 79.70 per cent of the total urban population of the State resided in Class I cities. The same percentage stood at 65.77 in 1961. It can be seen from this set of data, that as far as Maharashtra is concerned, the tendency for the urban population to concentrate in Class I cities has been much sharper when compared to the same at the national level since the formation of the State.

Population size class-wise distribution of the total urban towns in the State has also undergone a marked change between 1961 and 2001. Towns with population above 20,000, (i.e., town categories I, II and III) accounted for about 27 per cent of the total towns (73 out of 268) in the year 1961. By 2001, the relative share of these towns had increased to about 58 per cent (219 of 378 towns). As noted earlier, total number of towns in the State increased by 110 (from 268 to 378) between 1961 and 2001. There was an addition of 156 towns in the town categories of I, II, III and IV. However, town Classes V and VI experienced reduction in their absolute number by 46 towns during 1961 and 2001. This is how; there

was a net addition of 110 towns between 1961 and 2001. It is very interesting to note that, more than 90 per cent of the increase (146 out of 156) was contributed by three size class categories namely I, II and III. Between 1961 and 2001, the number of Class I towns increased from 12 to 40, Class II towns from 15 to 44 and Class III towns from 46 to 135. There was an addition of only ten towns (91 to 101) in Class IV category towns during the same period. This shows that, during the period of 1961 and 2001, distribution of towns among different population size classes has shifted in favour of larger size towns.

#### 5. URBANISATION IN MAHARASHTRA: DISTRICT LEVEL TRENDS

Growth and spread of urbanisation depicts considerable amount of variation at the District level too. With its level of urbanisation being at 100 per cent, Greater Mumbai has been the sole district in the State which is completely "urban". It has remained so all along. The district of Gadchiroli was exactly at the opposite end in 1961. The district was totally "rural" with its level of urbanisation being at zero per cent.

As far as the level of urbanisation is concerned, only four districts of Greater Mumbai, Thane, Pune and Nagpur have been consistently above the State average through-out the period between 1961 and 2001. Nagpur and Pune retained their respective second and the third ranks in the State in respect of level of urbanisation between 1961 and 1981. However, by the Census year 1991, Thane district, moved from the fourth position to the second rank displacing Nagpur and Pune to the third and the fourth position respectively. This pattern prevailed in 2001 too. Between the period of 1981 and 1991, the average level of urbanisation for the district of Thane went up by 20 percentage points from 44.34 per cent (1981) to 64.64 per cent (1991). All these years, the remaining districts in the State have been below the State average, in this respect. Among these four districts which have been consistently above the State level as far as level of urbanisation is

concerned, the district of Pune remained at the second position (next to Greater Mumbai) in respect of the absolute size of urban population, between 1961 and 1981. In 1991, Thane district assumed second position in respect of absolute size of urban population and relegated Pune to the third position. It retained this position in 2001 also.

The five districts of Washim, Bhandara, Ratnagiri, Sindhudurg and Gadchiroli were at the bottom in the State as far as the level of urbanisation in 1961 was concerned. Their respective levels of urbanisation stood at 9.56, 8.85, 8.13, 8.07 and zero per cent. It is quite interesting to note that, three of the above five districts, namely, Ratnagiri, Sindhudurg and Gadchiroli continued to occupy the bottom most position in 2001. The levels of urbanisation in respect of these three districts, respectively, were 11.33, 9.47 and 6.93 per cent. Satara (14.17 per cent) and Gondiya (11.95 per cent) replaced Washim and Bhandara in this list of bottom five in 2001. All the five lower most districts in the State belonged to the Konkan and Vidarbha regions in 1961; four of the five lower most districts continued to belong to the same two regions (Gondiya and Gadchiroli in Vidarbha, while, Ratnagiri, and Sindhudurg in Konkan), in 2001.

The six districts of Dhule, Jalna, Parbhani, Osmanabad, Latur and Gondiya did not show any addition to the number of towns during the period 1961 and 2001. Right from the beginning, these six districts have been characterised by lower levels of urbanisation and less number of towns. Another four districts of Sindhudurg, Hingoli, Akola and Wardha had stagnant number of towns till 1991 and showed an addition of one or two only in the decade of 1991 and 2001. Except Akola, the remaining three districts have lower levels of urbanisation through-out the period of 1961 and 2001. It must be noted that, five of the

aforesaid 10 districts (Jalna, Parbhani, Osmanabad, Latur and Hingoli) belong to the Aurangabad Division of the State. This Division consists of eight districts. The fact that, entire Aurangabad Division registered an absolute increase of just four towns (53 to 57) during the intervening period of 1961 and 2001, hence, should not come as a surprise.

Thane, Raigarh, Ahmednagar, Kolhapur, Nagpur and Chandrapur districts are noteworthy for the increase in the number of their towns between 1961 and 2001. Except Thane and Nagpur, the remaining four districts had fairly lower level of urbanisation in 1961. During 1961 and 2001, the levels of urbanisation of two districts of Thane and Nagpur rose substantially and even surpassed the State average in 2001. What is more interesting about Thane is the marked increase in the number of Class I cities that this district threw up between 1961 and 2001. Thane had two Class I cities in 1961. This number increased to 10 by 2001. In the case of the other four districts, although their level of urbanisation did register an increase, it is quite below the State average in 2001.

As has been discussed earlier, urbanisation is a cause as well as an effect of process of overall economic development. The process of economic advancement is accompanied by structural changes in the region's economy which result in the rise and expansion of the non-agricultural sectors of the region's economy. This boost to the enlargement of the non-agricultural sectors emerges out of advancement of the agricultural activity of the region. Rise in the productivity and production of the agricultural sector leads to the increase in the average level of earnings of the farming community which thereby provides both demand as well as supply impetus to the emergence of the secondary and the tertiary sectors of the local region. The boost to the development of the secondary as well as tertiary sectors of the region could also come from some exogenous

factors such as government's policy to develop an industrial area in the vicinity. What is important here is that an "Urban" area is essentially a centre of development of non-agricultural activities and occupations. Spatial spread of the incidence of urbanisation as reflected in the increase in the number of urban centres in a region is, therefore, an indication of the changing occupational pattern of the area.

An attempt has been made here to look at the occupational composition of the workers in each of the districts and the changes therein between 1961 and 2001 in order to get some clues into the pattern of urban growth experienced by the respective district. Census of India publishes statistics pertaining to the occupational categorisation of workers for each of the location. Workers engaged in agricultural pursuits as "Cultivators" and "Agricultural Labourers" have been deducted from the total number of workers in each of the districts to arrive at an estimate of the workers engaged in non-agricultural occupations. With this, one can compute the proportion of the workers involved in non-agricultural occupations. We have juxtaposed these three variables, namely, (i) level of urbanisation (ii) number of towns and (iii) proportion of workers engaged in non-agricultural occupations for each of the districts for each of the Census years between 1961 and 2001.

The proportion of workers engaged in non-agricultural occupations as per cent of total workers stood at 30 per cent for the State as a whole in the year 1961. The average level of urbanisation for the State stood at 28.22 per cent in the same year. By the year 2001, the proportion of workers in non-agricultural pursuits had increased to 45 per cent for the State, while, the average level of urbanisation, too, had gone up to 42.43 per cent.

Konkan division had about 59 per cent of its total workers occupied in non-agricultural pursuits in the year 1961. This was not only highest among the six Divisions but was much above the then State average. With Greater Mumbai being a part of Konkan Division this was not unexpected. The average level of urbanisation for the Division (56.45 per cent), too, was the highest among the rest and was much above the then State average of 28.22 per cent. Nagpur and Pune Divisions followed Konkan with their shares of non-agricultural workers in the total workers being at 29.61 per cent and 27.45 per cent, respectively. Their levels of urbanisation in the same year, too, stood at 25.14 per cent and 24.68 per cent, respectively. Amravati Division was fourth in the hierarchy with its level of urbanisation at 19.63 per cent and the proportion of workers engaged in occupations other than agriculture being at 17.41 per cent. Although, Nashik Division had an average level of urbanisation of 18.90 per cent which was only marginally lower than that of the Amravati Division, the proportion of workers in non-agricultural activities in this region (21.40 per cent) was more than the Amravati Division. Aurangabad Division with the lowest level of urbanisation (12.61 per cent) in the State also had an equally lower proportion of its total workers (18.08 per cent) in non-agricultural occupations. Almost an identical pattern was repeated in 2001 as far as the association between the Division-wise average level of urbanisation and the proportion of Division-wise workers engaged in non-agricultural occupations are concerned. Konkan Division with its highest level of urbanisation of 75.11 per cent had close to 80 per cent of its total workers engaged in occupations other than agriculture. The relative positions of other Divisions of the State, too, remained similar to that of 1961.

The nature of association between the three variables of (i) average level of urbanisation (ii) proportion of total workers engaged in non-agricultural occupations and (iii) increase in the

number of towns as well as the direction of change therein over the period between 1961 and 2001 as visible at the District level provides us with three broad patterns of urban growth. Greater Mumbai (along with the newly created district of Mumbai Suburban), Thane, Nashik, Pune and Nagpur could be classified to be traditionally well endowed districts as far as urban growth is concerned.

Greater Mumbai continues to remain the powerhouse of self sustaining and at the same time highly magnetic urban concentration in Konkan Division. Next in the hierarchy are the four districts of Thane, Nashik, Pune and Nagpur. Proximity to Mumbai has been a vastly influencing factor as far as urban explosion in the district of Thane is concerned. The average level of urbanisation of Thane registered a mammoth rise from about 30 per cent in 1961 to around 72 per cent by 2001. The proportion of workers engaged in non-agricultural occupations in this district, too, increased from about 35 per cent in 1961 to close to 78 per cent in 2001. Thane had the highest number of urban centres (37) of all the types in the State in 2001. Pune and Nagpur too have registered an impressive urban growth momentum with respect to both the parameters of urban growth namely, level of urbanisation and multiplication of urban centres. The proportion of workers engaged in non-agricultural activities in these two districts also has gone up from 38 per cent to 60 per cent and from 46 per cent to 61 per cent respectively between 1961 and 2001. The growth potential accumulated in these districts in the form of agglomeration economies make the process of urbanisation therein self-perpetuating. Nashik, although it exhibits signs of stagnancy, continues to be quite an urbanised district with average level of urbanisation of 38.80 per cent and 18 urban centres. Further, physical proximity to Mumbai is also an important factor in shaping the overall urban growth in the three districts of Thane, Pune and Nashik.

Districts such as Raigarh, Ahmednagar, Kolhapur and Chandrapur could be termed as freshly emerging districts on the map of urban Maharashtra with a potential for expansive urban growth. Here again, Raigarh and Ahmednagar could be classified into a separate sub-group. Both these districts had poor levels of urbanisation in 1961. Although the average level of urbanisation of these two districts does not seem to have increased to a noticeably higher level, the occupational pattern of these two districts has undergone a marked change. The proportion of workers involved in non-agricultural activities in Raigarh has increased from 22.63 per cent in 1961 to about 51 per cent in 2001. In Ahmednagar, this proportion has risen from 10.55 per cent in 1961 to 30 per cent in 2001. Significant in case of both of these districts is the rise in number of towns between 1961 and 2001. The number of towns in Raigarh increased from 12 to 26, while, Ahmednagar witnessed a rise from 5 to 18. Urban growth in Raigarh could have been shaped by the urban spill-over effect of both the districts of Greater Mumbai and Thane. Since Ahmednagar is located mid way between Pune-Aurangabad, its urban growth might have been influenced by the said cities. Further, urban growth of Ahmednagar has received an impetus from prosperous, sugarcane dominated agriculture and well developed base of Co-operative sugar industry that it supports. The two districts of Kolhapur and Chandrapur could be clubbed into another sub-group. In the case of these two districts too, although the level of urbanisation has gone up between 1961 and 2001, it continued to remain below the State average. Nevertheless, both the districts registered a marked change in the occupational pattern of workers and the number of towns. The proportion of workers engaged in pursuits other than agriculture doubled from about 21 per cent in 1961 to 42 per cent in 2001 in the case of Kolhapur. The number of towns in Kolhapur, too, increased from 11 to 18 in the interim period. While the number of towns in Chandrapur increased from 5 to 14, the

proportion of workers involved in non-agricultural activities went up from 20 per cent to 35 per cent. Prosperous agriculture, growth of Co-operative sugar industry, a well developed dairy sector and proliferation of small and medium engineering units could be responsible for the progress of urban growth in Kolhapur. Growth of mining and establishment of power plants in recent years is likely to be instrumental in spearheading the process of urbanisation in Chandrapur.

Districts of Aurangabad, Akola, Amravati and Wardha could be representing a scenario of restricted urban growth. The process of urbanisation in these districts seems to have remained restricted to a few, handful urban locations which have grown in size between 1961 and 2001 primarily on account of addition to their population. Although the level of urbanisation of these districts has reached a fairly respectable level by 2001, the proportion of their total workers dependent on agriculture continues to hover around 70 per cent. Further, the number of urban towns in these districts has remained almost stagnant between 1961 and 2001.

Barring these 14 districts, the process and progress of urbanisation in the remaining 21 districts of the State present a picture of near stagnancy. Notably each of the six Revenue Divisions depicts coexistence of progressive and stagnant districts in its incidence of urban growth. Yet Aurangabad Division makes a mark as it stands out in this respect vividly with seven out of its eight districts lagging significantly. This Division has retained its bottom position as far as the variables of level of urbanisation and number of urban towns is concerned. Further, the occupational pattern of these districts continues to be overwhelmingly agricultural in nature. As if to aggravate matters, the ultimate irrigation potential of the Division is low and much below the



State average. Lack of agricultural vitality could thus be a limiting factor for urban expansion in this Division.

#### **6. URBANISATION IN MAHARASHTRA: REVENUE DIVISION LEVEL TRENDS**

One observes a great deal of regional variation as far as incidence of urban growth within the state of Maharashtra is concerned. Among the six revenue divisions, Konkan division is the most urbanised one. This should not come as a surprise considering the fact that Mumbai, the political capital of the State and the financial capital of the Country, is located in this division. The average level of urbanisation in this division has been consistently and overwhelmingly above the state level between 1961 and 2001. The level of urbanisation of Konkan division stood at 56.45 per cent when the average level of urbanisation for the state as a whole was 28.22 per cent in 1961. By the year 2001, while the average level of urbanisation for Maharashtra increased to 42.43 per cent, the same for Konkan division had reached 75.11 per cent.

Pune and Nagpur are the next two revenue divisions in the hierarchy in this respect with almost equal levels of urbanisation of 37.54 per cent and 37.35 per cent respectively in the year 2001. Average level of urbanisation for Pune division (24.68 per cent) was slightly higher than that of Nagpur division (25.14 per cent) in 1961. The progress of the other two divisions of Nashik and Amravati, in this respect has been almost parallel to each other. Average level of urbanisation of Nashik division stood at 18.90 per cent in 1961, while, Amravati division had average level of urbanisation of 19.63 per cent in the same year. The levels of urbanisation for Nashik and Amravati divisions had respectively increased to 28.23 per cent and 26.50 per cent in 2001. Aurangabad division have been consistently at the bottom of the hierarchy throughout the period 1961 to 2001. Average level of urbanisation for Aurangabad division was 12.61 per cent in 1961

and it was then the lowest among the six divisions. This level, although, risen to 24.53 per cent continued to be the lowest in 2001.

It is very interesting to note that almost 74 per cent of the total urban population of the state is concentrated in the three revenue divisions of Konkan, Pune and Nashik. This tendency has remained unchanged between 1961 and 2001. Urban population of these three divisions accounted for 74.36 per cent of the total urban population of the state in 1961. By the year 2001, this share had increased marginally to 74.55 per cent. Further, it must be noted that, the relative share of the urban population of Konkan division in the total urban population of the state has gone up marginally from 43.95 per cent in 1961 to 45.47 per cent in 2001. While, the relative shares of the two divisions of Pune and Nashik have dropped marginally during the same period from 18.98 per cent to 18.27 per cent and from 11.43 per cent to 10.81 per cent respectively. Equally noteworthy is the fact that, the relative share of urban population of the Amravati and Nagpur divisions in the total urban population of the state has also declined between 1961 and 2001. The relative share of Amravati division decreased from 8.05 per cent in 1961 to 6.41 per cent in 2001. The share of Nagpur division recorded a fall from 10.48 per cent in 1961 to 9.71 per cent in 2001. Besides Konkan, the only other division in the state whose relative share of urban population in the total urban population of the state has registered an increase during 1961 and 2001 is Aurangabad. Its share improved from 7.11 per cent in 1961 to 9.33 per cent in the year 2001.

#### **7. CONCLUDING REMARKS**

The pace, direction and composition of the progress of urbanisation in the State over the period of four decades subsequent to its formation brings to the certain issues which need more detailed examination such as:

- \* Tendency for the urban growth process to concentrate in the three Revenue Divisions of Konkan, Nashik and Pune seems to be irresistible. Unabated concentration of population in the cities and towns of these regions exert tremendous pressure on the prevailing civic amenities of the existing urban centres. In view of this, what measures need to be adopted to enhance the overall administrative as well as financial abilities of the institutions of local self-government of these regions so as to equip them to manage this onslaught of urban growth?
- \* What should be the broad direction of policies of industrial and urban development to foster broad-based urban growth (across regions as well as towns of varying sizes) in the State?
- \* Why have the policies of decentralised industrialisation adopted by the State in the seventies and eighties not led to the process of decentralised urbanisation?
- \* What should be the focus of developmental initiatives for regions wherein the necessary impetus for urban growth does not emerge from the growth of the agricultural sector? Further, what should be the focus for policy of agricultural advancement for regions constrained by poor irrigation potential?
- \* Is the present pattern of urbanisation that has evolved in the state of Maharashtra over the past fifty years a result of an absence of any well- defined urban development policy of the government?

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**Preliminaries - Defining  
URBAN AREA**

A) All statutory places with a municipality, corporation, cantonment board or notified town area committee, etc.

B) A place satisfying the following THREE criteria simultaneously:

i) a minimum population of 5,000

ii) at least 75 per cent of male working population engaged in non-agricultural pursuits; and

iii) a density of population of at least 400 persons per sq km (1000 per sq mile)

**Composition of Maharashtra**

Sr. No.		1961	1971	1981	1991	2001
1	Revenue Divisions	4	4	4	6	6
2	Districts	26	26	26	30	35
3.	Tehsils	229	232	232	299	353

**Division-wise Distribution of Districts**

Sr. No.		1961	1971	1981	1991	2001
1	Konkan	7	7	7	5	6
2	Nashik				4	5
3	Pune	6	6	6	5	5
4	Aurangabad	5	5	5	7	8
5	Amravati				4	5
6	Nagpur	8		8	5	6
	Total	26	26	26	30	35

**Overview of Urbanisation: India & Maharashtra**

Sr. No.		1961	1971	1981	1991	2001
<b>A</b>	<b>Level of Urbanisation</b>					
	India	17.97	19.91	23.34	26.66	27.78
	Maharashtra	28.22	31.17	35.03	38.69	42.43
<b>B</b>	<b>Decadal GR of Urban pop.</b>					
	India		38.23	46.14	36.47	31.13
	Maharashtra		40.75	39.99	38.87	34.57
<b>C</b>	<b>Maharashtra</b>					
	(i) pop as % of India Pop.	9.01	9.02	9.19	9.67	9.43
	(ii) Urban pop as % of India Urban pop.	14.14	14.40	13.79	14.03	14.40

**Picture of Urban Maharashtra**

	1961	1971	1981	1991	2001
<b>A Urbanisation</b>					
(i) Including Mumbai	28.22	31.17	35.03	38.69	42.43
(ii) Excluding Mumbai	19.80	21.92	25.21	29.87	34.30
<b>B Decadal GR of Urban Pop.</b>					
(i) Including Mumbai	-	40.75	39.99	38.87	34.57
(ii) Excluding Mumbai	-	38.94	41.16	49.63	41.26
<b>C Districts above state average</b>					
(i) Including Mumbai	4	4	4	4	4
(ii) Excluding Mumbai	9	9	7	7	7

**Division-wise Level of Urbanisation (%)**

Sr. No.		1961	1971	1981	1991	2001
1	Konkan	56.45	61.86	66.56	71.47	75.11
2	Nashik	18.90	20.42	22.52	25.46	28.23
3	Pune	24.68	26.99	30.57	32.54	37.54
4	Aurangabad	12.61	14.71	18.31	21.88	24.53
5	Amravati	19.63	20.84	22.21	25.03	26.50
6	Nagpur	25.14	26.80	29.74	34.98	37.35
	<b>Maharashtra</b>	28.22	31.17	35.03	38.69	42.43

**Division-wise Decadal Growth Rates of Urban Population (%)**

Sr. No.		1961-71	1971-81	1981-91	1991-2001
1	Konkan	45.07	42.06	36.98	34.96
2	Nashik	34.85	35.94	41.02	34.74
3	Pune	36.93	38.60	32.87	40.55
4	Aurangabad	49.29	50.23	57.27	36.86
5	Amravati	32.79	29.02	36.13	25.73
6	Nagpur	36.28	38.22	43.23	26.45
	<b>Maharashtra</b>	40.75	39.99	38.87	34.57

**Division-wise Distribution of Urban Centres**

Sr. No.		1961	1971	1981	1991	2001
1	Konkan	46	54	64	55	79
2	Nashik	42	48	49	55	59
3	Pune	60	64	67	80	76
4	Aurangabad	53	53	54	56	57
5	Amravati	39	39	38	42	47
6	Nagpur	28	31	37	53	60
<b>Maharashtra</b>		268	289	309	341	378

**Division-wise Distribution of Total Urban Population**

Sr. No.		1961	1971	1981	1991	2001
1	Konkan	43.95	45.30	45.97	45.34	45.47
2	Nashik	11.43	10.95	10.63	10.80	10.81
3	Pune	18.98	18.46	18.28	17.49	18.27
4	Aurangabad	7.11	7.55	8.10	9.17	9.33
5	Amravati	8.05	7.60	7.00	6.87	6.41
6	Nagpur	10.48	10.15	10.02	10.33	9.71
<b>Maharashtra</b>		100.00	100.00	100.00	100.00	100.00

**Year-wise Growth of Towns**

Sr. No.		1961	1971	1981	1991	2001
1	Statutory Towns	228	232	233	246	251
2	Census Towns	40	57	76	95	127
<b>Total</b>		268	289	309	341	378

**Distribution of Total Urban Population Across Town Types (%)**

Sr. No.		1961	1971	1981	1991	2001
1	Statutory Towns	97.13	96.82	95.61	95.15	95.83
2	Census Towns	2.87	3.18	4.39	4.85	4.17
<b>Total</b>		100	100	100	100	100

**Statutory Status-wise Growth of Towns**

Sr. No.		1961	1971	1981	1991	2001
1	Municipal Corporation	3	4	5	11	15
2	Municipal Councils	220	221	221	228	229
3	Cantt. Boards	5	7	7	7	7
	Sub-Total	228	232	233	246	251
4	Census Towns	40	57	76	95	127
	Total	268	289	309	341	378

**Statutory Status-wise Decadal Growth Rates (%)**

Sr. No.		1961-1971	1971-1981	1981-1991	1991-2001
1	Municipal Corporation	50.02	42.35	57.27	43.25
2	Municipal Councils	30.25	33.74	15.75	23.35
3	Cantt. Boards	43.38	28.81	(-)3.07	2.97
4	Census Towns	55.98	93.07	53.31	15.81
	Total	40.75	39.99	38.87	34.57

**Statutory Status-wise Distribution of Total Urban Population (%)**

Sr. No.	Type	1961	1971	1981	1991	2001
1	Municipal Corporation	48.32	51.50	52.37	59.31	63.13
2	Municipal Councils	47.22	43.70	41.75	34.80	31.90
3	Cantt. Boards	1.59	1.62	1.49	1.04	0.80
	Sub-Total	97.13	96.82	95.61	95.15	95.83
4	Census Towns	2.87	3.18	4.39	4.85	4.17
	Total	100	100	100	100	100

**Year-wise Growth of Towns**

Sr. No.	Type	1961	1971	1981	1991	2001
1	Class 1	12	17	29	33	40
2	Class 2	15	25	25	30	44
3	Class 3	46	65	89	116	135
4	Class 4	91	98	101	101	101
5	Class 5	89	70	48	48	50
6	Class 6	15	14	17	13	8
	All	268	289	309	341	378

**Districts Above the State Average Level of Urbanisation**

Year	Including Mumbai	Excluding Mumbai
1961	Mumbai, Thane, Pune, Nagpur	Thane, Nashik, Jalgaon, Pune, Solapur, Akola, Amravati, Wardha, Nagpur
1971	Mumbai, Thane, Pune, Nagpur	Thane, Nashik, Jalgaon, Pune, Solapur, Akola, Amravati, Wardha, Nagpur
1981	Mumbai, Thane, Pune, Nagpur	Thane, Nashik, Pune, Solapur, Akola, Amravati, Nagpur
1991	Mumbai, Thane, Pune, Nagpur	Thane, Nashik, Pune, Nagpur, Aurangabad, Akola, Amravati
2001	Mumbai, Thane, Pune, Nagpur	Thane, Nashik, Pune, Nagpur, Aurangabad, Akola, Amravati

**Progressing and Lagging Districts in Maharashtra**

Division	Progressing	Lagging
Konkan	Mumbai, Thane, Raigad	Ratnagiri, Sindhudurg
Nashik	Nashik, Ahmednagar	Dhule, Nadurbar, Jalgaon
Pune	Pune, Kolhapur	Satara, Sangli, Solapur
Aurangabad	Aurangabad	Jalna, Parbhani, Hingoli, Beed, Nanded, Latur, Osmanabad
Amravati	Akola, Amravati	Buldhana, Washim, Yavatmal
Nagpur	Nagpur, Chandrapur	Wardha, Bhandara, Gondiya, Gadchiroli

**District Profile - Thane**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	30.21	36.23	44.34	64.64	72.58
2	No. of Towns	20	24	34	23	37
3	% of Workers in non-agri. pursuits	35.53		58.85		78.13
4	No. of Class I Towns	2	2	5	6	10

**District Profile - Raigad**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	10.08	12.08	14.12	18.01	24.22
2	No. of Towns	12	14	16	19	26
3	% of Workers in non-agri. pursuits	22.63		33.82		51.09
4	No. of Class I Towns					1

**District Profile - Nashik**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	25.60	28.64	31.02	35.55	38.80
2	No. of Towns	16	20	19	17	18
3	% of Workers in non-agri. pursuits	26.46		31.22		37.60
4	No. of Class 1 Towns	2	2	2	2	2

**District Profile - Ahmednagar**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	10.55	11.08	12.97	15.82	19.89
2	No. of Towns	5	6	8	13	18
3	% of Workers in non-agri. pursuits	19.30		24.24		30.30
4	No. of Class 1 Towns	1	1	1	1	1

**District Profile - Pune**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	38.10	41.84	47.33	50.74	58.08
2	No. of Towns	23	22	26	34	25
3	% of Workers in non-agri. pursuits	37.77		52.30		60.46
4	No. of Class 1 Towns	1	1	2	2	2

**District Profile - Kolhapur**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	19.28	21.50	24.82	26.33	29.81
2	No. of Towns	11	11	12	12	18
3	% of Workers in non-agri. pursuits	21.35		32.41		41.99
4	No. of Class 1 Towns	1	1	2	2	2



**District Profile - Aurangabad**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	14.67	17.97	24.93	32.76	37.53
2	No. of Towns	7	7	8	8	9
3	% of Workers in non-agri. pursuits	17.84		26.17		37.89
4	No. of Class 1 Towns		1	1	1	1

**District Profile - Amravati**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	26.14	27.56	29.25	32.60	34.50
2	No. of Towns	13	13	12	11	11
3	% of Workers in non-agri. pursuits	20.76		22.97		29.58
4	No. of Class 1 Towns	1	1	1	1	2

**District Profile - Akola**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	28.06	30.29	31.82	36.34	38.49
2	No. of Towns	6	6	6	6	8
3	% of Workers in non-agri. pursuits	22.57		24.78		32.67
4	No. of Class 1 Towns	1	1	1	1	1

**District Profile - Nagpur**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	52.07	54.32	56.75	61.78	64.26
2	No. of Towns	12	13	16	23	29
3	% of Workers in non-agri. pursuits	46.26		52.95		61.35
4	No. of Class 1 Towns	1	1	1	1	1

**District Profile - Chandrapur**

Sr. No.		1961	1971	1981	1991	2001
1	Urbanisation Level (%)	11.24	13.89	17.36	28.04	32.11
2	No. of Towns	5	6	7	12	14
3	% of Workers in non-agri. pursuits	20.25		27.46		35.03
4	No. of Class I Towns			1	1	1

**Division & District Profile (Urban Level): Aurangabad**

Sr. No.		1961	1971	1981	1991	2001
1	Aurangabad	14.67	17.97	24.93	32.76	37.53
2	Jalna	12.32	13.40	15.37	16.91	19.09
3	Parbhani	16.99	20.64	24.80	28.40	31.76
4	Hingoli	10.89	11.66	12.58	13.47	15.60
5	Beed	9.85	11.61	15.46	17.94	17.91
6	Nanded	14.44	16.33	18.74	21.72	23.96
7	Osmanabad	9.79	10.81	12.88	15.19	15.69
8	Latur	11.30	14.05	17.47	20.39	23.57
9	<b>Aurangabad - Div.</b>	12.61	14.71	18.31	21.88	24.53
10	Maharashtra	28.22	31.17	35.03	38.69	42.43

**Division & District Profile (% of Non-Ag Workers): Aurangabad**

Sr. No.		1961	1981	2001
1	Aurangabad	17.84	26.17	37.89
2	Jalna	16.61	17.11	22.29
3	Parbhani	21.81	24.11	25.18
4	Hingoli	18.70	16.13	17.11
5	Beed	17.11	21.12	22.40
6	Nanded	20.01	22.94	26.13
7	Osmanabad	15.54	17.58	21.33
8	Latur	17.37	21.56	26.89
9	<b>Aurangabad - Div.</b>	18.08	21.42	26.17
10	Maharashtra	30.09	38.25	45.05

**Division & District Profile (No. of Towns): Aurangabad**

Sr. No.		1961	1971	1981	1991	2001
1	Aurangabad	7	7	8	8	9
2	Jalna	4	4	4	4	4
3	Parbhani	8	8	8	8	8
4	Hingoli	3	3	3	3	4
5	Beed	7	7	7	7	6
6	Nanded	11	11	11	13	13
7	Osmanabad	8	8	8	8	8
8	Latur	5	5	5	5	5
9	<b>Aurangabad - Div.</b>	53	53	54	56	57
10	Maharashtra	268	289	309	341	378

**Division & District Profile (Urban Level): Amravati**

Sr. No.		1961	1971	1981	1991	2001
1	Buldhana	16.56	17.56	18.49	20.59	21.20
2	Akola	<b>28.06</b>	<b>30.29</b>	<b>31.82</b>	<b>36.34</b>	<b>38.49</b>
3	Washim	9.56	9.53	9.95	16.59	17.49
4	Amravati	<b>26.14</b>	<b>27.56</b>	<b>29.25</b>	<b>32.60</b>	<b>34.50</b>
5	Yavatmal	12.61	13.62	15.09	17.18	18.60
	<b>Amravati - Div.</b>	19.63	20.84	22.21	25.03	26.50
	Maharashtra	28.22	31.17	35.03	38.69	42.43

**Division & District Profile (% of Non-Ag Workers): Amravati**

Sr. No.		1961	1981	2001
1	Buldana	15.46	16.21	19.41
2	Akola	22.57	24.78	32.67
3	Washim	11.69	12.49	16.22
4	Amravati	20.76	22.97	29.58
5	Yavatmal	14.70	16.26	22.74
	<b>Amravati - Div</b>	17.41	18.98	29.47
	Maharashtra	30.09	38.25	45.05

**Division & District Profile (No. of Towns): Amravati**

Sr. No.		1961	1971	1981	1991	2001
1	Buldhana	9	9	9	11	11
2	Akola	6	6	6	6	8
3	Washim	3	3	3	4	4
4	Amravati	13	13	12	11	11
5	Yavatmal	8	8	8	10	13
	<b>Amravati - Div.</b>	39	39	38	42	47
	Maharashtra	268	289	309	341	378

# AN APPROACH TO A NATIONAL URBAN TRANSPORT POLICY FRAMEWORK FOR INDIA

S. Sriraman

*Over the last two decades, rapid population growth and spatial expansion has led to a sharp increase in demand for urban transport facilities and services in many cities in India especially the metropolitan ones which have attracted significant investments in high-technology industries thanks to a competitive and highly qualified workforce. Given this situation, it is well recognised that efficient and reliable urban transport systems are crucial for India to sustain a high growth rate. But several factors mostly inadequate and faulty policy initiatives have hindered the adequate and timely provision of services. In this paper, an attempt is made to propose an appropriate policy framework that needs to be in place to initiate and encourage useful solutions to tackle the urban transport problem in the Indian context.*

## 1. INTRODUCTION

While transport has a major role in influencing the location of cities, it has had an even more significant role in defining city shapes and sizes. The concentration of population, employment and activities in urban areas is, in fact, to a great extent very much due to transportation. Accordingly, movement of men and material became a significant feature. However, over the years, movement has been made increasingly difficult due to factors within and outside the system. Paradoxically, the cities have outgrown themselves and reached a stage when the transport system is hindered in its effective functioning.

Most of the cities in India have been facing urban transport problems for the last many decades, affecting the mobility of people and material and thereby the economic growth of urban areas. These problems are due to the prevailing imbalance in modal split; inadequate transport infrastructure but at the same time its sub-optimal use; no proper integration between land use and transport planning; and no improvement or little improvement (or in most cases a worsening) in city bus services, all of which encourage a shift to personalised modes. Consequently, many cities in the country are facing serious problems, including significant levels of traffic congestion, air pollution from transport sources, high rates of traffic accidents and even inadequate access to basic transport facilities by poor and vulnerable groups including

people with disabilities. The deteriorating urban environment threatens the livability and productivity of many cities. In many of the metropolitan cities such as Mumbai, Chennai, Kolkata and New Delhi, the situation is so severe that the efficiency of their urban economies is being adversely affected so being the case with the health and welfare of the people living in them.

It is against this background that an attempt is made, in this paper, to propose an appropriate policy framework that needs to be in place to initiate and encourage useful solutions to tackle the urban transport problem in the Indian context. We begin with a brief examination of the urbanisation process in India and then look at the impact of urbanisation on mobility requirements which takes us further to spell out issues related to emerging challenges on the urban mobility front. This is followed by a critical review of the current policy framework and interventions therefrom which provides us a basis for suggestions of some significant elements of a new urban transport policy framework for urban areas in the country.

## 2. THE URBANISATION PROCESS AND THE TRANSPORTATION SCENARIO IN INDIA

The urbanisation process has been quite rapid in developing countries like India with resulting problems of inadequate housing and other infrastructural facilities like transport, water

supply, etc. The important characteristics of current problems are the scale and intensity of such problems and inadequacy of resources.

While there are differences amongst various cities due to a variety of factors, the general pattern of urbanisation has been characterised by high population growth, the dominant emerging problem being the excessive growth of large cities especially metropolitan ones. This pattern is expected to prevail in the future as the basic economic and social forces, which encourage the growth of these cities, continue to dominate. Several times in the past, there has arisen an argument for policies to contain urbanisation (especially excessive growth) and thereby the size of cities. More specifically, the relevant question that has been (and continues to be) raised is: Is it not possible to restrict growth of cities to an optimum size? The concept of an optimal city is based on comparison of costs and benefits associated with city size (population measured on the horizontal axis). Adopting the common assumption of an S-shaped benefit curve and a U-shaped cost curve, it is expected that net benefits would become zero at some finite city size. Hence, this could indicate the optimal city size.

However, it is not easy as that since a bewildering set of optima can be identified. Moreover, the meaning of benefits and curves is rather obscure. The economic and social benefits of large relative to small cities appear stronger in developing than in developed economies. Furthermore, the social costs probably remain lower in developing countries despite increase in pollution, congestion, etc. Thus, there has been a basis for arguing that the hypothetical critical city size that provides maximum net benefits, if these could be measured, would be greater in developing countries. (Richardson, 1977). The question that arises then would be: how much more greater?

It must be recognised that the urbanisation process is very often accompanied by rapid growth in income and employment and that it might not be in the interest of the concerned countries to stop economic growth of cities like, for example, Mumbai. Further, it is increasingly being realised that it is impossible to stop or arrest migration into cities even though it may be desirable to do so. It is more likely that it is possible to influence the growth pattern of urban areas in a desirable manner by a reorientation of land-use policies in such a way that the city grows into an organic and vital agglomeration node.

Historically, land-use planning has been an important component of the urban planning process. However, in the traditional framework of policy making (based on standard economic theory), there are assumptions which no longer hold. Firstly, it is assumed that there is absence of adequate space as a result of which households, firms and governments choose only one location with the result the role of land-use planning has often been underplayed if not overlooked completely. But it is well recognised that space is not only an input in production but it is also an important element for locational planning of economic agents and also an important source of local authorities to finance city development. Land - use decisions invariably introduce strong convexities in consumer preferences and production technologies. Secondly, the essence of urban areas is that there is an agglomeration of many people and firms in close quarters. This introduces an element of non-price competition which complicates operation of the free market process. Further, high densities of population, traffic congestion, provision of public services involve externalities. Besides, existence of space between locations means that producers of local goods (both public and private sectors) can be monopolies. All these problems suggest that urbanisation issues are complex and that an approach different from the past needs to be adopted to provide meaningful solutions. We now

look at the trends in urbanisation in the Indian context and examine their implications on transport related issues.

## 2.1 Urbanisation Process - Emerging Trends in India

In India out of the total population of 1210 million, in 2011, about 377 million persons lived

in urban areas. The proportion of urban population has increased from 19.9% in the year 1971 to 27.8% in the year 2011. The decadal growth of urban population was 31.8% in 1991-2001. At the country level, natural increase has been principal source of urban population growth. The contribution of rural-urban migration ranges between 19 to 21 percent of the net increase in urban population (Table 1).

**Table 1. Composition of Urban Population Growth in India, 1961-2011**

	1961-71	1971-81	1981-91	1991-2001	2001-2011
(1)	(2)	(3)	(4)	(5)	(6)
Urban population increase (Million) Out of which	30.18	49.45	56.45	67.81	90.98
Natural Increase (Million)	19.68 (65.2)	25.56 (51.3)	35.37 (61.3)	40.17 (59.4)	53.95* (59.30)
Net R-U Migration (Million)	5.91 (18.7)	9.83 (19.6)	12.76 (20.7)	14.32 (20.9)	18.18* (19.98)
Residual Component (Million)	4.59 (16.1)	14.06 (29.1)	8.32 (18.0)	13.32 (19.7)	18.85* (20.72)

1. Source: Census of India, 1961 to 2011.

2. Figures in parenthesis are in per cent.

## 2.2 Projected Urban Populations

The Register General of India has projected the total and urban population in India and the states. It is interesting to know that 67% of total population growth in India in next 25 years is expected to take place in urban areas. Urban population is expected to increase from 286 million in 2001 to 534 million in 2026 (38%)

(Table 2). Of the total population increase in population, 50% during the period is likely to occur in seven less developed states, namely, UP, MP, Rajasthan, Bihar, Chhattisgarh, and Jharkhand. But urban growth is going to take place in the states of U.P., Maharashtra, Tamil Nadu, and Gujarat and these will contribute over 45% of urban growth over the coming 25 years.

**Table 2. Projected Urban and Total Population in India - 2011, 2021 and 2026**

Item	2001	2011	2021	2026
(1)	(2)	(3)	(4)	(5)
Total Population (million)	1028.61	1210.19	1339.74	1399.83
Urban Population (million)	286.12	377.10	432.61	534.80
Urban (%)	27.82	31.16	32.29	38.21
Total AEGR (%)	1.63	1.35	1.23	1.16
Urban AEGR (%)	2.24	2.30	2.50	1.89

Source: Population Projections for India, 2021-26, Registrar General of India, 2006

AEGR- Annual Exponential Growth Rate

**Table 3. States Grouped According to Level of Urbanisation in 2026**

States/UTs	% Urban_2026	% Share of Total Urban Pop_2026
(1)	(2)	(3)
<b>Highly Urban States/Union Territories</b>		
Andhra Pradesh	34.02	5.98
Delhi	98.80	5.17
Gujarat	53.04	6.87
Haryana	46.31	2.69
Karnataka	49.29	6.17
Madhya Pradesh	34.80	5.71
Maharashtra	61.01	15.21
Punjab	52.50	3.08
Tamil Nadu	74.78	10.05
West Bengal	35.13	6.60
Chandigarh, Goa and Pondicherry	85.78	1.13
Highly Urban States/UTs	50.91	68.66
<b>Average Urban States/UTs</b>		
Chhattisgarh	30.77	1.65
Jammu & Kashmir	34.49	0.87
Jharkhand	28.81	2.01
Rajasthan	29.06	4.43
Uttar Pradesh	27.17	12.64
Uttaranchal	37.29	0.82
Subtotal for Average Urban States/UTs	28.59	24.52
<b>Low Urban States/UTs</b>		
Bihar	11.61	2.47
Himachal Pradesh	13.62	0.19
Orissa	21.24	1.80
North Eastern States	22.72	2.19
Other UTs	53.81	0.17
Subtotal for Low Urban States/UT's	15.46	6.83

Source: Same as Table 2. Notes: (i) North Eastern States constitutes of the 8 States of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. (ii) Other UTs comprise of Andaman & Nicobar Islands, Dadra & Nagar Haveli, Daman & Diu and Lakshadweep.

To understand stress or influence of urbanisation in various states, the states have been grouped on the basis of percentage of urban population and share of urban population in 2026 (Table 3). First group identified as highly urban states consists of A.P., Delhi, Gujarat, Haryana, Karnataka, M.P. Maharashtra, Punjab, T.N., West Bengal and four other Union Territories (UTs). In this group, by 2026, about 51% of total population will be urban and it will account for about

69% of total urban population. The second group is identified as average urban and the states consists of Chhattisgarh, J&K, Jharkhand, Kerala, Rajasthan, and U.P. and Uttaranchal. In this group, 29% of total population will be urban and it will account for 24% of projected total urban population. The third group is termed as low urban and cover states like Bihar, H.P., Orissa, and North-East states. It will have 15% of population living in urban areas and accounting for



only 7% of projected total population. Tables 4 and 5 give the demographic details of some selected cities in India and projected population figures for the mega cities, respectively.

**Table 4. Demographic Details of Some Cities\***

Sl.No.	Study City	Area (sq.Kms)*	Population in Lakhs			Decadal Growth Rate (%)		Population Density (Pop/sq km)	
			1991	2001	2011	(1991- 2001)	(2001- 2011)	(1991- 2001)	(2001- 2011)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Gangtok	77	0.78	0.92	2.81	18	15	1195	2950
2	Panaji	23	0.72	0.97	8.18	35	8	4217	4710
3	Shimla	100	1.30	1.73	8.13	33	13	1730	1590
4	Pondicherry	290	3.99	5.08	9.47	27	29	1752	3231
5	Bikaner	270	4.96	6.40	23.68	29	24	2370	7800
6	Raipur	188	4.91	7.19	40.62	46	35	3824	3100
7	Bhubaneswar	233	6.43	8.44	26.19	31	12	3622	6660
8	Chandigarh	264	7.16	10.60	10.55	48	17	4015	9252
9	Hubli Dharward	150	6.42	9.66	18.47	50	15	6440	4260
10	Guwahati	200	7.28	9.68	26.18	33	12	4840	1309
11	Amritsar	150	7.09	10.85	24.91	53	15	7233	9320
12	Trivandrum	310	10.35	11.22	33.07	8	2	3619	1509
13	Madurai	732	9.41	11.85	30.41	26	18	1619	8230
14	Agra	200	10.28	13.69	43.81	33	21	6845	1084
15	Bhopal	320	10.62	14.58	23.68	37	28	4556	8540
16	Kochi	730	16.60	18.18	6.02	10	-12	2490	6340
17	Patna	235	12.86	18.36	57.73	43	22	7813	1803
18	Varanasi	250	15.31	18.95	36.82	24	17	7580	2399
19	Nagpur	270	16.21	21.13	46.53	30	14	7826	4700
20	Jaipur	544	18.00	26.80	66.64	49	27	4926	5980
21	Kanpur	597	19.74	27.16	45.73	38	10	4549	1449
22	Surat	680	17.17	30.90	60.79	80	42	4544	1376
23	Pune	700	30.66	42.00	94.27	37	30	6000	6030
24	Ahmedabad	1330	43.46	59.34	72.08	37	22	4462	8900
25	Hyderabad	900	46.70	63.83	40.10	37	5	7092	1848
26	Chennai	1189	58.18	70.14	46.81	21	8	5899	2690
27	Bangalore	1279	63.30	86.25	95.89	36	47	6744	3910
28	Delhi	1758	94.20	138.50	167.53	47	21	7878	1129
29	Kolkata	1851	126.40	147.38	44.87	17	-2	7962	2425
30	Mumbai	4355	145.30	177.02	124.78	22	-6	4065	2003

Source: Same as Table 1.

Note: \* Includes Municipal area as well as the surrounding planning.

**Table 5. Projection of Population in Mega Cities in 2026 (in million)**

City/UA	2001	2011	2025	Region
(1)	(2)	(3)	(4)	(5)
Mumbai	16.36	12.48	26.38	West
Ahmedabad	4.51	7.21	7.73	West
Pune	3.75	9.43	6.79	West
Surat	2.81	6.08	5.70	West
Chennai	6.42	4.68	10.12	South
Bangalore	5.68	9.5	99.71	South
Hyderabad	5.53	4.0	19.09	South
Delhi	12.79	16.75	22.49	North
Kanpur	2.69	4.57	4.60	North
Jaipur	2.32	6.66	4.29	North
Kolkata	13.21	4.49	20.56	East
<b>Total</b>	<b>76.07</b>	<b>85.95</b>	<b>127.49</b>	

Source: Census of India, 2011 and World Cities, UN-Habitat, 2008-09

Note: Mega city is defined as Cities with population above 4.0 million.

Urban India will continue to concentrate in 1 million and above cities. Moreover, as per UN-Habitat (2008), eleven cities, namely, Ahmedabad, Bangalore, Kolkata, Chennai, Hyderabad, Mumbai, Pune, Surat, Jaipur and Kanpur will have population over 4.0 million in 2025 and these Mega cities will have total population of 127 million (over 24% of total urban population) (Table 4). It is pertinent to note that in the Western Region, there will be four Mega cities and the corresponding number in Northern and Southern Regions will be three each. But in the Eastern Region, Kolkata will continue to be the only Mega city. In terms of urban population distribution, India will be mainly dominated by the 11 states identified as first group and 11 Mega cities. This feature has important implications for future urban related policies in the country.

### 2.3 Significance of the Urban Transport Problem in India

Although circumstances are different across cities in India, certain basic trends which determine transport demand (such as substantial

increase in urban population, household incomes, industrial and commercial activities) are the same. These changes have exacerbated the demand for transport - a demand that most Indian cities have been unable to meet. The main reason for this is the present imbalance in modal split besides inadequate transport infrastructure and its sub-optimal use.

Over the last two decades, rapid population growth and spatial expansion has led to a sharp increase in demand for urban transport facilities and services in many cities in India. Many Indian cities especially the metropolitan ones have attracted significant investments in high-technology industries thanks to a competitive and highly qualified workforce. Given this situation, it is well recognised that efficient and reliable urban transport systems are crucial for India to sustain a high growth rate. But several factors have hindered the adequate and timely provision of services to match the ever-increasing demand. In many cities, densification and spatial expansion have occurred with little or no development planning, while in some cases the failure of the

instruments of governance has resulted in a significant wastage of resources or substandard quality of infrastructure. Furthermore, the huge capital costs and time required to develop high capacity transit systems have prevented the timely implementation of such systems in rapidly growing urban areas. As a result, many cities have relied on road-based systems, which have serious capacity constraints, negative environmental consequences and other limitations. A worrying factor is that car ownership in Indian cities is still low (compared to developed economies). The rising incomes especially in our urban areas provide attraction and an opportunity to the urban dweller to own a vehicle especially when public transport has failed miserably in its attempt to meet the demand in most cities.

The impacts of transport on the quality of urban life go further than that. As India experiences a period of economic and urban growth, air pollution in its major cities has become a cause of national concern and generated worldwide attention. The levels of airborne suspended particulate matter recorded in largest metro-cities far exceeded the ambient air quality standards adopted by India and many other countries [NEERI, 2004]. As manufacturing and power sectors are progressively cleaned up, the relative importance of the urban transport sector to air pollution increases. There is much current discussion about the development of Mumbai as a "world class city" rivaling Shanghai. For the Indian cities to retain their attractiveness to international capital, and to compete with other international centers, they must be livable. The environment is important to the economic health of the cities as well as the medical health [W.Bank, 2005]. Along with the growth related impacts of urban transport are the direct impacts of urban transport on the life of the poor. The worst off in urban transport may be the pedestrians, whose mobility and safety are hindered by non-existent, broken-down, and/ or obstructed sidewalks, difficult street crossings; and flooding

in monsoon seasons. The bicycle riders, once a major urban transport mode in India, are gradually being pushed off busy roads by motor vehicles. These two groups account for half of all traffic fatalities. Secondary and tertiary road networks have received almost no attention or funding, especially in low-income areas.

### 3. TRANSPORT CHARACTERISTICS IN SELECT INDIAN CITIES

We present below some of the significant results of the study and related surveys undertaken by Wilbur Smith Associates in 2008 for the Ministry of Urban Development, Government of India. (Since no such comprehensive study has been undertaken recently and the situation remains the same in our cities, we refer to this study most extensively with additional inputs from other sources).

#### 3.1 Selection of Study Cities and their categorisation

Out of the 87 cities that qualified for the study, which includes all State capital cities and with population above 0.5million, 30 cities were selected as study cities, based on certain criteria such as size and shape, geological location, importance, etc. To generalise the existing and forecasted urban transport parameters to all the eighty seven cities, the cities have been classified into 7 categories based on population with the Category 1 having less than 5 lakh population and Category 7 city having a population of more than 80 lakh.

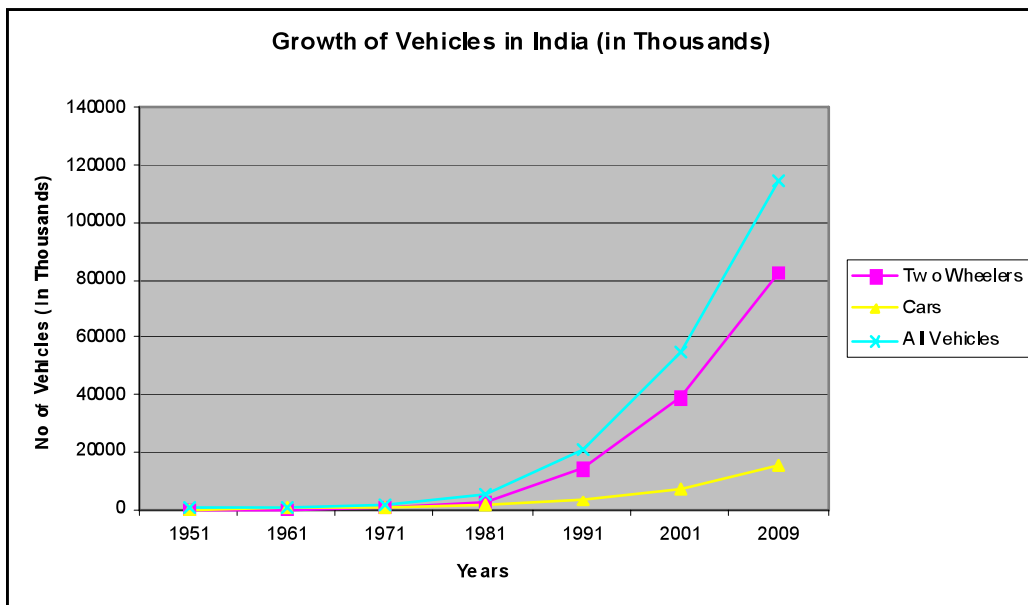
#### 3.2 Vehicle Population Growth

As shown in Table 6 and Figure 1 below, about 22 million vehicles were plying on Indian roads in 2008. The annual growth rate of the vehicular population in India has been around 12 during the past decade or so. What is alarming is that nearly 32 per cent of the vehicles are plying in the metropolitan cities. The trends of automobile growth in a few metros are shown in Table 7 and Figure 2.

**Table 6. Growth Trend in Vehicle Population (in Thousands)**

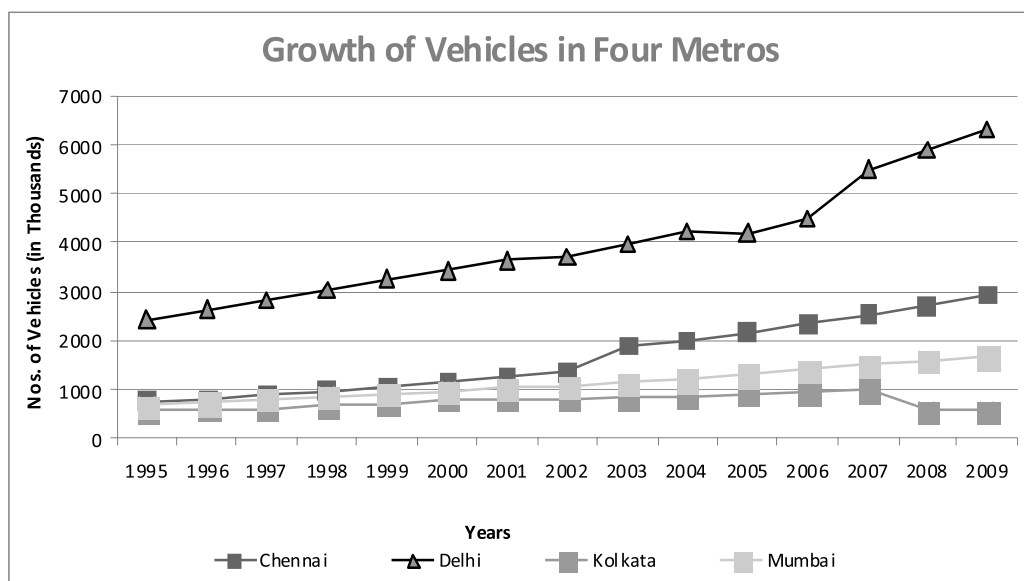
City Name	1995	1996	1997	1998	1999	2000	2009	Annual Growth Rate (1995-2009) (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ahmedabad	510	572	631	686	739	799	1691	8.9
Bangalore	796	900	972	1130	1332	1550	3016	10.0
Chennai	768	812	890	975	1056	1150	2919	10.0
Delhi	2432	2630	2848	3033	3277	3423	6302	7.0
Hyderabad	557	764	769	887	951	991	2682	11.9
Jaipur	368	405	449	492	542	598	1387	9.9
Kolkata	561	588	588	664	702	799	581	0.3
Mumbai	667	724	797	860	911	970	1674	6.8
Nagpur	198	213	239	270	298	331	1009	12.3
Pune	358	412	468	527	568	593	1153	8.7

Source: Motor Transport Statistics, Ministry of Road Transport and Highways, Government of India & RTOs, various State Governments.



**Table 7. Growth of Vehicles in Four Metros (in Thousands)**

Years	Chennai	Delhi	Kolkata	Mumbai
(1)	(2)	(3)	(4)	(5)
1995	768	2432	561	667
1996	812	2630	588	724
1997	890	2848	588	797
1998	975	3033	664	860
1999	1056	3277	702	911
2000	1150	3423	799	970
2001	1257	3635	799	1030
2002	1356	3699	801	1069
2003	1895	3971	842	1124
2004	2015	4237	875	1199
2005	2167	4186	911	1295
2006	2338	4487	948	1394
2007	2518	5492	987	1503
2008	2701	5899	573	1605
2009	2919	6302	581	1674



### 3.3 Urban Public Transport

#### 3.3.1 Bus Transport

The bus mode is a significant mode in most cities with some of the larger ones having other public transport modes such as suburban or metro rail services. At the same time, it is to be noted that many cities, including a significant number of million plus cities, do not have a proper bus system. In some of the cities, State Road Transport Undertakings (SRTUs) have taken the responsibility of operating city buses. Some well know SRTUs are listed in Table 8. In several big cities where there is no significant conventional bus system, some private bus operators are permitted to provide bus services. Availability of public bus transport facilities in selected cities is presented in Table 9. The city bus fleet size growth for selected SRTUs is shown in Table 10. Gangtok, Bikaner, Raipur, Amritsar, Patna, Agra, Varanasi do not have standard bus services and public transport needs are met by mini-buses and other modes.

**Table 8. Cities with STU Run Bus Services**

Sl.No.	City	STU
(1)	(2)	(3)
1	Mumbai	BEST
2	Delhi	DTC
3	Chennai	CHI-I
4	Kolkata	CSTC
5	Ahmedabad	AMTS
6	Pune	PMT
7	Chandigarh	DCHNTU

**Table 9. Availability of Bus Transport**

Sl.No.	City	Total No. of City Buses-2007 (Govt. + Private)*
(1)	(2)	(3)
1	Gangtok	Nil
2	Panaji	8
3	Shimla	164
4	Pondicherry	49
5	Bikaner	Nil
6	Raipur	Nil
7	Bhubaneswar	32
8	Chandigarh	209
9	Hubli Dharwad	170
10	Guwahati	62
11	Amritsar	Nil
12	Trivandrum	242
13	Madurai	609
14	Agra	20
15	Bhopal	240
16	Kochi	350
17	Patna	Nil
18	Varanasi	Nil
19	Nagpur	241
20	Jaipur	327
21	Kanpur	176
22	Surat	106
23	Pune	824
24	Ahmedabad	886
25	Hyderabad	2546
26	Chennai	2816
27	Bangalore	4185
28	Delhi	6906
29	Kolkata	4256
30	Mumbai	3430

Source: Various STUs and private operators-2007,  
\* - includes only standard buses,

**Table 10. Growth of SRTU Bus Fleet**

City	STU	Year								Annual Average Growth (%) (2000-2007)
		2000	2001	2002	2003	2004	2005	2006	2007	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Mumbai	BEST	3269	3155	3075	3075	3074	3069	3075	3081	-0.80%
Delhi	DTC	4916	4330	4466	2496	2905	3010	3143	2814	-7.70%
Chennai	CHI-I	2353	2314	2211	2270	2251	2187	2176	2087	-1.70%
Kolkata	CSTC	814	821	856	800	769	707	659	635	-3.50%
Ahmedabad	AMTS	752	729	630	410	382	371	545	727	-0.50%
Pune	PMT	657	664	647	662	697	764	784	752	1.90%
Chandigarh	DCHNTU	393	395	404	-	-	-	405	404	0.40%
Bangalore	BMTCL	2110	2250	2446	2656	3062	3533	3802	3967	9.40%

Source: Various SRTUs

### 3.3.2 Intermediate Public Transport/ Para Transit

Intermediate Public Transport (IPT/ Para transit mode which is an intermediary facility falling in between traditional public transport and personalised automobile. This type of travel is more synonymous with "auto rickshaw travel" in our cities. Other IPT modes such as taxis, six-

seater vehicles are also available in smaller proportions. The auto rickshaw population in selected cities is given in Table 11 Pune has the highest number of auto rickshaws / lakh population. Major cities generally have higher number of these vehicles compared to smaller cities. But it is also observed that cities without adequate/ proper/ no public bus/ rail transport have higher number of IPT vehicles.

**Table 11. Number of Auto Rickshaws in the Selected Cities**

Sl.No.	City	Number of IPT Vehicles (2005)	No. of IPT Vehicles/Lakh Population
(1)	(2)	(3)	(4)
1	Gangtok	Nil	0
2	Panaji	293	302
3	Shimla	Nil	0
4	Pondicherry	2017	397
5	Bikaner	4125	645
6	Raipur	7478	1040
7	Bhubaneswar	3421	405
8	Chandigarh	7256	751
9	Hubli Dharwad	8407	868
10	Guwahati	5567	525
11	Amritsar	9903	913
12	Trivandrum	7152	637
13	Madurai	6361	537
14	Agra	4884	357
15	Bhopal	11620	797
16	Kochi	12742	701
17	Patna	16302	888
18	Varanasi	12221	645
19	Nagpur	10666	505
20	Jaipur	12513	467
21	Kanpur	5252	193
22	Surat	19512	631
23	Pune	44590	1062
24	Ahmedabad	43865	739
25	Hyderabad	48898	766
26	Chennai	45016	642
27	Bangalore	77375	897
28	Delhi	104747	756
29	Kolkata	41946	285
30	Mumbai	156261	883

Source: Vehicle Registration Data from Various RTOs, 2005

### 3.3 Some Primary Survey Results

#### 3.3.1 Average Peak Hour Vehicle Composition

The shares of fast moving slow moving traffic observed at various count locations and category wise city details are given in Table 12. Cities such as Patna, Raipur, Varanasi, Amritsar, Agra, etc. have a higher share of slow moving vehicles. It is observed that generally there is a reduction in the share of slow moving traffic in the peak hour as city size increases. It is clearly observed that for category 6 cities, the share is found to be minimal with only around 4% constituting slow-moving traffic. It was also found from surveys that (i) personal vehicles are high across all cities compared with other vehicle types ranging from 40 % to 60%, (ii) Gangtok has the highest share of personalised vehicles (80%) which is explained by the absence of bus transport and slow moving vehicles, (iii) bus traffic

observed for cities without public transport constitute educational/ company/tourist buses., (iv) share of auto rickshaws is high in cities without public transport. Table 13 gives the vehicle composition during the peak hours by city categories.

**Table 12. Peak Hour Volume Composition at Locations within City**

City Category	Average Share of Fast Traffic (%)	Average Share of Slow Traffic (%)
(1)	(2)	(3)
Category-1(a)	83	17
Category-1(b)	100	0
Category-2	84	16
Category-3	86	14
Category-4	87	13
Category-5	93	7
Category-6	96	4

**Table 13. Average Peak Hour Vehicle Composition at Locations within City (%)**

City Category	Std Bus	Mini Bus	Cars/Jeep/ Van	Two Wheelers	Auto Rickshaws	Commercial Vehicles	SMVs	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Category-1(a)	9	4	17	30	14	9	17	100
Category-1(b)	6	15	40	34	0	5	0	100
Category-2	7	2	17	32	20	6	16	100
Category-3	6	4	18	33	20	5	14	100
Category-4	6	2	23	36	16	4	13	100
Category-5	9	2	20	37	21	4	7	100
Category-6	12	3	31	23	23	3	5	100

Note: \* Including tourist and educational buses also.

#### 3.3.2 Origin- Destination Flows of Commercial Vehicles

Commercial vehicle O-D data at the cordon points provided the external-external and external

and external truck movements. Category wise details are also given in Tables 14 and 15. On an average, at least 40% of commercial vehicles crossing the cordon points have no business in the city.



**Table 14. Share of External-External and Internal-External Commercial Traffic through Cordon Points for Various City Categories**

City Categories	External-External (%) (8 Hrs)	Internal-External (%) (8 hrs)	Total (%)
(1)	(2)	(3)	(4)
Category-1(a)	41	59	100
Category-1(b)	37	63	100
Category-2	40	60	100
Category-3	39	61	100
Category-4	36	64	100
Category-5	38	62	100
Category-6	37	63	100

**Table 15. Share of Internal - External Commercial Vehicles**

City Categories	Total Vehicle Nos.	Total Commercial Vehicles		Ext-Ext Commercial		Int-Ext & ext-Int Commercial	
		Nos.	% of Total Veh.	Nos.	% of Total Veh.	Nos.	% of Total Veh.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Category-1(a)	37905	3650	10	1497	4	2154	6
Category-1(b)	26347	2443	9	935	3	1508	6
Category-2	58567	9833	17	3866	7	5967	10
Category-3	62512	11657	18	4526	7	7131	11
Category-4	76070	19139	26	6837	9	12302	17
Category-5	122847	26368	23	9756	8	16612	15
Category-6	193229	41907	22	15385	8	26521	14

Note: Survey duration is 8 hrs during day time.

**Table 16. Distribution of Major Roads by Lanes\***

City Category	2 Lane (%)	4 Lane (%)	6 Lane and above (%)
(1)	(2)	(3)	(4)
Category-1(a)	59	41	0
Category-1(b)	88	12	0
Category-2	62	36	1
Category-3	64	34	2
Category-4	58	37	6
Category-5	57	37	6
Category-6	27	64	8
<b>Average</b>	<b>59</b>	<b>37</b>	<b>3</b>

Note \* -excluding single lane roads

### 3.3.3 Distribution of Major Roads by Lanes

The lane configuration of various types of roads is presented in Table 16. Among the small and medium sized cities, Chandigarh has wide

roads. As the city size increases, the % of roads with less number of lanes decreases and roads with higher number of lanes increases.

### 3.3.4 Average Journey Speed on Major Corridors in Peak Hours

The objective was to estimate the journey speeds and running speeds on major roads in the city. The survey was conducted using the moving car observer method. It is observed that the average speed on major corridors of larger cities is lower than the speeds observed in smaller sized cities. It is also observed that within a specific city category, journey speed is low in cities having more slow moving traffic. The average speed for various categories of cities is presented in Table 17. Smaller cities have higher network speeds.

**Table 17. Average Journey Speed for Various Categories of Cities**

Category of Cities	Average journey speed on major corridors during peak hour (KMPH)
(1)	(2)
Category-1(a)	28
Category-1(b)	25
Category-2	24
Category-3	24
Category-4	22
Category-5	21
Category-6	17

### 3.3.5 Share of Major Roads for Parking

The road length used for on street parking on major road of the network in each city has been estimated and presented in Figure 3. Category

wise details are given in Table 18. Larger cities have lesser on-street parking on major roads compared to others. This may be due to better enforcement. It is also found that within smaller cities, on-street parking is high in tourist cities.

**Table 18. Share of Major Roads Used for Parking**

Category of Cities	% of Major roads used for on-street parking
(1)	(2)
Category-1(a)	41
Category-1(b)	40
Category-2	36
Category-3	51
Category-4	57
Category-5	42
Category-6	17

**Figure 3. Share of Major Roads Utilised for On-Street Parking for Study Cities**

### 3.3.6 Pedestrian Opinion Surveys

A low rank indicates inadequate and sub-standard facilities. Chandigarh scored the highest rank while cities like Raipur, Surat, Kanpur have low ranks. In general, higher the city category, the better is the rank. The figures are given in Table 19 and Figure 4.

**Table 19. Average Pedestrian Facility Rank for Various Categories of Cities**

City Category	Average Rank
(1)	(2)
Category-1(a)	1.3
Category-1(b)	1.2
Category-2	1.9
Category-3	2.3
Category-4	2.8
Category-5	3.1
Category-6	3.7

Note: Rank 1 - Poor and 5-Best.

**Figure 4. Pedestrian Facility Ranking for Selected Cities**



### 3.4 Household Interview Surveys

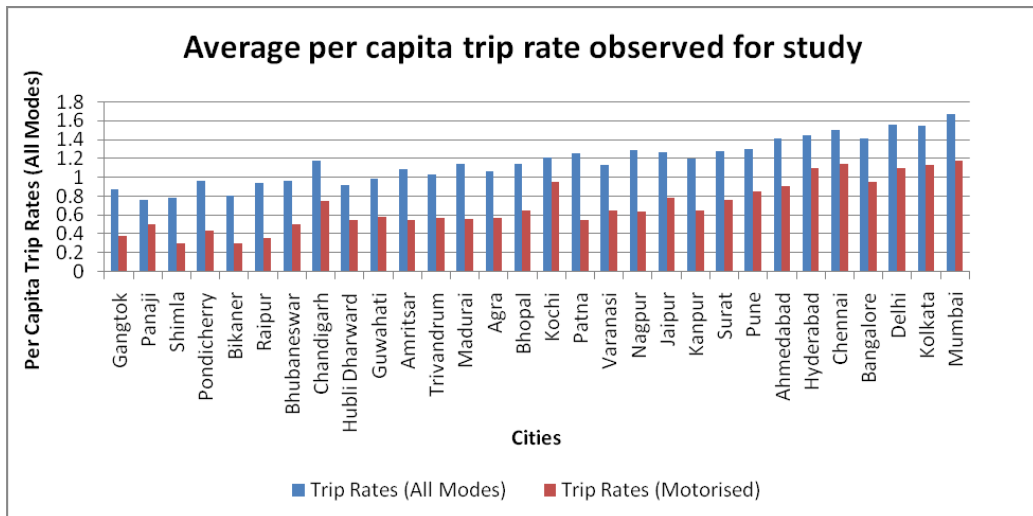
#### 3.4.1 Per capita Trip Rate

A per capita trip rate is defined as a one-way trip made by a person from an origin to a desti-

nation by a single mode. The figures are given in Table 20 and 21 and Figure 5. It is observed that trip rate increase increases with city size. Mumbai has the highest trip rate while Panaji has the lowest.

**Table 20. Per Capita Trip Rate Observed for Various Cities (All Modes)**

Sl. No.	City	Trip Rate	Sl.No.	City	Trip Rate
(1)	(2)	(3)	(4)	(5)	(6)
1	Gangtok	0.87	16	Kochi	1.21
2	Panaji	0.76	17	Patna	1.25
3	Shimla	0.78	18	Varanasi	1.13
4	Pondicherry	0.96	19	Nagpur	1.29
5	Bikaner	0.81	20	Jaipur	1.26
6	Raipur	0.94	21	Kanpur	1.20
7	Bhubaneswar	0.96	22	Surat	1.28
8	Chandigarh	1.18	23	Pune	1.30
9	Hubli Dharwad	0.92	24	Ahmedabad	1.41
10	Guwahati	0.98	25	Hyderabad	1.45
11	Amritsar	1.08	26	Chennai	1.50
12	Trivandrum	1.03	27	Bangalore	1.41
13	Madurai	1.14	28	Delhi	1.56
14	Agra	1.06	29	Kolkata	1.55
15	Bhopal	1.14	30	Mumbai	1.67

**Figure 5. Average Per Capita Trip Rate Observed for Study**

**Table 21. Category -Wise Trip Rate Observed (All Modes)**

Category	Trip Rate
(1)	(2)
Category-1(a)	0.76
Category-1(b)	0.83
Category-2	0.96
Category-3	1.11
Category-4	1.26
Category-5	1.41
Category-6	1.55

### 3.4.2 Category Wise Modal Share

The modal shares is given in Tables 22, 23 and in Figure 6.

**Table 22. Mode Share for Selected Study Cities (%)**

Sl. No.	City	Walk	Cycle	Two Wheeler	Public Transport	Car	IPT	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Gangtok	56	0	4	0	40	0	100
2	Panaji	34	3	26	5	27	5	100
3	Shimla	58	1	8	16	17	0	100
4	Pondicherry	40	15	30	7	4	4	100
5	Bikaner	46	19	22	0	8	5	100
6	Raipur	35	28	24	0	9	4	100
7	Bhubaneswar	28	21	30	4	12	5	100
8	Chandigarh	23	18	10	18	28	3	100
9	Hubli Dharwad	23	19	25	22	10	1	100
10	Guwahati	21	21	20	8	18	12	100
11	Amritsar	27	25	30	0	14	4	100
12	Trivandrum	26	19	14	21	10	10	100
13	Madurai	34	18	15	16	8	9	100
14	Agra	27	21	31	2	16	3	100
15	Bhopal	26	17	30	15	9	3	100
16	Kochi	16	5	14	50	9	6	100
17	Patna	26	31	20	1	12	10	100
18	Varanasi	24	17	34	0	10	15	100
19	Nagpur	21	28	35	11	3	2	100
20	Jaipur	26	13	26	22	9	4	100
21	Kanpur	29	19	21	9	15	7	100
22	Surat	27	16	34	0	16	7	100
23	Pune	22	11	35	12	13	7	100
24	Ahmedabad	22	14	25	16	17	6	100
25	Hyderabad	22	9	19	35	8	7	100
26	Chennai	22	9	20	31	10	8	100
27	Bangalore	26	7	17	35	8	7	100
28	Delhi	21	12	5	43	13	6	100
29	Kolkata	19	11	4	54	8	4	100
30	Mumbai	27	6	7	45	8	7	100

Figure 6: Mode Share Observed for Study Cities (%)

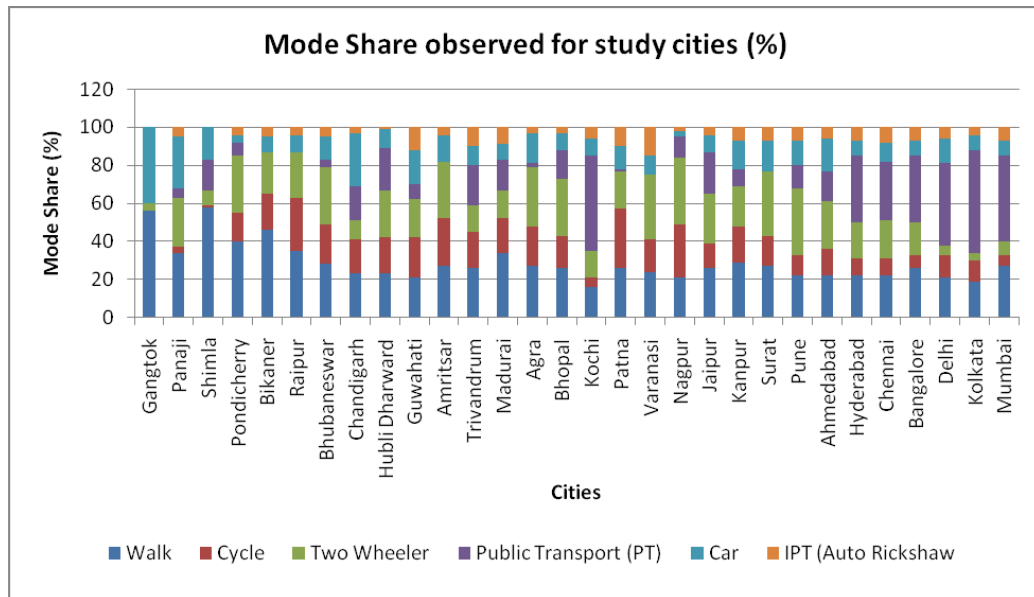


Table 23. Category-Wise Mode Share Observed (in %)

Category	Walk	Cycle	Two Wheeler	Public Transport	Car	IPT
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Category-1(a)	34	3	26	5	27	5
Category-1(b)	57	1	6	8	28	0
Category-2	32	20	24	9	12	3
Category-3	24	19	24	13	12	8
Category-4	25	18	29	10	12	6
Category-5	25	11	26	21	10	7
Category-6	22	8	9	44	10	7

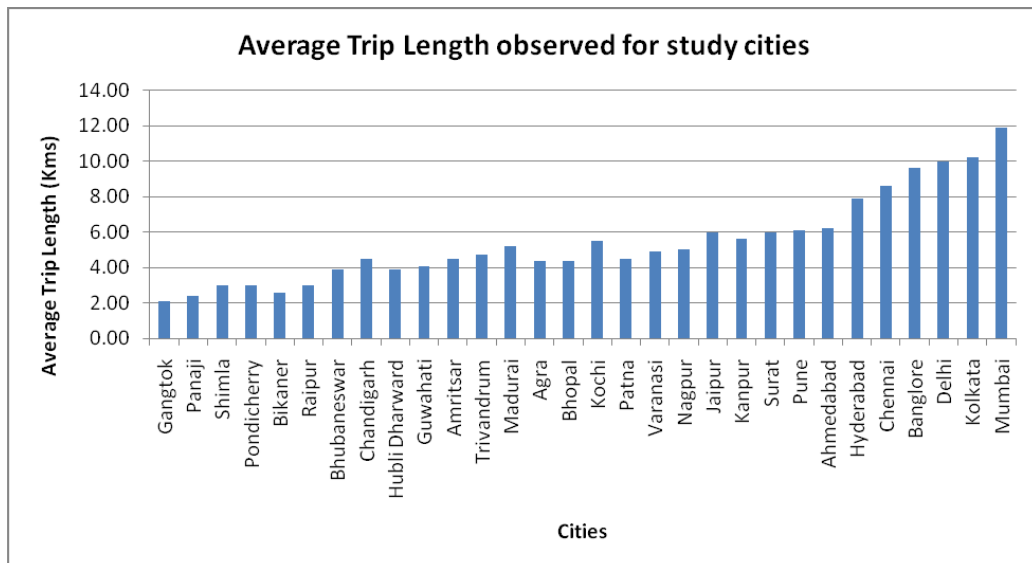
### 3.4.3 Average Trip length by category

Trip length is the average distance travelled during a trip. This is estimated as the ratio of total

passenger kilometers to the total number of trips. Trip length is directly related to trip size. As a city size increases, trip length increases. The figures are given in Tables 24, 25 and in Figure 7.

**Table 24. Average Trip Length for Various Study Cities**

Sl. No.	City	Trip Length(km)	Sl.No.	City	Trip Length(km)
(1)	(2)	(3)	(4)	(5)	(6)
1	Gangtok	2.10	16	Kochi	5.50
2	Panaji	2.40	17	Patna	4.50
3	Shimla	3.00	18	Varanasi	4.90
4	Pondicherry	3.00	19	Nagpur	5.00
5	Bikaner	2.60	20	Jaipur	6.00
6	Raipur	3.00	21	Kanpur	5.60
7	Bhubaneswar	3.90	22	Surat	6.00
8	Chandigarh	4.50	23	Pune	6.10
9	Hubli Dharwad	3.90	24	Ahmedabad	6.20
10	Guwahati	4.10	25	Hyderabad	7.90
11	Amritsar	4.50	26	Chennai	8.60
12	Trivandrum	4.70	27	Bangalore	9.60
13	Madurai	5.20	28	Delhi	10.00
14	Agra	4.40	29	Kolkata	10.20
15	Bhopal	4.40	30	Mumbai	11.90

**Figure 7. Average Trip Length Observed for Study Cities**

**Table 25. Average Trip Length (in KMs)  
by City Category**

Category	Average Trip Length (Km)
(1)	(2)
Category-1(a)	2.4
Category-1(b)	2.5
Category-2	3.5
Category-3	4.7
Category-4	5.7
Category-5	7.2
Category-6	10.4

### 3.5. Some Useful Transportation Indices

Performance of the transportation system if measured at a city level can help in efficient resource allocation on transport investment. Several indices have been developed for each selected city to evaluate this performance. They are:

- \* Accessibility
- \* Congestion
- \* Walkability
- \* City Bus Transport Supply
- \* Safety
- \* Para Transit/ Slow Moving Vehicles
- \* On street Parking interference

Separate indicators were developed for individual categories of vehicles and user groups. Some indicators such as a Bus Transport index were formulated only with secondary data while some indices used primary data. Most of the indicators were developed for the city level urban transport systems. Threshold figures can be developed for each index that can be used to compare city level performance.

#### 3.5.1 Accessibility index

Traditional approaches often assume that transportation motor vehicle traffic, is measured in terms of per capita ownership and vehicle kilometers, average speed, roadway features, level of service, etc. From this perspective, projects that increase traffic speed and volume are considered desirable and projects that reduce traffic speed and volumes are considered harmful. The most comprehensive approach evaluates transport performance in terms of accessibility - the ability to reach desired goods, services and activities. It recognises the value of more accessible land use patterns and mobility substitutes as ways to improve transportation while reducing physical travel. Two types of accessibility indices have been developed, namely,

- (i) Public Transport Accessibility Index which is formulated as the inverse of the average distance (in km.) to the nearest bus stop/railway station. Higher the index, the better is the public transport accessibility, and,
- (ii) Service Accessibility Index. Which is computed as the percentage of work trips accessible within 15 minutes time and 30 minute time for each city. Higher the index, the better is the service accessibility.

These two indices have been derived from household data

Public Transport Accessibility indices are presented in Figure 8 Service Accessibility indices are given in Figure 9.



Figure 8: Public Transport Accessibility Index

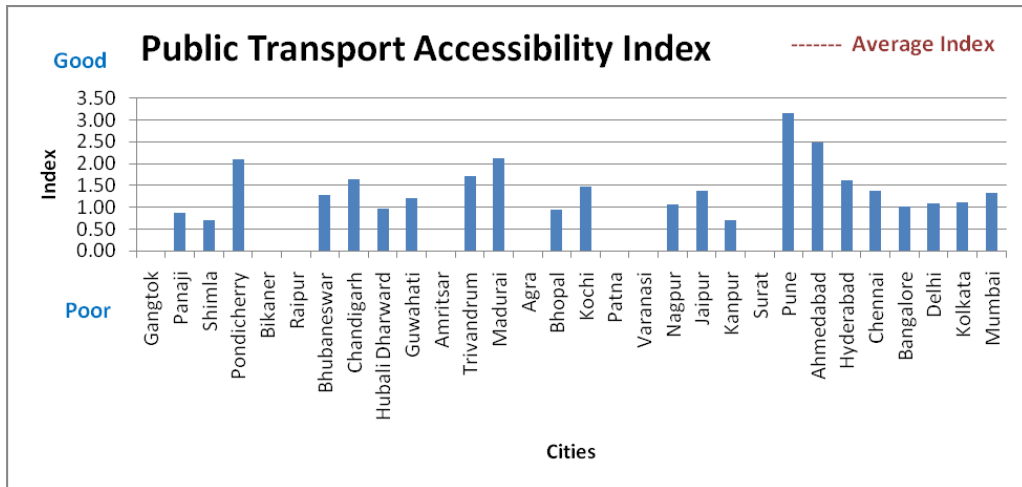
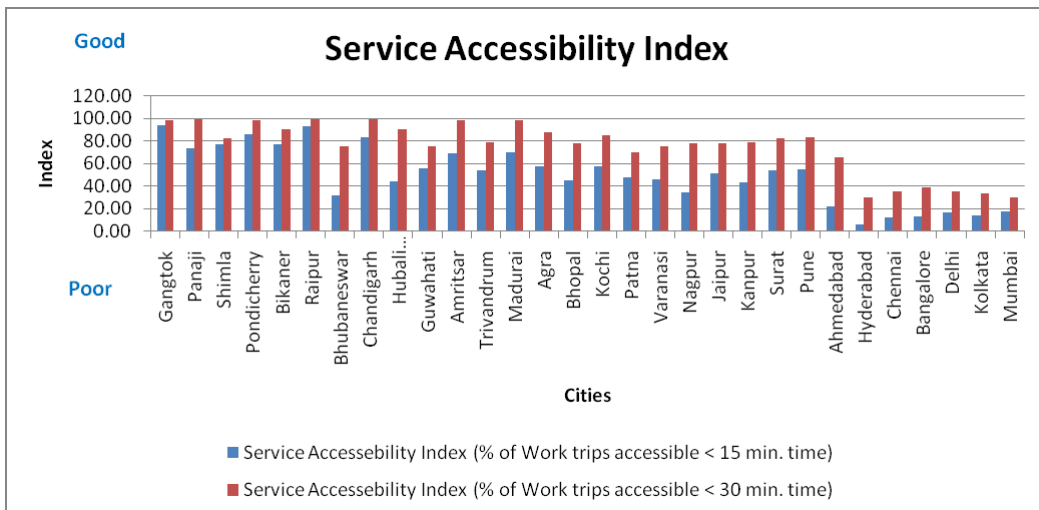


Figure 9: Service Accessibility Index



### 3.5.2 Congestion Index

Congestion levels are assessed by using the prevailing measurable average journey speed observed on major corridors. Journey speeds are easily understood by the general public and are applicable from both user and a roadway perspective.

The congestion index is formulated as follows:

$$\text{Congestion index} = 1 - (A/M)$$

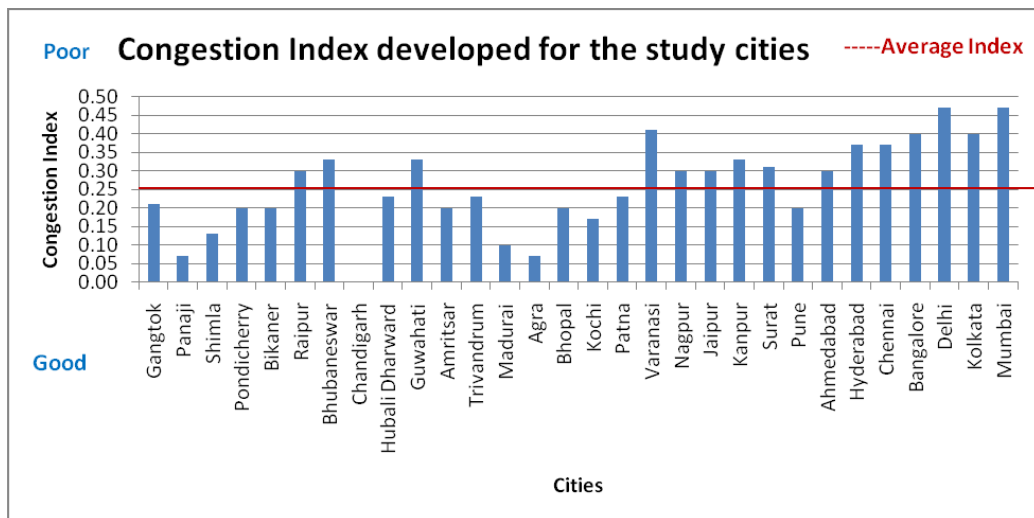
Where

M: is the desirable average journey speed on major road corridors during the peak hour, which is assumed at 30 kilometre per hour and

A: average journey speed observed on major corridors during the peak hours.

The indices are presented in Figure 10.

Figure 10. Congestion Index Developed for the Study Cities



### 3.5.3 Walkability index

Significant number of trips in Indian cities are made by foot but pedestrian infrastructure, amenities, etc. are neglected. A walkability index takes into account Availability of footpaths and overall facility rating by pedestrians.

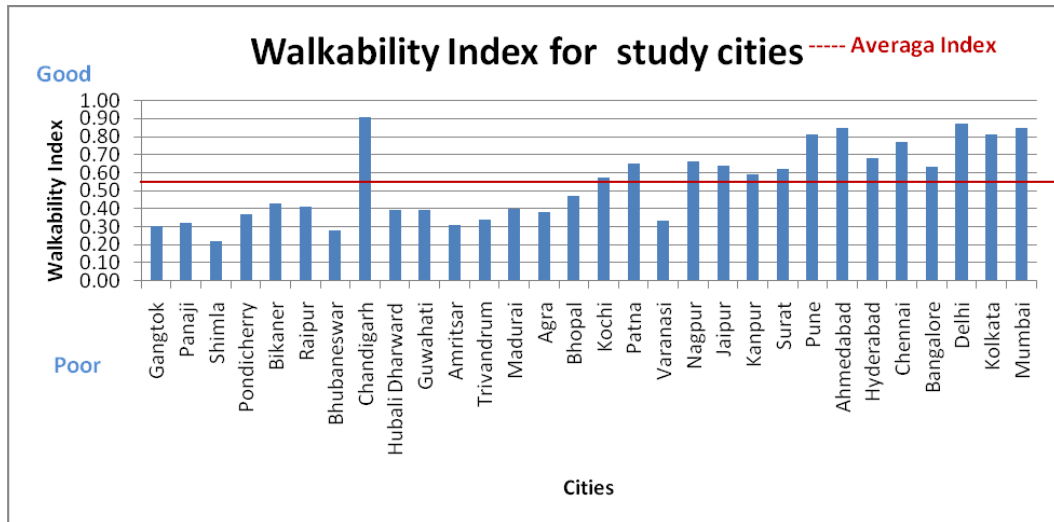
$$\text{Walkability index} = [(W1 * \text{Availability}) + (W2 * \text{Facility rating})]$$

where W1 and W2 are weights (50% for both).  
And

Availability: Footpath Length/ Length of major roads

Facility Rating: Score based on opinion available pedestrian facility. Walkability indices are presented in figure Average index is found to be 0.52. These are given in Figure 11.

Figure 11. Walkability Index for Study Cities



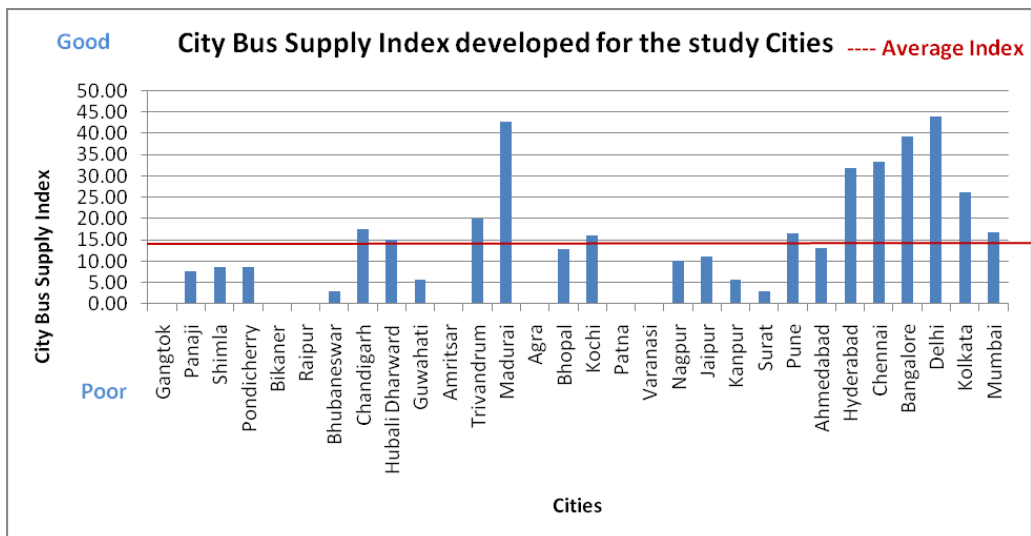
### 3.5.4 City Bus Supply Index

A city's bus index is formulated as follows:

City Bus supply index = City bus fleet (public + private) for 1, 00,000 population.

The index is presented in Figure 12.

Figure 12. City Bus Supply Index Developed for the Study Cities



### 3.5.5 Safety Index

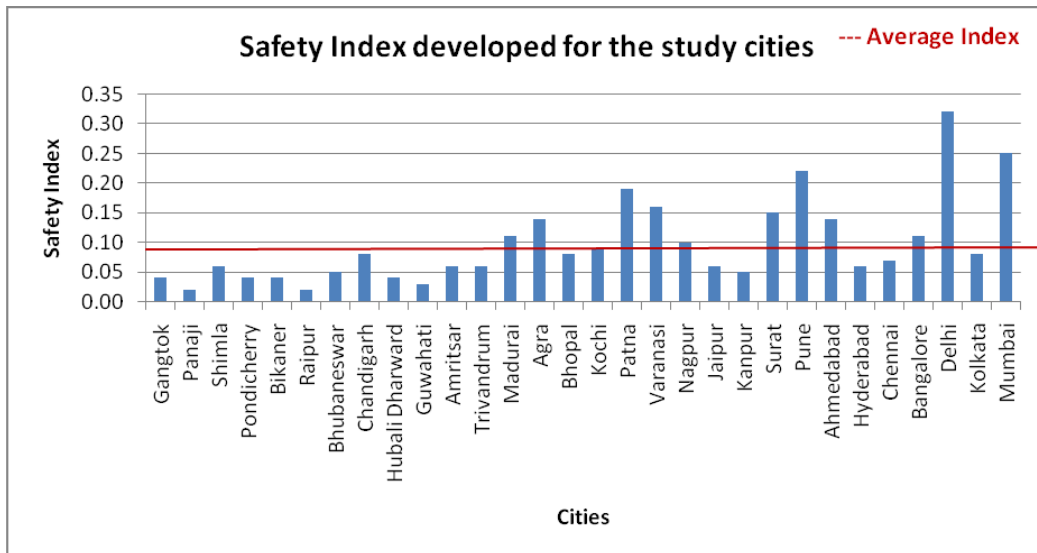
The most widely used accident index, Accident Fatality index has been adopted for developing the Road Safety Index. Accident Fatality index is

defined as the number of road accident deaths per lakh of population.

Road Safety Index =  $1 / \text{AFI}$

Safety indices are given in Figure 13.

Figure 13. Safety Index Developed for the Study Cities

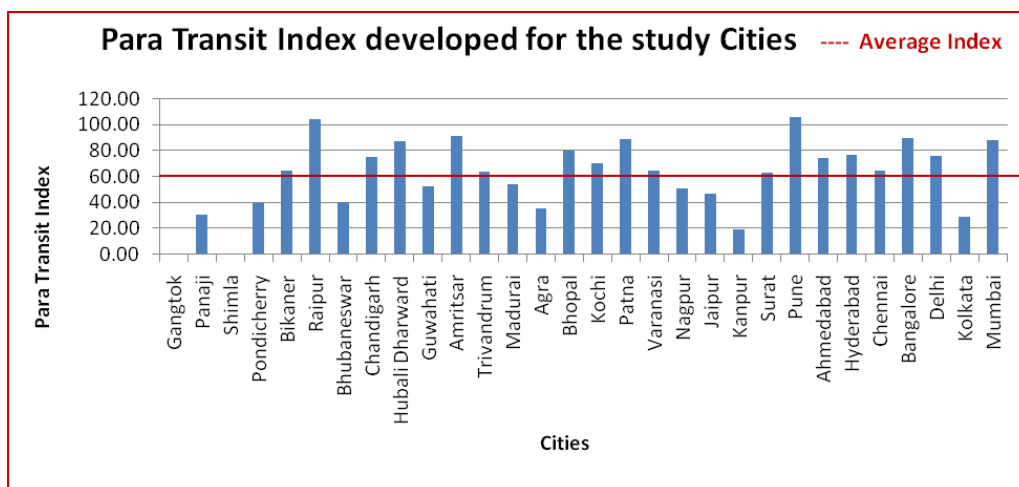


### 3.5.6 Para Transit Index

Para Transit Index = No. of Para Transit Vehicles for 10000 population

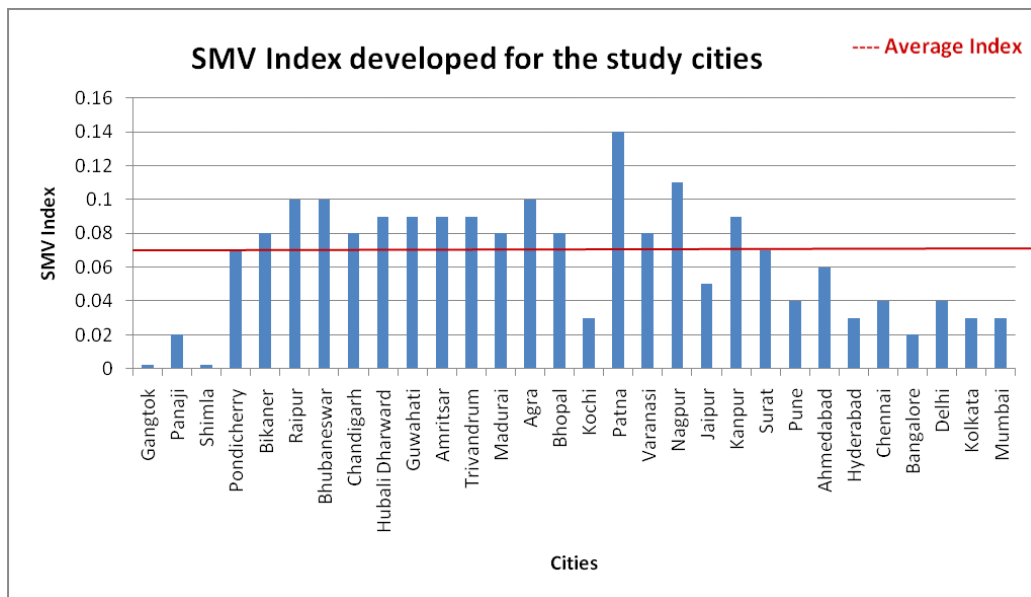
Para Transit Indices are given in Figure 14.

Figure 14. Para Transit Index Developed for the Study Cities



Slow Moving Vehicles (SMV) Index: Factors bicycle lanes and percentage of SMV. These considered for this index are: availability of indexes given below in figure 15.

Figure 15. SMV Index Developed for the Study Cities



### 3.5.7 On Street Parking Interference Index

This index formulated as follows:

Parking interference index =  $1 / (w_1 \times \% \text{ of major road length used for on-street parking} + w_2 \times \text{on-street parking demand on major roads})$

The indices are provided in Figure 16.

### 3.5.8 Transport Performance Index

All the selected indices were converted into to a scale of 100, the values corresponding to various indices for a city are summuped to obtain the index for that city. The weights are given in Table 26 and Transport performance Indices are given

in the last column in Table 27. Transport Performance indices of the select cities are also given in Figure 17.

Table 26. Weightages given for Various Transportation Indices

Sl.No.	Transportation Index	Weightage
(1)	(2)	(3)
1	PT Accessibility Index	1.0
2	Service Accessibility Index	1.0
3	Congestion Index	2.0
4	Walkability Index	2.0
5	City Bus Transport Supply	2.0
6	Safety Index	1.5
7	Slow Moving Vehicle Index	2.0
8	On-Street Parking Interference Index	1.0

Figure 16. Parking Interference Index Developed for Study Cities

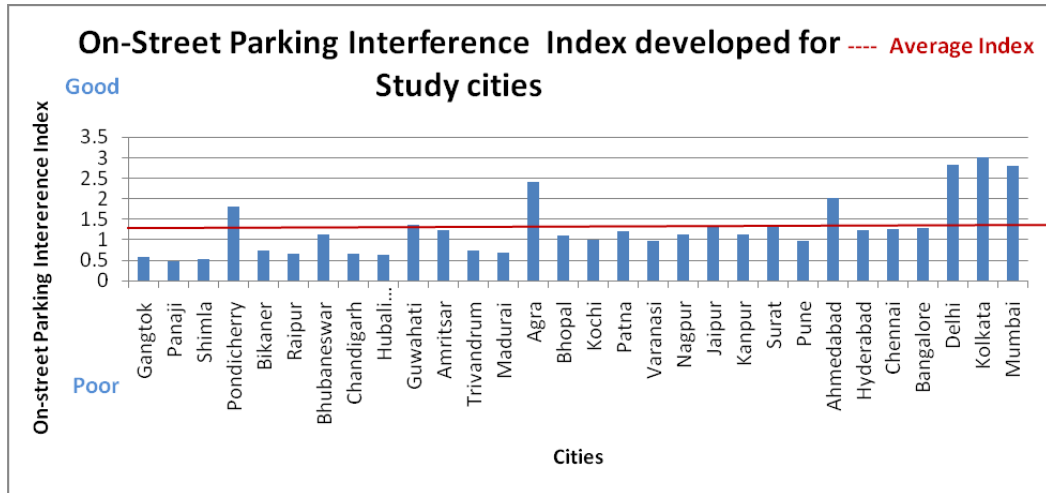
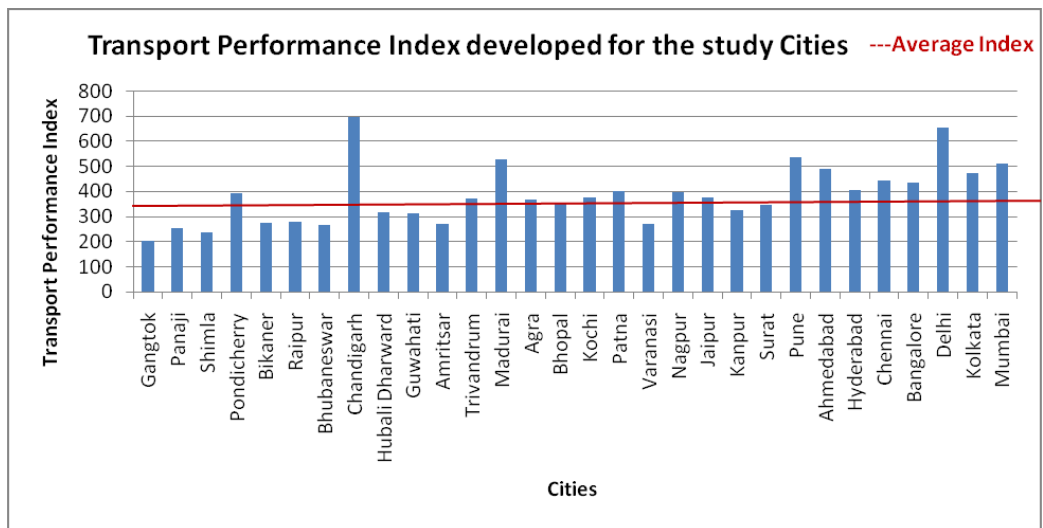


Figure 17. Transport Performance Index Developed for the Study Cities



**Table 27. Combined Table: Indices Computed for the Selected 30 Cities**

Cities	Public Transport Accessibility Index	Service Accessibility Index (% of Work trips accessible < 15 min. time)	Congestion Index	Walkability Index	City Bus Transport Supply Index	Safety Index	Para Transit Index	Slow Moving Vehicle (SMV) Index	On-Street Parking Interference Index	Transport Performance Index
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Gangtok	0.00	94.12	0.21	0.30	0.00	0.04	0.00	0.002	0.59	202
Panaji	0.88	73.47	0.07	0.32	7.64	0.02	30.20	0.02	0.47	255
Shimla	0.70	76.84	0.13	0.22	8.66	0.06	0.00	0.00	0.54	237
Pondicherry	2.10	85.68	0.20	0.37	8.62	0.04	39.70	0.07	1.80	391
Bikaner	0.00	77.00	0.20	0.43	0.00	0.04	64.50	0.08	0.75	273
Raipur	0.00	93.27	0.30	0.41	0.00	0.02	104.00	0.10	0.67	281
Bhubaneswar	1.27	31.72	0.33	0.28	2.93	0.05	40.50	0.10	1.14	265
Chandigarh	1.64	83.13	0.00	0.91	17.54	0.08	75.10	0.08	0.66	695
Hubli Dharwad	0.97	43.68	0.23	0.39	15.15	0.04	86.85	0.09	0.63	315
Guwahati	1.22	56.00	0.33	0.39	5.55	0.03	52.50	0.09	1.37	312
Guwahati	0.00	68.85	0.20	0.31	0.00	0.06	91.30	0.09	1.24	271
Amritsar	1.72	54.00	0.23	0.34	20.03	0.06	63.70	0.09	0.74	373
Trivandrum	2.13	69.50	0.10	0.40	42.77	0.11	53.70	0.08	0.69	527
Madurai	0.00	57.30	0.07	0.38	0.00	0.14	35.70	0.10	2.42	366
Agra	0.95	45.00	0.20	0.47	12.82	0.08	79.70	0.08	1.09	352
Bhopal	1.47	57.30	0.17	0.57	16.07	0.09	70.10	0.03	1.00	377
Kochi	0.00	48.00	0.23	0.65	0.00	0.19	88.80	0.14	1.21	401
Patna	0.00	46.00	0.41	0.33	0.00	0.16	64.49	0.08	0.98	270
Varanasi	1.06	34.45	0.30	0.66	10.21	0.10	50.50	0.11	1.13	399
Nagpur	1.38	51.00	0.30	0.64	11.11	0.06	46.70	0.05	1.33	375
Jaipur	0.71	42.86	0.33	0.59	5.64	0.05	19.30	0.09	1.14	326
Kanpur	0.00	53.95	0.31	0.62	2.87	0.15	63.15	0.07	1.31	348
Surat	3.15	54.35	0.20	0.81	16.43	0.22	106.20	0.04	0.98	537
Pune	2.49	21.54	0.30	0.85	12.99	0.14	73.90	0.06	2.03	490
Ahmedabad	1.62	6.08	0.37	0.68	31.88	0.06	76.60	0.03	1.24	405
Hyderabad	1.38	12.00	0.37	0.77	33.39	0.07	64.18	0.04	1.26	443
Chennai	1.01	13.00	0.40	0.63	39.22	0.11	89.70	0.02	1.28	436
Bangalore	1.09	16.36	0.47	0.87	43.86	0.32	75.60	0.04	2.82	656
Delhi	1.12	14.00	0.40	0.81	26.20	0.08	28.50	0.03	3.00	474
Kolkata	1.34	17.00	0.47	0.85	16.66	0.25	88.30	0.03	2.80	512
Mumbai										

Note: Cities without PT assumed with zero Index Value

#### 4. URBAN MOBILITY CHALLENGES

As cities grow exponentially, an effective and sustainable urban transport system for people and goods movement is a pre-requisite for sustainable economic growth. However, urban transport systems in most cities of the developing world like India are underdeveloped and their transport capacity has been found to be grossly inadequate. Thus residents are unable to fully exploit economic opportunities and lack the mobility needed to support economic growth.

Urban transport systems in most cities suffer from major constraints as insufficient financial resources, inefficient regulatory frameworks, poor allocation of road space, inadequate traffic management systems, institutional weaknesses and undeveloped public transport systems. Currently, these systems also rarely integrate social concerns and the specific needs of vulnerable groups, thereby rendering such systems ineffective in relation to poverty reduction. Drastic increase in the number of vehicles have strained our urban road networks, resulting in congestion for most of the day. Most of these factors disproportionately affect the urban poor in terms of limited accessibility to affordable transport services, ill-health from pollution and road safety concerns.

In most cities, road networks, developed in an unplanned ad hoc fashion and without proper adherence to quality standards, are severely deficient in meeting developmental demand. Residential areas have few and inadequate tertiary or access roads and limited provisions for pedestrians, cyclists, etc. In addition, road networks have missing links, forcing the overuse of existing road sections and lack of circumferential roads resulting in congestion from through traffic. Meanwhile, increases in the number and uses of vehicles surpass the capacity of road space, adding to congestion and air pollution. As a result, transport conditions in cities are characterised by severe congestion and aggravated by

the poor discipline among drivers, incoherent enforcement of traffic laws and an eclectic mix of vehicles. A failure to respond promptly to rapid motorisation and the resultant congestion along with weak enforcement of vehicle emission standards, results in degradation of the environment and stunts cities' growth potential.

Rapid urbanisation has also increased the number of urban poor. Efficient systems do contribute to urban economic growth thereby raising incomes and decreasing urban poverty. However, current urban transport systems, which do not fully integrate the specific needs of the poor, have worsened the perverse distributional effects of urbanisation. Overstrained public transport systems restrict urban residents, particularly the urban poor from actively participating in economic activities. The social exclusion engendered by urban transport makes it more difficult for the disabled to access jobs and services. As a result, the poor find it hard to break out of poverty. In addition, the poor are disproportionately exposed to the risks of polluted air. Moreover, the risks they face when they travel are higher than those of the non-poor because of the few safety provisions for pedestrians and cyclists at street crossings and slack enforcement of pedestrian crossing facilities. There is a definite need for urban transport policies and programs to take the needs of the poor into account.

Poor traffic management, one of the biggest issues in many cities, is a combination of many factors: lack of coordination and overlapping responsibilities among various agencies, insufficient traffic police and traffic signals, flaws in traffic marking, and ineffective enforcement of traffic rules and regulations. Accidents are common due to poor traffic management, on the one hand, and undisciplined use of the road by many types of vehicles using the roads, on the other. Ineffective traffic management is also the result



of encroachment by parked vehicles and commercial activity on roads thereby reducing road capacity and causing inadequate public transport services. Good traffic management can not only improve the flow of traffic but can reduce the negative environmental impact. The need for efficient traffic management systems is therefore acute. Such systems will require (i) an appropriate transport policy framework under which governments can manage travel demand; and (ii) strategic plans that cover junction operations, enforcement, road use, driver re-education, public transport, parking, traffic signals, vehicle restrictions and circulation plan, pavement markings, vehicle condition and equitable allocation of road space.

While a large portion of the urban population relies heavily on public transport for its daily activities, public transport systems in most cities are not adequately developed and investments have been severely limited. Bus and para transit services, the predominant public transport services, are often exclusively operated by the private sector. The unregulated operation of private buses, particularly with regard to the allocation of routes and schedules, has spawned excessive competition, and as a result, the financial performance of public transport and the quality of service have deteriorated, negating the benefits derived in road construction. Improving the efficiency of public transport should not only lower costs but result in a flexible framework which makes public transport more accessible to the poor. To this end, solid institutional and regulatory structures are required that will help create efficient public transport systems that poor users can afford and that gives incentives for proper maintenance, investment and service expansion.

Governments' weak capacities lead to low institutional coordination and an inefficient institutional framework. Government agencies

have overlapping or poorly delineated responsibilities, planning and programming are chronically fragmented and largely ad hoc, and institutional arrangements for policy implementation are usually incoherent. Rapidly increasing urban populations require efficient use of limited land resources to support economic growth; however, planning for land-use, urban development and transport management loosely integrated, thereby constraining cities' growth potential, competitiveness and efficiency.

Private sector involvement in urban transport is generally limited to the provision of public transport services, including buses and taxis, autorickshaws, etc. Despite growing recognition of the burden that investments in major roads, etc place on municipal budgets, private sector participation in maintenance and construction is limited. Public mass transit systems require substantial investment and careful commercial management to ensure their financial viability for which private sector participation is crucial particularly in big cities. Planning and regulatory arrangements for private participation in urban transport must therefore be established.

Experience indicates that piecemeal approaches to sustainable urban transport development are likely to fail and that capital investments needed to be supported by policy, legal, regulatory and institutional reforms. More policy attention must be focused on building capacity in urban transport administration, on enhancing the role and quality of affordable public transport, on financing mechanisms, and on needs of pedestrians and users of non-motorised transport.

## 5. CURRENT POLICIES AND INTERVENTIONS

The Government of India attempted to comprehensively address urban transport issues in the country by formulating a National Urban Transport Policy (NUTP) framework [GOI, 2006]. While recognising the problem of

increasing urban road congestion and its associated air pollution, the strategy puts primary emphasis on the need to increase the efficiency of use of road space by favoring public transport and by the use of traffic management instruments to improve traffic performance and by restraining the growth of private vehicular traffic. Complementing this was a strategy to reduce vehicle emissions by technological improvements in vehicles and fuels. The Government of India's proposed strategy was in many respects along the lines of international thinking on the approach to the urban transport problem. For example, the World Bank completed an Urban Transport Strategy review "Cities on The Move" [W Bank, 2002], after consultation with major stakeholders in client countries, including governments, transport operators, and nongovernmental organisations, as well as with representatives of other international institutions. That review linked urban development and transport sector strategies with a strong poverty focus. It noted that sprawling cities are making the journey to work excessively long and costly and that throughout the per capita motor vehicle ownership continues to grow with adverse impacts on traffic congestion and air pollution. Public transport was being stifled by this congestion and its relative performance tended to decline in comparison with the private modes. So the vicious circle of congestion and the decline of public transport were perpetuated. The safety and security of urban travelers were also major emerging concerns worldwide.

The document begins with a basic contention that the mobility problem in our cities is a very formidable one and that it was not just hampering better growth possibilities but also threatening the basis for a reasonable standard of living. Accordingly, it was envisaged in the vision statement that livability of our cities would be highlighted and emphasised with the basic objective of this policy being to ensure safe,

affordable, quick, comfortable, reliable and sustainable access for the growing number of city residents to jobs, education, recreation and such other needs within our cities. With the States as the main facilitators in the process, the role of the Central Government, it was felt, would be to hasten it with the necessary financial support and technical expertise. We now look at the specifics.

The issue of integrating land-use and transport planning was taken up first. The connection between transportation and land use is a fundamental concept in transportation. Transportation and land use are inexorably connected. Everything that happens to land use has transportation implications and every transportation action affects land use. Policy makers are required to help shape land use by providing infrastructure to improve accessibility and mobility. Accessibility can be measured by the number of travel opportunities or destinations within a particular travel radius, measured in terms of either travel time or distance. On the other hand, mobility is a measure of the ability to move efficiently between origins and destinations. Thus, mobility is directly influenced by the layout of the transportation network and the level of service it offers. Land development generates travel, and travel generates the need for new facilities which, in turn, increases accessibility and attracts further development. The question of whether transportation influences development or whether land use dictates transportation has been a matter of ongoing concern among transportation professionals. Transportation's most significant impact on land development occurs when access is provided to land. Increased access to land raises its potential for development, and more development generates additional travel. Once access has been provided, land patterns begin to change over a period of time. In recent decades, concerns about urban sprawl have arisen. Several factors can be identified as contributing to sprawl, including the movement of jobs to suburbs, lower transportation costs versus lower housing costs,

preference of many people to live in remote areas away from the problems of the city, and the desire for larger lots. The concern about sprawl and transportation has led to a new debate about the relationship between transportation and urban sprawl.

The policy document recognises that a combination of transportation and land use measures is needed to address the transport problem. Both need to be developed together in a manner that serves the entire population and yet minimises travel needs. From a sector perspective, "transport plans should, therefore, enable a city to take an urban form that best suits the geographical constraints of its location and also one that best supports the key social and economic activities of its residents. Unfortunately, however, transport planning has not received the extent of attention it should have in drawing up strategic development and land use plans" [GOI, 2006, p. 5]. To overcome this problem, it is stated that the Central Government would provide up to 50 per cent of the cost for the preparations of such integrated plans provided the local authorities demonstrate their willingness to act in accordance with these plans. The issue is: how and to what extent has this element been taken forward?

The second significant element of the policy framework is the need to encourage public transport in a much bigger way. In fact, the emphasis is on 'priority' to such a system. Beginning with the issue of current position of inequitable allocation of road space in our cities, the key phrase is 'movement of people rather than vehicles'. The importance of public transport to pollution and congestion reduction, poverty alleviation and economic empowerment can not be overstated. In metropolitan areas where the distribution of land and social amenities mirrors high levels of income inequality, placing the poor furthest from economic opportunity and critical services, effective public transport provision is a critical element of development policy. Here,

decades of persistent underinvestment in public transport, accompanied by sustained infrastructure spending in support of private car use, have resulted in a profoundly dualistic land passenger transport system which contributes significantly to the continuing economic and social exclusion of many. People whose mobility is constrained cannot exercise the other widely accepted human rights. Lack of mobility in low income households is often a major factor in their economic and social exclusion. It can prevent the acceptance of employment, lead to failure in securing health appointments; and severely reduce the ability to participate in daily activities. Most people who require these services are often the ones who are situated furthest from such services, and are in most cases the ones who lack the necessary means to get to them. Over the past decade, driven by ongoing migration to cities, a period of strong economic growth, and the fact that the majority of new housing development programmes have been located in the suburbs, demand for passenger transport in metropolitan areas has increased sharply. As the standard and capacity of state-sponsored public transport systems has remained largely unchanged (in many middle or lower order cities they hardly exist), increased demand has been met predominantly by taxis and private cars. At the urban level, it is well recognised that responding to the inequality between core areas and periphery areas is difficult, but not impossible. The key is to bring back to life the vitality of struggling neighborhoods and reestablish them as complements to the city. It takes knowledgeable foresight by city officials as well as action through the entire community to accomplish this. Each situation may require a different course of action whether it is a radical change (by introducing new public transport systems) or only a slight nudge in the right direction (reforming the existing ones). The emphasis on public transport cannot be made any clearer than what has been incorporated into the policy document. The question is: has this been taken seriously enough in the efforts that have been undertaken subsequently

especially in the past three or four years? More specifically, we need to review the extent to which measures outlined have been encouraged such as more allocation of road space for bus transport or more generally, the priority given to public transport.

Equally important would be the aspect related to pricing. In this context, a very basic issue is whether there is an attempt by the policy document to encourage tariff reforms at all. While some indication relating to tariff fixation based on price discrimination is given, the basic question that remains refers to the sustainability of such pricing systems in the absence of an emphasis on norms of efficiency which serve as the basis for an understanding of effective provision of services.

The promotion of public-private partnerships (PPPs) has been an underlying objective of policy statements related to the transport sector that the Central and State Governments in India have been putting forward since the 1990s from time to time. However, in recent years vigorous efforts have been made to promote the concept in the context of bus transport as part of the implementation of the National Urban Transport Policy [GOI, 2006] while incorporating it as part of the Central Government funded Jawaharlal Nehru National Urban Mission (JNNURM) that has prescribed model guidelines to the State Governments and local Governments. The emphasis has been on the need to promote public transport systems with a more directed initiative to promote the bus mode in the different cities for which funds for bus procurement are being liberally given within the framework of PPPs. JNNURM proposed to provide 50% of the funds required to buy the buses for city transport to 63 cities if they adhere to those guidelines. As for the balance fund required, the State Government would have to put in 20 % of the amount and balance 30 % of the amount would

have to be come from City municipal corporations or City transport corporations or a private party by way of a PPP.

An overriding feature of the policy document appears to be the emphasis on the 'green' aspect of development of the urban transport system in terms of cleaner and more efficient technology and a more significant role for non-motorised movement. Aimed at protecting the environment, these elements are today a necessary part of the policy framework world wide with the EU countries leading the way in incorporating them in a very systematic way.

The need for capacity building to handle urban transport related issues is also prominently put across not only in terms of institutional capabilities but also individual ones. The latter becomes significant in the face of efforts being attempted to promote public-private partnerships in which an individual or a few individuals are expected to play crucial roles in the developing the concept of such a partnership and taking it forward to its logical end. However, the basic underlying issue in this regard is the proper understanding of the distinct roles of the public and private sectors and perspective of the general public regarding these roles.

Above all, the emphasis on a Unified Metropolitan Transit/ Transport Authority (UMTA) is significant. However, the details of such an authority especially in its role of a regulator have still not been spelt out explicitly. As a result, though some UMTAs have been formed, they are still to be activated to perform their proper role. We now turn to an approach to new urban transport policy framework which begins with a critique of some of the important above-mentioned elements of the current policy document.

## 6. SOME ELEMENTS OF A NEW URBAN TRANSPORT POLICY FRAMEWORK

### 6.1 A Critique of Existing Policies

On the issue of integration of land-use and transport policies, a good deal has already been said on the lack of such an integration or even an attempt towards this today especially in the context of developing countries. Fundamentally, it is well recognised that this move towards integration is very difficult since any economy is in a dynamic state all the time. The trouble is that it has not been possible to construct a comprehensive theory which fully reflects all the linkages in this interaction. The basic problem is that transport and land-use changes are on-going modification to the spatial economy. "There are continual cycles of cause and effect, and it is impossible to decide upon a point where it is sensible to break into this continuum of change. Consequently, from a pragmatic standpoint, one has to make a rather careful judgment whether to treat land-use as influenced by transport or vice-versa" [Button, 1993, p. 19]. Historically, the practice was to accept a given land-use pattern and attempt to provide least cost methods of providing transport services within this limitation. For example, Kain [1964] adopted this approach to travel decisions taken in a sequential type of framework which when considered closely involve assumptions which are very analogous to the *ceteris paribus* assumptions of conventional partial equilibrium microeconomics. While it is recognised that this approach suffers from the same limitations, they do provide a reasonable framework within which useful analysis can be conducted. However, over a period of time, this simplistic way of emphasising the causal link from land-use to transport, i.e., where land-use is pre-determined was found to be no longer useful in the presence of several dynamic elements relating to the economy. Accordingly, feedbacks from transport to land-use began to be incorporated explicitly in models so that a more realistic picture emerged. However,

it was found that the data requirements were enormous as a result of which a number of assumptions regarding parameters were made. Moreover, calibration of such models was complicated. The situation has not improved very much despite the use of information technology because data limitations continue to haunt planners and policy makers even in developed economies. Today, efforts at incorporating feedback effects are minimal with the sequential type of framework continuing to be used quite extensively. These can be effectively incorporated by developing limited realistic scenarios and planning accordingly.

The policy document touches only the generalities associated with integration of land-use and transport planning in our urban areas. Transport and patterns of urban land-use are so interconnected that all cities must make sure to plan their transport in harmony with the realities of their city's actual form. New land-use trends associated with motorisation have begun to threaten the accessible and travel-minimising features of some Asian cities. Real estate developers increasingly build new developments with segregated land uses and in locations that are accessible only by private vehicle, even if this leaves them inaccessible by public transport and non-motorised transport. New high-speed, high capacity roads in some places have encouraged haphazard development in long corridors, resulting in longer trip distances for residents. No doubt, there is very little to say as far as transport planning practices go in most of our cities. On the other hand, the new trend in the West is to encourage more mixing together of different activities because it encourages more walking, cycling and convenience for residents and workers. The indication that central government support would be available to broad base current efforts is a welcome statement. It may be adequate for an urban area to prepare a long-term plan and also plan its transport facilities. Such plans are

being made out in the bigger urban agglomerations. But even today appropriate accessibility and mobility objectives are not well considered and defined in land development with the result that the current development themes tend to lengthen trips and lead to increased congestion. Further, there are no serious attempts to follow them. This weakness has been the single most limiting factor in our objective towards better transport facilities. Violations of zone laws is more often the rule than an exception which often results in a different land-use pattern emerging and having an impact nowhere near the one that was expected as an outcome. Even with specialised agencies to deal with these issues, we have failed miserably on this count due to irrelevant considerations. A far more enlightened national and state level leadership is needed to help city governments integrate accessibility and mobility objectives and thereby land-use and transport into urban development. The document is silent about the ways by which the central government as well as the state governments can play this role more effectively. Moreover, the role of the user in the planning process is almost non-existent. Inclusive "bottom-up" participatory approaches that incorporate community consultation and wide participation by all social groups including women and other disadvantaged groups can greatly enhance sustainable urban transport development. They are also more likely to win public support, especially when questions of difficult policy choices and public actions arise, for example in the case of urban transport demand management. It has been observed that integrated approaches are based on methodologies that develop a broad-based consensus on an achievable vision of the future and clearly articulate the means by which the visions can be realised. A fundamental institutional change in the planning process is required to incorporate participatory approaches in decision-making and to seek inter-disciplinary solutions to urban transportation problems. While the ways in which the

involvement of all social groups is organised may be open to debate, its justification cannot be undermined.

The emphasis on the role of public transport has many dimensions. High-density cities are unsuited to high rates of private car use. It is physically impossible for a dense city to have a high level of road capacity per person. Cars take up a huge amount of space when in motion and for parking. In dense cities, space is a valuable commodity. Congestion and parking problems can therefore become very serious in dense cities even when only a few percent of people own cars. However, the failings of public transportation have become one of the major challenges faced by many cities. Dissatisfaction with the level and quality of public transportation services leads those people who can afford it to turn to private modes of transport. Another common problem in many cities is that women, people with disabilities and other disadvantaged groups have poor access to public transport services and that it is found difficult to meet their basic mobility needs. Historically, state transport undertakings (bus companies) have been the prime providers of public transport services in most Indian cities. Fares have traditionally been kept low by state authorities to permit travel by low-income citizens, especially those covering long distances. The chronic uncertainty regarding subsidisation of concessions by the state interacting with inefficiencies on the supply side stemming from the nature of public monopolies have resulted in public transport services being characterised by a low level of service necessarily operating at a low-priced equilibrium. A traditional and irrational focus on production rather than service, rigidities regarding staff levels and remuneration, and low financial capacity to expand services have created almost an insurmountable barrier to change. While this approach is acceptable while a great majority of passengers are captive riders, interested mainly in low fares, it is no longer the

case any more especially with an increased affordability of motorised vehicles resulted in a large loss of public transport passengers.

The solution to the complex urban transport problem thus lies in the development of an efficient and affordable public transport system. This has long been recognised by policy makers and transport planners, and emphasised in every transport policy statement. But real actions have been far from adequate. In the early 1990s, public transport generally benefited from bus enterprise reform, increased investment in fleet capacity, and implementation of some bus priority schemes, as well as urban population growth that helps maintain strong demand. Many cities have witnessed gains in both ridership and operating efficiency during the second half of the 1990s. These gains have disappeared due to the rapidly growing road congestion and the continuing shift to private cars. Most cities have failed to guide transit-oriented land use development. Peripheral-urban land development has not been planned in a way that could create a market for public transport. The road network—instead of the public transport network—is commonly used in urban master plans as an instrument to shape the urban land use structure. Bus operations and the future guided mass transit systems are given little consideration in road design. There are serious concerns regarding availability of road space especially for bus transport for smooth movement. Only one or two serious attempts have been made to provide more capacity road capacity for bus systems in the Indian context. Others have been lackadaisical in their approach as a result of which such systems collapsed even before they had taken off properly due to lack of discipline on the part of road users. The policy suggests certain provisions in the Motor Vehicles Act to facilitate enforce such discipline. It is common knowledge that provisions in the absence of an effective implementation do not serve the purpose. Public transport, walking and cycling are very much more space efficient than private

vehicles, especially cars. The most successful urban transport systems in Asia are those that have encouraged walking and cycling. The policy guideline assures support for such non-motorised movement with an emphasis on the need to consider seriously the larger public perception regarding design and use of facilities for such movement. There is need for percolation of these ideas to the city level not only to merely gain the financial support being offered as incentive but also to convince the masses on the point that public transportation along with non-motorised movement is most sustainable on economic, financial, social and environmental grounds.

The fare issue is yet to be tackled as a strategic matter in any urban area. Proposals to increase fares of public transport systems have always been made but never seriously taken let alone implemented. Moreover, these arguments for doing so were limited to the finances of public transport operators. A far more seasoned and mature argument would necessarily have to allow a full range of options to be considered, not just in the fare and service quality dimension, but also regarding the regulatory framework and the approach to provision of explicit subsidies. The policy framework attempts to sideline this issue by considering only implicit subsidies which the operators themselves would have to provide. Also, in a world that is moving towards cash transfers, direct financial assistance to poor travelers may be a better option than keeping fares low. No doubt, it would be difficult to pursue this line of action since demand-related data are so inadequate and the relevant technical skills are in short supply in the state and local institutions [World Bank, 2005].

An essential remaining question is this: can the current regulatory arrangement, a public-sector monopoly, with an outsourcing complement, produce the cost efficiency and service levels to make this mode competitive with individually owned motor vehicles? A clear and promising

option is to move toward a market-based arrangement, by separating regulatory and service planning functions from the provision of operations, organising the latter through the medium of competitively awarded service contracts.

## 6.2 Some Underlying Issues

Few cities have taken concrete steps to reform the sector structure as a basis for the development of even a viable mass transit industry. Consider for example, the initiatives taken to promote bus transport under the JNNURM (A brief account of some experience is given in the next section). While incentives are being provided, very little attempt has been made to insist on tariff reforms which are badly required as far as many bus systems are concerned especially in the public sector. Mere insistence on recovery of costs through a process of implicit subsidies (price discrimination) is inadequate. This approach needs to be supplemented by effective benchmarking norms for provision of explicit subsidies - a need that arises in the case of most urban transit systems. According to Sivaramakrishnan [2010], it is quite likely that the bus purchase component of the JNNURM will not have the desired impact on the metropolitan cities. Hopefully as JNNURM assisted buses come on the streets, the contestation for allocation of road space for public transport will become more pressing. The issue is whether city and state governments would then be forced to intervene to resolve the conflict which they have avoided for long. This is doubtful since the new buses are by and large a replacement of the existing fleet and may not signify a meaningful addition to public transport capacity. Further, it is pointed out that one of the objectives of central government funding under the scheme was to enable some leveraging of funds by states and local bodies. It is now recognised that liberal provision of central funds can lead to crowding out of other sources which are normally expected

to make up for the balance of the funds requirements. Local governments also have faced serious legal and capacity constraints on forming partnerships with the private sector. According to the policy document, "the Central Government would encourage the State Governments to involve the private sector in providing public transport services, but under well structured procurement contracts" [GOI, 2006, p. 19]. The initiative taken under the JNNURM have been half-hearted with the government considering the venture as something beyond its monitoring and control (except for the start-up process) and the larger public considering it as purely private activity.

A common problem is fragmented responsibility for transportation between many agencies. Reflecting the state/local split, no city has vested the prime responsibility for all aspects of urban/metropolitan transport in one institution. Pieces of decision authority, control over resources and accountability are spread widely between state governments, local governments, and state and national parastatals. It is readily acknowledged that some fragmentation is both necessary and unavoidable. But, at any given level of fragmentation, there should be stable umbrella arrangements to coordinate various institutions. This tends to encourage a sectoral approach to planning. Plans are prepared with different financing and implementation arrangements and lack effective institutional mechanisms to examine their mutual compatibility or interrelationships. Because of this unarticulated approach, urban transport development in many cities confronts serious difficulties, including delays in project implementation, wasteful investment, and so on, and in many cases transport interventions do not produce the desired effect. The presence of an UMTA could solve many of these issues. But progress has been tardy and in cases the authority has been set up such as Delhi, Bangalore, Mumbai, it has been established by an executive order except in Hyderabad where it has



been constituted under a special enactment. All UMTA's are essentially recommendatory and coordination bodies - not implementing agencies. But they are expected to be excellent platforms for coordinated thinking and planning.

The presence and growth of the spillover effects from the urban economies justifies a reconsideration of the present role of the central government in urban transport which is still confined to a few dimensions. At the local level, most large cities are able to make decisions and implement them. But they may not have the right incentives to make strategic decisions that do not compromise the long-term interests of the cities and the nation. Moreover, there need to be adequate checks and balances that would make sure a good strategic plan gets implemented. The responsibilities of the central government even under the NUTP are limited to the support of preparation of urban master plans and large urban transport investment projects, setting technical standards, giving some policy guidance, providing some financial incentives and maybe promoting knowledge exchange and facilitating capacity building. But under current decentralised arrangements, the state and municipal governments take primary responsibilities—both functional and fiscal—for urban infrastructure, including urban transport. Central monitoring and supervision is limited at the local level where planning and policy implementation is carried out. To a great extent, this situation has created an institutional gap in addressing the spillover effects of urban transport problems which is also reflected in the slow transfer of powers and resources from states to local governments. Further, the political constituencies of state and local institutions being different, the continuing dominance by the state produces transport policies and investments are not properly aligned with local interests. Equally significant is the problem of proliferation of state and local institutions and parastatals which has been unusually high, resulting in diluted regulatory and

funding authority, and accountability for urban transport matters. Cities have not developed capacity for public transport regulation. The policy framework must provide specific guidelines on the institutional mechanism that is required for regulatory purposes especially when the paradigm of development of infrastructure and services is no longer the same as in the past.

Traditionally, the approach has been supply-oriented, and traffic growth-biased and continues to be so. The resulting policy orientations and decisions on how to spend available funds have left large economic and spatial segments poorly served, and have not been as effective as they could have to make these cities competitive. In the short term it neglects the mobility of low-income and poor travelers, especially the non-motorised ones. It does not involve any use of traffic restraint tools and hence leaves street-based public transport services (*the work horse of the transport system*) to the mercy of unrestrained competition from individual motor vehicles. Moreover, it favors the most capital-intensive public transport modes (metros and other urban railways) which may not be warranted by either traffic density/ passengers' ability to pay, or their budget capacity to pay subsidies in perpetuity. In the longer term the emphasis on increasing road capacity encourages car-based urban development patterns. The actual policies, as opposed to the statements in principle, thus appear to be both socially regressive, and financially unsustainable. There is a conflict with the guidelines enunciated in the urban transport policy statement in a number of ways. In the short term it neglects the mobility of low-income and poor travelers, especially the non-motorised ones. It does not involve any use of traffic restraint tools and hence leaves street-based public transport services to the mercy of unrestrained competition from individual motor vehicles. Moreover, it favors the most capital-intensive public transport modes (metros and other urban railways) which may not be warranted by either the traffic density

or passengers' ability to pay, or their budget capacity to pay subsidies in perpetuity. In the longer term the emphasis on increasing road capacity encourages car-based urban development patterns. The actual policies, as opposed to the statements in principle, thus appear to be both socially regressive, and financially unsustainable.

Another aspect that is missing in the policy document, one which is a characteristic feature of urban transport systems relates to a dedicated fund that needs to be made available for the purpose. According to World Bank [2005], the problem of under funding is an inherent one due to is to reduce the overlong agency chain between what is paid by local road users (a growth sector in two well-off cities) and the funds brought back to bear on the local transport system. There are several ways to do this. The most common way is to escape budget funding and create a closed loop from road user fees via dedicated funds to cities. A less common way, highly successful where it has been implemented, is to introduce local road charging systems, aiming for both revenue generation as well as demand management. Either way, the challenge is to create not merely urban road funds, but urban transport funds. Private sector funding has a potential to be a complement, but the prime source of funds should be public which should enable a crowding in of capital local.

## **7. EXPERIENCES WITH ELEMENTS UNDER THE CURRENT POLICY FRAMEWORK: JNNURM & PUBLIC PRIVATE PARTNERSHIPS**

### **7.1 The Vadodara (Baroda) Experience:**

Vadodara Municipal Corporation (VMSS) took up the initiative of organising a city bus service on the basis of public private partnership. As the lead implementing agency, it defined the bus routes, bus stops and fare structure and also the quality of service in terms of frequency. It had to follow guidelines for city bus services as per urban development and urban housing

development department, was responsible to get NOC (No Objection Certificate) from GSRTC for stoppage of current services with the RTA being responsible for sanction of stage carriage permits under Motor Vehicles Act. The bus stops were made by VMSS on a BOT basis. In lieu of the rights given to the operators for collecting fare, VMSS got a premium on a yearly basis from the operators. On the other hand the private partner procured, owned and maintained buses: took care of expenditure on rolling stock and operation and maintenance (including cost of driver and conductor, supervision, fuel). It also provided uniforms to drivers and conductors. Another private party built an operated 124 pickup stands to give support to the bus services on basis of advertisements.

To begin with, 41 routes were operated with 100 buses. VMSS income increased from bus operations as also from bus stands. This income was to be used for the infrastructure development of the city. The success of this venture was due to:

- 1) quick approvals from state government
- 2) quick decisions regarding tariffs, routes, frequency
- 3) overall monitoring by VMSS
- 4) transparent selections of the operator
- 5) continuous consultation with stake holders-public, police, etc.
- 6) provision of plots for setting up workshop, fuel station. Parking, cleaning, etc., on a token payment of Re. 1 per square metre.

VMSS has encountered several challenges in terms of the phenomenal growth of 3 wheelers and personalised vehicles (two wheelers and cars) which have created difficulties in bus movement. A move towards heavy occupancy vehicle lanes and then towards bus rapid transit system could pave the way for an improved system to emerge.

## 7.2 The Jalgaon Experience:

The motivation behind the application of the PPP model in Jalgaon was provided by the poor services that the then existing public operator, MSRTC, was providing. MSRTC sustained continued losses from the business and its demand for compensation from the Jalgaon Municipal Corporation did not receive any response. As a result, operations were discontinued in August 2009. The Municipal Corporation wanted to provide bus services but had neither the resources nor the requisite expertise to do so and hence there was no option but to go in for the PPP model.

A Special Purpose Vehicle (SPV) - Jalgaon Nagar Transport Undertaking (JNTU) was formed for this purpose. The SPV floated the tender for bus services which then received one response from Prasanna Bus Links (PBL) whose "ECOBUS" services thus began operations with a fleet of buses fitted with EURO III diesel engines with rates being Rs. 3 for the first two kilometers and Rs. 0.60 per km. thereafter. This system adopted E-enabled measures such as GPRS fleet tracking system, electronic ticketing system, LED and LCD displays in buses and stops, and smart card passes. The frequency on all routes was 15 minutes. As a result, the carrying capacity increased by 400 per cent while average occupancy rose to 55 and a revenue increase of 500 per cent. All these were achieved due to sustained marketing efforts, more revenue from advertising, motivation of man power thereby providing high-quality services and above all achieving high level of operational efficiency.

However, a little more than a year later, the services have been withdrawn due to a number of reasons significant among them being the lack of infrastructure provision as provided in the agreement between the public and private partners. Non co-operation on the part of the MSRTC did not permit use of a terminal that has been lying

unused ever since MSRTC stopped city operations. The absence of a bus terminus and depot space resulted in significant additional expenditure on diesel for bus turn around on every trip and empty movement at the start and close of the day. While the tendering process had specified 15 routes to be bid for only 5 were offered and the remaining not being offered at the instance of the MSRTC. It is our understanding that even the routes that were proposed were never planned which meant there is need for rationalisation of routes based on a comprehensive study that needs to be undertaken to examine Origin-Destination movements and also to categorise routes as trunks and feeder routes. This is a vital part of the urban planning and development department (or town and country) which is currently not being given any particular attention. Further, it is being realised that in the absence of model concession agreement prepared by the central government for use specifically for bus operations in urban areas (as was done for roads, ports, airports), there are no clear signals to the operators on what is expected from them. Addressing these issues of institutional weakness and the capacity building constraints of urban local governments needs much more serious attention from national policy-makers than what has been outlined in the policy framework.

## 8. CONCLUDING REMARKS

The central government has, no doubt, attempted to strengthen its role in urban transport under the NUTP to provide useful policy directions and reward good practices. However, since these attempts are advisory by nature, it is essential to re-align the incentives of municipal governments in a far more strategic way so that the long-term objectives interests of the cities and the nation are appropriately considered and incorporated into the local decision making process. In relation to the incentives created by the central government, an urban transport performance benchmarking and evaluation system should be developed to monitor how cities

are performing in city development including urban transport. It is well known that the absence of such benchmarking efforts has resulted in a decline of bus transport services in our cities especially those of public sector transport undertakings almost all of which reflected most inefficient practices [Sriraman, 2009]. In recent years, the Ministry of Urban Development, Government of India has attempted to provide comprehensive guidelines on service benchmarks. The crucial issue is: whether such would ever be used in practice?

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## **DOCUMENTATION**

The purpose of this section is to make available to the readers official documents such as reports of committees, commissions, working groups, task forces, etc., appointed by various ministries, departments, agencies of central and state governments and international organisations, which are not readily accessible either because they are old, or because of the usual problems of acquiring governmental publications, or because they were printed but not published, or because they were not printed and remained in mimeographed form. We also present in this section, official documents compiled from scattered electronic and/or other sources for ready reference of the readers. It will be difficult and probably not worthwhile to publish the documents entirely. We shall publish only such parts of them as we think will interest our readers. The readers are requested to send their suggestions regarding official documents or parts thereof for inclusion in this section.

We are also keen to publish Papers, Notes or Comments based on the material included in this section. We invite the readers to contribute the same to our journal, which we shall consider for publication in subsequent issues of the journal, after the usual refereeing process.

In the present section, we publish:

Report of the National Commission on Urbanisation August 1988, (Chairman C.M. Correa), Volume I and II, Government of India, New Delhi.

# REPORT OF THE NATIONAL COMMISSION ON URBANISATION

## August 1988, VOLUME I

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### Preface

FUTURE historians may well decide that the crucial phenomenon of our times is the massive urbanisation that is engulfing the Third World. Within the span of the last two decades, towns and cities all over Asia, Africa and Latin America have been doubling and tripling in size. India, which has the second largest population in the World, is central to this phenomenon.

It is indeed encouraging that, for the first time, the Government of India has appointed a National Commission to look into the issues. Our Interim

Report was submitted to Government in January 1987. Since then, we have continued to deliberate on the broad range of policy interventions necessary to bring about more humane and efficient urban settlements, keeping in mind the urgency of generating rapid economic growth with equity and social justice.

In this task, we have had the opportunity of interacting with a large number of specialists of eminence who have been engaged in preparing Working Group reports and research studies for the Commission. During our visits to the States and Union Territories, we obtained valuable

insights into the problems of urbanisation at the grassroots, sub-state and state levels, through field visits and detailed discussions with the Chief Ministers, concerned Ministers, officials and citizens. We have also had the benefit of meetings with the Prime Minister, initially, when the Commission was still formulating its basic approaches, and later, at a stage when our ideas were taking concrete shape.

Today, our nation is gradually beginning to realise that the process of urbanisation is much more than just the breakdown of Calcutta, or the overcrowding of Kanpur, or the traffic problems of Bombay — it is a phenomenon of unique scope and dimension, one which is going to change fundamentally the nature of our lives. From it will emerge the central, political, human and moral issues of our times, precipitated by the rising expectations of the millions upon millions of our people who want to find a better future.

We hope that our recommendations will not only receive attention from Government, planners and administrators, but will also form the basis of wide-ranging public debate and discussion, so that a broad consensus emerges on the developmental and planning issues it raises. We are pleased to submit this Report in the hope that it will generate this national debate, and in the process clarify for Government the decisions it must take.

	C.M. Correa Chairman	M. N. Buch Vice-Chairman
Ashish Bose Member	Nilay Chauduri Member	Xerxes Desai Member
B.G. Fernandes Member	Cyrus Guzder Member	V.K. Phatak Member
Amit Jyoti Sen Member	Kirtee Shah Member	Naresh Narad Member-Secretary

August 12, 1988

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to the Commission. We would like to place on record that without the help of the Ministry, our task would have become impossible.

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M.N. BUCH  
Vice-Chairman

### 1. Issues and Strategies

Over the past four decades, the number of people living in India has more than doubled—from 350 million in 1947 to nearly 800 million today. During the same period, our urban population has been growing almost twice as fast, and has in fact quadrupled from 50 million in 1947 to over 200 million in 1988. In just thirteen years, i.e., by 2001, it is expected to reach 350 million.

Because of the magnitude of these numbers, our attitude to these urban centres has been confused and equivocal. On the one hand we see them as heroic engines of growth, not only creating skills and wealth for the nation, but also generating employment for migrants from rural areas. From such a viewpoint, one can perceive India to be truly fortunate in the extraordinary range and diversity of her urban settlements from town to city to metropolis. Like our farmlands, rivers and other natural resources, they are a crucial part of our national wealth.

On the other hand, these urban centres have also generated the most brutal and inhuman living conditions, with large sections of the citizens (almost half in Bombay and Delhi) living in squatter settlements. The overcrowding in the slums and the desperate lack of water and sanitation leads not only to severe health problems but to the abject degradation of human life. In this as well, India unhappily is in the forefront—one would have to travel far and wide to find conditions as reprehensible as those existing in our cities. In the decades to come, who knows how much political tension and physical violence will be triggered off by the flagrant display of wealth which coexists with the rising expectations of the poor and with the appalling conditions of congestion and pollution which form their environment?

The degradation of our urban environment must indeed cause alarm, but it is not, of course, the sum total of urbanisation. Urbanisation can also be perceived as a process by which the surplus population of workers in rural areas can resettle in centres where non-agricultural job opportunities are available. If the job opportunities are productive and lead to gainful employment, urbanisation becomes a catalyst for economic development. If, however, urbanisation is merely a process of transfer of rural poverty to an urban environment, it only results in a concentration of misery. Depending



on whether urbanisation is viewed and encouraged as a positive developmental process or not, it can be used either to alleviate rural poverty, and thus create a sound basis for national prosperity or it can be seen as a process of human decay. To emphasise its positive aspects is to seek, in at least four major areas, hard answers to some very difficult questions indeed:

- (1) In 1981 there were 160 million people living in urban areas; by 2001 these will increase to 350 million. Where will these people go? How will they earn a living? How will they be housed? Can we really afford the infrastructure to service such large conglomerations of people?
- (2) Our urban areas, particularly the metropolitan cities, are in severe crisis. Our planning processes have proved to be intrinsically defective, the cities are overcrowded, urban land has become extremely scarce, services are breaking down, city management is often ineffectual and human misery has increased beyond belief. How can we feel that we have progressed as a nation when, in just twenty years, almost every one of our major cities has been reduced to a virtual slum?
- (3) Just as the physical infrastructure and administrative systems have collapsed, so also have the processes for raising resources. For whatever reason, resource allocation in the urban field seems to follow a problem rather than anticipate it. The compulsions of a situation determine its allocation. This again is evidence of a system which is in severe crisis.
- (4) The inefficiency of our cities and towns is being perpetuated by obsolete, rigid and irrational laws, regulatory provisions and norms. The urban centres, with their concentration of diverse activities, should be generators of wealth; instead, they have degenerated into parasites looking elsewhere for support. This is a perversion of the economic system, because logically it is the

urban markets which should trigger off prosperity in the rural areas. Instead, the cities claim that they cannot even pay for their own upkeep, and constantly hanker for subsidies. This distorts profoundly the basic relationship which should exist between the rural and the urban sectors of our economy.

The task of tackling these issues is one of extraordinary complexity, the difficulty of which is further compounded by the inadequacy of the available data-base, and the extent of its scatter. There is no data, for instance, on the annual rate of delivery of new urban land to the urban land market, nor is there a regular flow of information on housing stocks, housing availability and prices. Reliable data on the costs of urbanisation are hard to get. Vacant land data are notoriously unreliable. Urban land records are often in hopeless disarray. The censuses of 1981 collected less information on urban issues than did the census of 1971.

Should we then indefinitely postpone addressing the issues we have posed, and which are so crucial to our survival, until we have collected the great masses of data which we think we might need? On the other hand, obviously the urban situation in India is one of deep crisis, and calls for measures analogous to those used when a house is on fire, or there is a citywide epidemic. *The need to act becomes an overriding imperative.* And this action must be taken on the basis of a *prima facie* case, derived from the existing facts, past experience and human insight.

Once we forge the will to act, the situation does not seem so discouraging. Far from it. In fact, having examined the crucial issues (from resource mobilisation and land supply policies to water and shelter for the poor), this Commission has identified in almost every case, viable programmes that merit our most urgent consideration. What government needs to change above all is the lethargy that is gradually, and fatally,

taking over. Instead, we must acknowledge the positive aspects of cities and the opportunities which they represent. Urbanisation is a necessary concomitant of the development path we have chosen. Towns and cities, despite their problems, are for millions and millions of our people, the road to a better future.

### THE URBAN – RURAL NEXUS

Urbanisation involves two closely related factors. The first is the people-work relationship in rural areas, in which land is the essential medium-and which is right now so critically balanced that any addition to the population must inevitably push people out of agriculture into non-agricultural occupations. The second is the fact that only urban settlements can offer substantial non-agricultural employment, and absorb the migrants who are moving out of an agricultural economy.

Though the process of urbanisation has been accelerated by distress migration from rural areas, it has been accompanied by economic changes as well. In 1950-51, the contribution of urban India to net domestic product was 29 per cent. This grew to 37 per cent by 1970-71. Given the present economic trends, it is likely to increase to over 60 per cent by 2001. Thus about 35 per cent of the population will contribute over 60 per cent of the NDP. And the process is not an economic one alone. There are strong fall-outs, e.g. the development of skills and the diffusion of innovations, which are fostered by an urban milieu.

This is not to suggest, even for an instant, that programmes for family planning and for agricultural development should not be given the highest priority. On the contrary, for rural India to prosper, a number of key development programmes and reforms focusing on agricultural and population issues will have to be first put into operation. However, even if we could find the political will to make these programmes and

reforms operative right away, there would inevitably be gestation period before they would yield results, and if during this period the villages are to be relieved of their surplus population, it must be the urban settlements with viable economies to which they will have to turn. Viewed from this angle, urbanisation is a healthy and positive phenomenon, since unless urban India is adequately developed, the rural economy will collapse under sheer weight of numbers.

In fact, in States where irrigation and the extension of appropriate technology to agriculture has led to massive surpluses in production, the urban-rural nexus has actually been strengthened, largely because of the operation of market forces. Thus, while migration from rural to urban areas is a process which seemingly holds out the greatest danger to our urban settlements, it is in fact one of vital importance for the development of the rural areas, and thus for the nation as a whole. It is from this perspective that the Commission has examined the crucial issues and conceptualised the strategic thrusts needed for the next few decades-*without, in any way, questioning or pre-empting the development and reform which must be carried out with the greatest urgency within rural India itself.*

### EXISTING PATTERNS AND POLICIES

There are 3301 urban settlements in India, ranging in size from small towns to giant metropolises with 9 million and more. During the decade 1971-1981, these centres grew at an average rate of 46.2 per cent (with growth through migration and growth through natural increase almost equally balanced). Significantly, the big metropolitan cities have a slower growth rate than the medium sized towns. For instance, the twelve metropolitan cities (with a combined population of 42 million) grew by only 29.6 per cent during the same decade.

Estimates vary, but by 2001 India's urban population will be in the vicinity of 350 million. By that year, the number of cities with a population of more than one million each (which in 1981 numbered 12) will have gone up to about 40. Hitherto urban India has been dealt with as a residual issue, an adjunct to rural India. Now, in demographic projections made for just over a decade hence, urban India will have become a reality of staggering magnitude-with the number of urban citizens equal to those in the USA and USSR combined! This nation can no longer afford to regard cities and towns with a sort of benign neglect; they need our full attention.

Whilst the rate of growth of very large cities may have declined, the annual addition to their population in absolute numbers has been very substantial. Metropolitan cities such as Bombay, Delhi and Bangalore grow each year by over 300,000 people, i.e., the equivalent of what has been classified in this Report as an independent C 1 city (see box on page 23.) Thus, while one might draw some slight comfort from the decline in their rate of growth, the addition of such colossal numbers to these cities nevertheless exerts enormous pressure on their already overstrained physical and social infrastructure - not to mention their capacity to generate additional employment. The result : these cities have neither been able to upgrade their infrastructure, nor to add adequately to employment capability in order to cope with the additional population.

So far, at the national level, the problems of these cities have been treated in an ad hoc manner. Programmes such as IUDP (Integrated Urban Development Programme) and IDSMT (Integrated Development of Small and Medium Towns) have emerged from time to time and, without being allowed to run their course, have been abandoned at the end of a particular Plan period. The fallacious premise that urbanisation is synonymous with industrialisation has resulted in attempts to create towns around new industries

in wilderness areas, where neither the infrastructure nor the available natural resources permit sustained growth. The Commission therefore is of the opinion that ad hoc policies relating to urbanisation and urban development need to be replaced by a consistent, logical, systematic policy which can be sustained over a period of time.

## INTERVENTIONS

In the Commission's view, a programme of explicit state interventions is necessary to direct and modify the course of urbanisation in future. The broad guidelines for such a programme, both at the central and state level, should be a mix of positive development and preventive control. A large number of medium and small towns will have to be given the necessary impetus by way of investment, particularly investment in infrastructure, so that they develop in a desirable manner. Control of land-use is not enough; a whole range of policy instruments such as the supply of electricity, water, transport, etc., have to be considered, including pricing policies for these services.

There is indeed a wide spectrum of urbanisation conditions in the 422 districts of this nation, ranging from those which are 100 per cent urban to which are 100 per cent rural. Choosing 30 per cent urban as the cut-off point (as compared to the national average of 23.7 per cent), we have identified 58 districts where the urban population has already crossed this level. The Commission strongly recommends that the necessary back-up be given to these districts in order to increase their rate of urbanisation and thus generate more employment and economic growth.

At the other extreme, we have the rural districts, i.e., the 109 districts where the rural population is over 90 per cent of the total population. Most of these districts are poor and backward and these are precisely the districts which have the

highest potential for migration to the urban areas. Since the recommended policy is to reduce the flow of migrants to the bigger cities, viable strategies must be conceptualised for these rural districts to develop. Appropriate investments have to be made to generate employment and economic growth not only in agriculture but also in trade and commerce, administration, the tertiary sector (particularly in health and education), and of course, to the extent possible, in the development of small industries. To minimise any element of *ad hocism* and arbitrariness, we have recommended the development of the headquarters of such rural districts in this manner. These of course are broad guidelines, and while working out concrete programmes for urban development, deviations may have to be made in some cases from this general rule of supporting headquarters. However, the Commission wishes to emphasise that these strategies for development of the rural districts are totally different from the present policy of encouraging industry to locate in 'backward' areas, and that propping up backward no-industry districts by giving incentives to entrepreneurs will not by itself help either the process of viable industrialisation or of rural development.

It will be seen that the intervention strategies proposed range from giving the necessary backup to districts which have already reached a relatively advanced stage of industrialisation and urbanisation, to providing input in districts where urbanisation is low and migration is high. These urbanisation strategies thus become direct inputs for rural development and for poverty alleviation at the district level. They have their genesis in a philosophy of using urbanisation as a positive and beneficial force based on the premise that cities and towns should be engines of economic growth. During the British rule, only a few metropolitan cities were 'theatres of capital accumulation'; what we need today is the diffusion of economic activity in a manner that will generate economic

growth with equity, constantly keeping in view the larger objective of balanced national development.

In the historic process of urbanisation throughout history, the development of administrative nerve-centres have always played a crucial role. But it is not enough to develop and sustain New Delhi as the capital of India: all the State capitals deserve equal attention. Our urbanisation strategy must reflect the concern for all such cities and towns (regardless of population size) and the Five Year Plans should provide adequate support for this. Similarly, infrastructural support should be given to large industrial cities (old and new), port cities and other industry-specific cities, so that their economic bases are consolidated, strengthened and expanded.

Keeping these guidelines in mind, and using various statistical criteria, we have made a preliminary list of about 600 cities and towns. Barring some of the headquarters of rural districts, most of these cities recorded high rates of population growth and expanding economic activity. These GEMs (Generators of Economic Momentum) were further screened from the point of view of physical location, availability of water, energy and transportation, and a final list of 329 GEMs was prepared. Based on this configuration of GEMs, 49 priority urbanisation regions throughout the country were delineated, taking into account the 15 Agro-climatic Regions recently defined by the Planning Commission and the 80 natural regions used by the National Sample Survey Organisation. These 49 SPURs (Spatial Priority Urbanisation Regions) are of varying sizes and shapes, and cut across state boundaries. For urbanisation to play a major role in the development process, the Planning Commission and the State Governments should view urbanisation in the total developmental context

and allocate resources which will ensure optimum utilisation of the natural and human resources within each of these SPURs.

For decades now, the rate of urban growth has followed the pattern of investment, particularly so in the Third World. It is precisely because we will not invest in a city such as Gwalior that Delhi still continues to grow; it is because Warangal is left undeveloped that Hyderabad is bursting at the seams; it is because Katihar and Champaran are allowed to decay that people from Bihar will migrate to Calcutta or Bombay rather than stay nearer home. The Commission, therefore, has recommended that any future strategy for urbanisation in India must ensure adequate investment in the selected growth centres and regions so that, over a period of time, they develop to a level capable of self-sustaining economic growth and offer avenues of employment and earning to the surplus population of not only the surrounding villages but also the nearby towns which are stagnating. Somewhere between Rs. 3,000 and 3,500 crores will need to be invested per year in infrastructure in order to achieve such growth momentum. A great deal of initial financing would have to be provided, but as economic activities develop and towns grow, they will be expected to repay the invested amounts. When compared with the ad hoc expenditure now incurred just to keep the older large cities alive, investment of this relatively small amount in our urban future would be more than justified. The crucial difference in applying resources in the manner proposed is that they would *anticipate* the future rather than merely *follow* a trail of disaster resulting from passive neglect.

In achieving these objectives, power availability could be used as an instrument for establishing preferred patterns of growth. Business activity is attracted to places where power availability is reasonably certain - which is why an industry would rather locate, even illegally, in Delhi where it has power for 24 hours of the day,

rather than at Sonapat or Panipat where it would be fortunate if there was power for even 12 hours a day. One of the reasons for the rapid growth of Bangalore was the easy power supply position, which attracted many large-scale industries to that metropolis. If two decades ago, power had been made available by the Karnataka Government at places other than Bangalore, the urban picture would have been altered decisively in that State. This point is emphasised because it is not as if leverages are not available to Government for influencing the locational decisions of industry, including the private sector. Whilst cautioning against the irrational use of government leverage to force development into areas which have no growth potential, the Commission feels that, once the centres have been rationally identified, access to energy should certainly be one of the instruments used to direct development to these locations.

The Commission is confident that, if sufficient investment is made in the GEMs and SPURs identified, then, by the end of the Ninth Plan, the urban settlement pattern in India would have substantially changed and the imbalances of the present metro-dominated urban system would be greatly reduced. However, this does not mean that our larger cities and towns, which contribute so much to national wealth, should be neglected. Today we have a stop-go approach to these centres, with a holding back of development inputs till such time as a crisis forces makeshift decisions on us. The slums of Bombay and the major breakdowns of Calcutta's physical infrastructure require more than *ad hoc* decisions to make Rs 100 crores available to one city and Rs 150 crores to another. What precisely is wrong with our large cities and towns? What has caused their decay? Why is there inadequate access to land for housing? Why are the civic bodies virtually insolvent? Why is poverty so patently visible in urban centres which have such a vast potential for generating wealth? In the answers to these questions lies their future. The Commission

has approached these problems from many angles, including organisational structure, policies related to urban form and planning, industrial location, land, access to funds, housing, infrastructure, conservation, and the regulatory provisions of laws and rules.

### THE HUMAN FACE OF CITIES

We have spoken much of urban patterns and spatial planning; it is time we turn our attention to the people who inhabit our towns and cities. And here, without any doubt, that which is most clearly apparent (and which causes the greatest anguish) is the starkly visible poverty we see around us. It is, arguably, the worst pollution of all—manifest in the slums which dominate the townscape, and in the mass of beggars, petty hawkers and casual workers struggling to eke out a living. The cities have wealth, but the poor who live in them do not share in it. They service the city, they clean the houses of the rich and cook for them, they provide labour for factories and shops, they are the main carriers of goods, and yet they continue to be poor. The transference of poverty from a rural environment, where it is well spread out over space, to a city where it is concentrated, presents perhaps the most horrifying images of independent India.

Little is being done for the urban poor. They do not have access to land for housing at a cost which they can afford, nor are they provided with any civic amenities. They are not helped to acquire work-sites to establish their small businesses. They are accepted in the city only as a necessary evil without which the city would not function. The planning system has no place for them because the master plans aim at the creation of regulated and zoned settlements of an unaffordable nature. For the poor, there is really nothing. From time to time, political solutions are attempted, such as granting pattas to people who

have already helped themselves to land and who, even without the pattas, would manage to survive on it.

The Commission recognises that the Indian city of today and for some time to come, will have almost a third of its population living below the poverty line. For them, the State must organise both land for housing and work-sites. Their employment obviously cannot be only in the organised secondary, (i.e., manufacturing) sector. More and more manufacturing is now being done in highly capital-intensive industries, and the tertiary sector is so heavily dominated by informal activities that it is not directly dependent on formal manufacture. In fact, much business in urban India tends to be in the informal sector, which provides about 45 per cent of the total employment.

Therefore, if the problem of urban poverty is to be tackled, there will have to be a nexus between investment and employment. This does not mean that such employment should be unproductive, as is often the case in relief works. The informal sector is productive and what it needs to become more viable is administrative, financial and marketing support. There is truth in the tautological statement that the poor are poor because they do not earn enough. The Commission is of the opinion that, with the proper type of support, informal, small-scale business can flourish and help the poor to earn more. This support can be in the form of training, organisation for the purpose of marketing, administrative support by provision of work-sites, some basic infrastructure and financial support by loans which can help a small business to establish itself. For this purpose, the Commission has recommended the setting up of an Urban Small Businesses Development Bank. The Commission understands, of course, the danger of such aid programmes (which are analogous of those already available to the rural poor) becoming incentives for increasing migration into our towns

and cities. The Commission is aware that any such programme could result in accelerating the migration of the poor to big cities, and thus, become counter-productive. On the other hand, if nothing is done to tackle the present dismal situation in these cities, there will be a virtual collapse of the urban system. Therefore, a judicious policy of selective programmes of providing relief to the poor should be deployed in a manner which encourages the growth of smaller urban settlements.

If the preponderance of the poor is taken as the concern on which urban planning should focus, the physical planning of our cities must change dramatically. The poor cannot afford the time or the money to travel long distances to reach their places of work. Therefore, work and residential areas must develop in close proximity to each other. This would change the shape of cities because the need to commute would be drastically reduced. People could just walk or cycle to work, which would alter the road pattern and reduce dependence on public transport. Because the poor cannot afford expensive structures for housing, they would naturally construct low-rise buildings. If this becomes the basis of urban form, then we could move towards a low-rise, high-density configuration of our cities - which would encourage self-help, incremental housing and reduce the high energy requirement endemic in high-rise buildings. What is more, because low-rise construction is labour-intensive, by designing cities in which the poor are equal partners, these cities would not only be pleasant to live in and far more economical to service, but would also have a built-form which would generate much more employment just where it is most needed, viz., among the semi-skilled and unskilled migrants who are moving to the urban centres.

If this low-rise, high-density pattern takes the forms recommended in the chapter on Urban Form, then it would have the crucial advantage of constituting the first giant step towards urban

EQUITY. This is an issue which is increasingly going to move to centre-stage as the next two decades unfold. The grotesque disparity which now prevails in our cities ('Tell me how much urban space you command and I will tell you who you are') cannot continue to prevail. For many migrants, cities represent not only economic opportunities unavailable in the villages, but new psychological and physical freedoms as well. The Indian city is a melting pot. For land-less labour, harijans and adivasis these cities provide the opportunities which are enshrined in our Constitution, but which our villages so brazenly, and so viciously, deny them. For these millions upon millions, our urban centres will continue to be havens of hope, where they can forge a new future.

## EMPLOYMENT

The structural changes in the economy are very slowly being reflected in the composition of the work-force. The primary sector's share in the total work-force was 72.6 per cent in 1951, and this share declined only marginally to about 69 per cent by 1981. Even by 2001, this proportion will still be as high as 65 per cent. This is clearly indicative of the tendency of the secondary and tertiary sectors not to absorb labour commensurate with their rising outputs, particularly in the formal sector-which is partly on account of rising labour productivity in a context of rapid technological change.

The inability of the primary sector to sustain any further burden of increasing labour, the unwillingness of the secondary and tertiary sectors to absorb additional labour in the formal sector, and the distinctly higher incomes of nonagricultural pursuits in urban areas have given rise to rural-urban migration and the phenomenon of growing informal sector employment in urban areas. The proportion of informal sector employment in some of the cities has been estimated to be over 50 per cent. Given the dimensions of economic change and population growth

anticipated over the next decade and a half, generating employment in urban areas assumes critical importance. In 1981, 28 per cent of the urban work-force was in manufacturing activity, 18.7 per cent was in trade, 7.8 per cent was in transport, communication and storage, and 25.2 per cent was in other activities. It is estimated that these proportions, in the absence of meaningful interventions, are unlikely to change in the next fifteen years.

In the interest of more equitable distribution of income, it is necessary to pursue policies that induce a higher degree of labour participation in the formal sector and remove unwarranted restrictions on the growth of this sector. The Commission therefore recommends the following:

- (a) The current Industrial Location Policy should be expanded to provide incentives for labour absorption.
- (b) The zoning and town planning regulations currently adopted encourage multi-storey and high-rise buildings which use a technology that has a relatively low labour component. Low-rise, high-density urban form would entail a construction technology which provides employment to significantly larger number of persons.
- (c) The zoning and land-use restrictions which come in the way of informal and household economic activities should be suitably modified to facilitate a broader economic base for urban areas.
- (d) Training for and financing of self-employment (referred to in the Poverty Alleviation programme) should be stepped up.

## LAND SUPPLY

Possibly the most disastrous feature of the past four decades of urbanisation in India has been our tragic failure to anticipate the rising demand for

urban land, and thus be able to ensure an adequate supply at affordable prices. In this the worst sufferers have, of course, been the urban poor.

By urbanised land we mean land which has been developed for urban application by, firstly, having access to jobs (crucial to the survival of the poor) and secondly, by the provision of *infrastructural facilities* such as roads, water, sewerage, power, transportation and other municipal services. A sufficient supply of such land, on a scale commensurate with demand, is essential. And yet in our cities and towns there has been no systematic and established method either for its creation or for its delivery to those who need it. The growth rate of India's urban population has never been matched by appropriate interventions to ensure the production of urban land at the right time, place and price.

The results have been catastrophic. Land has become an extremely scarce and expensive commodity, with a fatal mismatch between people's incomes and land prices. Households savings have had to be diverted from other critical uses to meet the most modest shelter needs. Within the urban sector itself, household funds which could have flowed into paying for a range of urban services, such as water and sewerage and transportation, have been pre-empted by grossly over-priced land. As a result, the provision of these services has itself greatly suffered.

This crippling shortage of land forced many of our citizens, both sellers and buyers, into a disrespect for the law. Black money has proliferated, corruption has become rife and moral values have been severely eroded. The country is paying a very heavy price indeed for urban land.

Inevitably, the poor have been affected most of all. With legal, institutionalised and simplified access to urban land at affordable prices effectively denied to them, they have had to take recourse to the only option available - illegal



occupation of land. These squatter colonies are an organised response necessitated by an otherwise impossible situation (and perhaps are less reprehensible than the illegal floor space violations by the economically more fortunate). The typical response to such occupation is, of course, to deny access to basic municipal services. The result is that the brutal mismatch between income and land price is followed by the most brutish abuses of human dignity.

How are we to respond to this situation? How are shortages to be overcome and urban land prices brought dramatically down? The Commission wishes to recommend, with all the emphasis at its command, a realistic and clear-cut land policy, as follows:

1. The annual demand for additional urbanised land in each town and city must be realistically estimated for different uses and at different locations. Without such data it is difficult to conceive even the first move.
2. Positive intervention must be initiated to generate new urbanised land on a sufficient scale by extending municipal services and (most importantly) providing access to jobs in these new areas. This last is crucial for two decisive reasons. Firstly, the poor are not coming to cities for housing - but for work. And secondly, the deployment of work places in these new areas helps initiate the cash flow that is needed to cover the cost of the infrastructure. In this, the role of government is pivotal. As the prime actor on the scene, it must conceptualise the new directions of growth and, by its own participation, take responsibility for initiating the process. By deploying some of its functions (both governmental departments as well as certain semi-governmental agencies) to open up a new area, it compels others (industry, offices, small businesses, etc.) to follow - thus generating the increased land values that can be used to subsidise the development costs.
3. Furthermore, since every government job moved has a multiplier of about 5 other jobs, transferring 20,000 government employees from Bombay to, say, New Bombay would deploy a total of 120,000 jobs (which, with families, would mean over half a million people) in the new growth centre. Thus, at one stroke, not only would a critical mass be achieved in New Bombay, but a great deal of pressure would also be taken off the old city. The decisive importance of governmental action- and responsibility-in this process cannot be emphasised enough.
4. The hoarding of vacant land must be strongly discouraged and land forced into the market through fiscal mechanisms. Vacant and under-utilised land must be taxed. In fact, there is a case for taxing such land as if it were fully developed, or perhaps at an even higher rate, as a penalty for non-development of an asset valuable to society.
5. Legislative devices can be used to compel the development of vacant lands for designated purposes such as housing for the low and middle income groups. The mandatory development of vacant lands for specified purposes within clearly defined time limits should be applicable not only to private owners but also to government owned lands.
6. Land which has fallen into disuse (or inefficient use) through the passage of time, must not be so locked up but should be recycled for other, more efficient uses, responding to changing times. For instance, significant parts of our cities are occupied by industries which for years have been in a state of decline, some terminally so. We need to accept that factories-like human beings - are mortal. They too have life spans. There comes a time when technology will render an industry redundant or obsolete. When that happens, preferably before the consequences are felt, land must be allowed to be recycled to meet other more current needs.

7. Unauthorised and illegal occupation of land needed for city growth and the provision of infrastructural services must be dealt with in the larger public interest (though with humanity and understanding).
8. The laws and regulations pertaining to property development, sale and mortgage need to be modified to remove cumbersome and dilatory procedures, simplify transactions and encourage an active land market.
9. Lastly, the data base on urban and urbanisable land needs to be greatly improved, including the adoption of modern cartographic methods, maintenance of well-documented and well-demarcated records of ownership rights, and the creation of suitable machinery for generating and maintaining land records.

Above all, there must be the realisation that urbanised land is a vital resource that needs to be generated in sufficient quantities for appropriate uses. Only thus can we ensure the viability of our cities. The present imbalance between incomes and land prices cannot be allowed to continue because of the damage it is causing to the urbanisation of India, to the welfare of its citizens, and to the moral standards of this nation.

## FINANCING URBANISATION

At the centre of the problem of urbanisation is the paucity of the funds needed for the creation and management of our cities and towns. Almost without exception, our urban settlements are characterised by highly restricted access to capital funding, and municipal incomes are inadequate for coping with the expenditure levels required for an acceptable urban environment. It cannot be denied that, if we are unable to mobilise greater resources for urban development, we cannot expect a significant change in our cities.

The citizens of our cities and towns, however, need to realise that if they want a better urban environment they must be prepared to pay for it. The funds for urban development must come from industry, trade and commerce, from all the institutions which derive economic benefit through their location in urban settlements, and from the people who live in them. Cities must pave their way to a better urban environment. Tax collection needs to be made vastly more efficient and evasion severely penalised. Property taxes have to be brought in line with existing realities and made simple enough to levy and adjusted periodically. Governments and their agencies should pay the property taxes from which they are exempted today—such exemptions belong to a bygone, colonial era. If and when octroi is replaced, it should be by a tax or taxes which are controlled by the local body. Professional taxes could become a major source of municipal revenue, for which purpose Article 276 (2) of the Constitution would need to be amended. Betterment taxes should be resorted to for raising revenues for the beneficiaries of developmental programmes.

Vacant or underdeveloped land must be brought within the tax net. Charges for services such as water, power, sewerage and transport should be based on full-cost recovery and with a slab system, wherever possible, which puts a heavier burden on the bigger consumers. There is scope for introducing a hierarchy of such services, qualitatively differentiated and therefore differently priced, the pricing mechanism providing for an element of cross subsidy from the rich to the poor.

State Governments too have been remiss in ploughing back into urban settlements a fair share of the revenues which they derive from them. While Articles 280 and 281 of the Constitution provide for the creation of Finance Commissions to determine the sharing of revenues between the Central and State Governments, there is no such

provision governing the relations between State and City governments. It is recommended that Finance Commission be appointed by each State to decide on the allocation among city governments of revenues derived by the State from urban settlements, and that the Constitution be amended for this purpose. Municipal plans also need to be incorporated in the state and National Planning processes and form an integral part of the country's Five Year Plans.

The Central Government has been equally remiss. Substantial amounts are collected from cities and towns by way of direct and indirect taxes and some of this money must flow back. The Seventh Plan allocation for urban housing, water supply, sewerage, etc., is 4 per cent of which the Central Government's share is 0.25 per cent. These figures are woefully low. It is recommended that plan allocations for the urban sector should be at least 8 per cent and at least one half of this amount should be contributed by the Central Government. The Central Government also needs to show great restraint in taxing elements of the urban infrastructure, particularly housing and transportation, whether it be by way of excise duties on goods, capital gains and wealth taxes, or taxation of incomes from house property. Equally, State Governments need to show restraint in the imposition of sales taxes which would increase the costs of urban living, especially in the areas of housing materials and transportation.

Specialised finance institutions need to be created for the funding of the urban sector. This is necessary not only in order to create reliable channels for funding but also to ensure that funds are equitably allocated among the towns and cities of India, that the money is wisely and prudently spent and that the borrowers make financially satisfactory arrangements for the repayment of loans, payment of interest, depreciation of assets and for meeting operating expenses. The three main banking institutions recommended to be set

up during the Eighth Plan are the National Metropolitan Development Bank and the National Urban Infrastructure Development Bank, each with an equity base of Rs 250 crores, and the Urban Small Businesses Development Bank with an equity of Rs 100 crores. At the same time, the equity of the National Housing Bank should be raised from the proposed Rs 50 crores to Rs 200 crores. The Central Government, State Governments and the Banking Sector should share the equity in the ratio 50:30:20. These apex banks would be involved largely in the refinancing of funding by affiliated institutions at State, District and City levels, establishing these bodies, setting organisational objectives and performance standards, and, generally, in playing a coordinating, developmental and catalytic role.

One of the most important functions of these institutions would be to force local bodies to move away from a situation of dependence on exchequer funding for capital expenditure and to prepare viable, feasible projects of urban development which the financial institutions could fund. Built into each proposal would be a scheme for improving the resource base of the local body concerned so that the debt could be adequately serviced. Since the loan would be specifically project-tied and would be monitored by a hard-headed financial institution, the local body would be obliged to spend the money wisely and within the prescribed time limit. A major advantage of this would be that, if the charges, fees, rates or taxes directly linked with the service are raised, there would be less resistance than now because improved service would be available to the citizens. Today, every proposal to raise rates is resisted because it is not linked with any improvement in the services. To the extent that the financial institutions bring discipline to the municipal scene, there would be improvement in municipal administration. Undoubtedly the less-efficient local bodies would not benefit from this source of funding, but these could be singled out and helped to improve their management systems.

The urban sector has been grossly neglected so far and the allocations to it have been far from rationally determined. Furthermore, it is a tragic mistake to look upon investments in the creation of cities and their maintenance as welfare measures. Cities are complex economic and work entities, macro-organisms that produce a variety of goods and skills and services. Investments in the urban infrastructure are not welfare acts: they are crucial investments in the basic infrastructure required for economic growth. These investments pay back dividends to society. Cities must be seen as key elements in the economic infrastructure of this country and we will have to make investments in them in accordance with these perceptions.

### MANAGING OUR TOWNS AND CITIES

The present organisational structure of our towns and cities is based on municipal systems which originated in the British days (as a substitute for democracy at national and state levels). They were best suited to the administration of compact, homogeneous towns. The pace of urban growth was then leisurely and predictable and, therefore, a municipality could manage a town fairly competently. However, Independence brought in a new dynamics to development in these urban centres. The influx of refugees after Partition caused many cities to increase exponentially in size and population.

Then again, the development thrust in the economy, with a greater emphasis on nonagricultural, especially industrial, activities also brought about remarkable changes on the urban scene. All these factors have resulted in municipal administration becoming increasingly incapable of coping with new demands. Instead of strengthening the municipalities, State governments have often reacted by creating new agencies and authorities, such as Special Planning Bodies and Development Authorities, to undertake urban government functions outside the scope of the municipalities. Many assets

which could have yielded revenue to local bodies (especially land), stood transferred to these new authorities. Being nominated, many of them have functioned without taking into consideration the aspirations of the local people and, by and large, have lapsed into an ad hoc style of operating. Whilst there is no evidence that the existence of these specialised agencies has brought about any improvement of the cities and towns, there has certainly been rapid deterioration in the capacity of the local bodies to manage them.

Without organisation and an efficient management system, a city cannot run. Therefore, the Commission has made a series of crucial recommendations about restructuring the city administration. Settlements have been divided into two categories, those which can be run by a single unit of administration, to be called towns, and those which are so large that they require more than one level of administration, to be termed cities. A population of 5 lakhs is the suggested cut-off point (i.e. class C-2 and above). While towns would have a single level of municipal administration, for cities it has been recommended that there should be a division of functions between those which are city-wise and those which are local to a community or area.

The Commission recommends that cities should have local councils for tackling defined local issues. Election to these local councils would be direct, and each council would send a prescribed number of representatives (perhaps two per council) to the city Corporation. The basic concept is that those services and functions which affect the whole city (and which cannot be disaggregated and which must be professionally managed) should be handled at a level of governance which can take an overview of the whole city. On the other hand, those functions which are of purely local importance and consequence should be kept at a level of administration

with which the average citizen can interact personally, and which is directly accountable to him.

In order to professionalise the administration in both town and city, the Commission has further recommended a clear-cut codification of powers and functions between the deliberative wing (which will frame policy and generally oversee implementation to ensure that it conforms to the policy guidelines) and the executive wing (which will enjoy full autonomy and powers within the policy frame). The present conflict between Commissioner and Standing Committee, for example, is sought to be done away with by taking purely administrative and executive issues out of the purview of Standing Committees. Once the urban administration is reorganised on these lines, it would not be necessary to retain functional agencies and development authorities, which could be merged into local governments, thus eliminating the present scope for conflict between them and local bodies. The only exception would be regional planning authorities which might cover regions which contain several towns and cities. But there also, by giving equal representation to every local body in the regional authority, an effort would be made to ensure operation through consensus rather than imposition of authority by a superior body.

Indeed we need to evolve new approaches to the development and management of our towns and cities, and to strengthen the institutions responsible for them. Today most State governments and municipal administrations are saddled with obsolete procedures and attitudes, totally incapable of addressing the rapid urbanisation they face. The highest priority must be given to increasing their skills through new policies of recruitment and training. We need innovative responses at all levels: national, state, city and neighbourhood. Every human settlement is, in a sense, a unique entity, with its own problems-and its own solutions. The increasing centralised

decision-making power in this country tends to pre-empt initiative, and formulates generalised responses - as opposed to local and indigenous ones. Which brings us to what is possibly India's greatest national asset: her human resources. In fact, in contrast to the inertia of the political and administrative systems, it is encouraging to record the proliferation over the last decade of citizens' associations action-oriented groups addressing a wide variety of urban issues, ranging from the pollution of our environment and the rights of squatter colonies to the preservation of our built heritage. These movements should be encouraged. They represent the beginnings of a new relationship between citizens and government.

## URBAN FORM

What will these towns and cities of the future look like? Will they be amorphous blobs on the landscape, characterless, insanitary and uncomfortable? Or will they have shape, form and character? Will they have human scale? These questions are extremely relevant, for although cities are both the outcome of economic and fiscal policies, as well as the direct expression of the socio-political forces at work in society, they also very clearly, are material entities, existing - like any other piece of hardware - in a physical world.

This Report has carefully examined this physical aspect of our urban environment - for the Commission firmly believes that within the socio-economic-political parameters existing in India, our towns and cities could function considerably better than they do now. In other words, given our levels of per capita income, prevailing technology, physical and financial resources, our urban centres - as pieces of hardware - could work better. They could correspond more precisely to our needs.

Today, there is a brutal mismatch between the form of our cities and the way we use them. How could they be fashioned to better suit our purposes? This question is of particular importance to us in India because of the rapid urbanisation which lies ahead. As discussed earlier, the urban environment we see today - both in terms of physical size as well as number of inhabitants - is only about half of what will exist at the end of the next two decades. Thus we have an extraordinary opportunity (and obligation) to consider new growth options concerning not only the development of urban settlements across the nation, (i.e., GEMs and SPURs), but also the physical form and characteristics *within* each urban centre - from the largest metropolis to the smallest town.

In order to identify the most appropriate built-form, the Commission has started by looking at the income profile of urban India, and identifying the affordable capital for each economic group. This is then related to construction costs and densities in three different contexts: the building site, the neighbourhood, and the city as a whole. In each case the varying cost of land, as well as service infrastructure (roads, water, electric supply, sanitation, etc.), and transport is taken into account, and also key benefits, such as open-to-sky space, (e.g., courtyards and terraces which, in the warm climates prevailing in India, have a high usability coefficient). The trade-off between all these variables clearly establishes the appropriateness of low-rise, high-density built-form as the primary typology for our cities. In addition to its economy, this pattern also has a host of decisive advantages, viz., it is incremental, it provides variety and identity to the inhabitants, it is more adaptable to the pluralistic life-styles and cultures that constitute our nation, it makes for speedier construction, eases maintenance, and increases employment - since it is much less capital-intensive than high-rise constructions.

But there is one other advantage in this pattern, perhaps the most crucial of 'all, and that is EQUITY. Low-rise, high-density built-form based on a range of plot sizes between 25 sq m to 100 sq m (with some plots perhaps up to 200 sq m) can satisfy the needs of over 95 per cent of the urban population. It is a typology which is far more economical than apartments (since no space is wasted on public circulation and lifts) and one which liberates the public from developers (since the units can be constructed individually and unilaterally). In order to operationalise the process, the Commission recommends that the development authorities first decide on the allocation of individual house plots and then lease the land to cooperative societies of up to 100 members, retaining the occupancy rights of the individual allottees. Should the member of a cooperative society decide to pool their land and build group housing or apartments they should be free to do so, provided that the total number of members - and hence of dwelling units - remains the same. This maintains the principle of land equity and, at the same time, allows the construction of apartment buildings at perhaps even higher FARs at nodal points in the city (as and when determined necessary by the planners). The Report then examines the density thresholds implicit in these typologies and establishes how the small fraction of existing land-use in our cities that crosses these thresholds could be modified by adjusting land-use allocations in the city - an objective easily achievable during the process of massive growth that lies ahead.

The Commission has also examined the spectrum of public spaces so crucial to urban form, including chowks and plazas, parks and maidens, and of course streetscapes. In Indian history, from Harappa and Mohenjodaro, through the Vijayanagar town of Hampi, right up to Jaisingh's Jaipur, the street as an architectonic environment has been superbly understood. Buildings are not allowed to be placed at random points on the site, but are organised to form

continuous facades, thus defining the public right-of-way - as for instance in Jaipur where the facades of the buildings relate to the public spaces the way walls relate to the rooms they contain. On the other hand, the cantonments built by the British followed a different pattern. There the structures were free-standing, set in the middle of large compounds. This pattern was largely an outcome of the need for security (since the large compound, like the maidan, served to keep the natives at a distance); but they were also a hand-me-down version of the 18th century taste of the English country squire, whose abhorrence of the urbanity of city life had filtered down to the colonial administrators. ( Thus India, and specially her ruling classes, inherited the idea of an elite living in large anti-urban bungalows right in the heart of huge crowded cities - as witness New Delhi (or, on a smaller scale, Chandigarh).

This lack of coherent streetscape - almost endemic to Indian cities over the last few decades - has had a lethal impact on urban form. A grotesque example will soon be seen in the nation's capital where, in a very recent edict, a high FAR (2.5) has been combined with a maximum plinth area of 25 per cent of the site. This forces the owner to construct a high-rise building (at least 10 storeys high, plus about 4 parking floors). Furthermore, the savage set-backs on all sides makes certain that these towers will have no relationship whatsoever to their neighbours, nor to the street. The Commission firmly believes that these confused and ineffectual approaches must end. Coherent urban form demands a controlled streetscape, one in which mandatory building lines are clearly specified.

This Report also notes the massive number of pedestrians moving around our city centres, and the urgent need to establish their right-of-way - especially in respect of motorised traffic. It also emphasises the advantages of creating pedestrian

precincts, including zones for licenced hawkers, and the appropriate street furniture (otlas, etc.), which would bring this about.

The relationship of urban form to transport networks is also examined, as also question of city size-which can be meaningfully addressed only if we look at city structures as well. For structure determines the holding capacity of a city, as also the amount of urban land generated, the pressure points, and so forth. Given the growth that lies ahead, most of our cities would probably gain immeasurably by being restructured to form polycentric systems which:

- (1) allow citizens to enjoy the better quality of life obtainable in a smaller centre, as well as the economies of scale inherent in being part of larger system; and
- (2) offer more growth options for future generations.

As the city grows, the intelligent placing of important civic and religious buildings, at nodal points in the city structure, is of primary importance in the generation of coherent urban form. This was done with spectacular success in the great cities of the past (as witness Fatehpur Sikri), as well as in this century, (e.g., Lutyen's Delhi). These monumental buildings become urban 'events', not only giving character and meaning to the environment that surrounds them, but also acting as coordinates on the city-scale, providing a sense of orientation and direction to passers-by. In the final analysis, such images can become the symbols for the entire city, as has been the case of the Charminar in Hyderabad, and the Gateway of India in Bombay. Given the scale of urbanisation that lies ahead, it is important that we in-build an understandable structure of such urban events into the fabric of the city as it grows. These nodal points (and the images they create) serve to articulate entire neighbourhoods, giving each of them a distinctive identity. They generate a greater sense of civic life, thus allowing the city

to expand not as an 'amorphous, undifferentiated mass of built-form, but with coherent and rhythmic syntax.

## HOUSING

Housing has been recognised as the basic need, ranked next only to food and clothing. But resources allocated and policies pursued have not yielded the expected results. Forty million people (about 25 per cent of India's total urban population) live in slums and under conditions of multiple deprivation-illegal land tenure, deficient environment and kutcha shelter. In addition, a significant number live in inner-city neighbourhoods with decaying buildings and deficient services. The supply of new shelter units is not adequate to meet incremental needs-leave aside the backlog. This may lead to a doubling of slum population-75 million by 2001. Nearly sixty per cent of households cannot afford a conventional pucca house and the lowest 10-15 per cent cannot even afford a serviced site. Furthermore, given the resource constraints, it is not possible to provide new pucca houses for all in the near future. The emphasis of housing policy therefore has to be on increasing shelter supply, improving and upgrading slums and conserving the existing housing stock.

There are four factors which are essential for achieving a substantial increase in the supply of housing: land, finance, building materials and a simplification of building regulations. We have already dealt with land and finance in earlier paragraphs. But, even at the cost of repetition, it needs to be emphasised that these are the two most important essentials for changing the housing situation. Land prices have to be brought down from their present absurdly high scarcity values to prices close to actual production costs. Housing in itself has to be made affordable. In fact, this must be the essential purpose of injecting more finance into the housing sector. There is no point in making funds available for the purchase of

unaffordable homes. The beneficiaries then can only be the developers. Finance must therefore be linked to a supply of reasonably priced accommodation and must itself be affordable. This involves provision of housing finance at lower than commercial interest rates with 20 or 30 year repayment periods and progressively rising repayment instalments which keep pace with rising incomes and increasing ability to pay.

For a major housing development programme to succeed, it is essential that the supply of standard, orthodox, conventional building materials is reliable in terms of quantity and quality and that a spurt in demand does not lead to price rise. While some good work has been done in non-conventional building materials, there is no doubt in our minds that the vast majority of Indian homes will have to continue to rely on conventional materials. The concept of developing materials banks, therefore, acquires a new importance and new initiatives need to be taken to improve availability and quality and to bring down costs. In this connection, special attention should be given to mud, that timeless material which over the centuries has been the basic building block of most of India's villages, and which, with inexpensive additives easily available with today's technology, can be further strengthened and stabilised.

The regulatory provisions governing housing development also need to be substantially modified. Existing regulations are often of a nature which effectively preclude affordable housing and belong essentially to an era when there was less of a mismatch between incomes and construction costs. Housing for the urban poor and, in particular, sites and services schemes, cannot be created if the existing regulatory provisions are made obligatory.

In this context, it is necessary to look upon the sites and services programmes not as a way of helping the poor alone but as a way of increasing



the supply of serviced land to the entire cross-section of the society. The existing programmes need to be enlarged and their scope extended to cover employment generation, provision of home expansion loans, provision of off-site community infrastructure facilities, involvement of voluntary agencies, and encouraging sites and services types of development in the joint sector through various land assembly techniques.

*In situ* slum upgrading, including grant of secure land tenure, provision of basic environmental services, and granting home improvement loans, has generally been accepted in principle. But the scope of such programmes needs to be enlarged and the speed of implementation accelerated. This could be achieved by effective beneficiary participation through voluntary agencies.

The policy of granting land tenure to squatters does not however imply that grabbing open lands should be allowed to become an accepted way of securing access to land. Increasing supply of serviced land on an adequate scale has therefore to be an essential concomitant of the tenure policy.

Inner city neighbourhoods which are experiencing widespread obsolescence and dilapidation also require urgent action to arrest further degradation. This existing housing stock also needs rehabilitation and conservation. The newly created Housing Bank should make institutional finance available not only for new construction but also for repairs and rehabilitation of the existing stock.

There are always some households which are either not interested in owning a house or just cannot afford to own one. For such households rental housing is the only option. In 1981, 56.80 per cent of urban households were living in rented premises. The main factors, inhibiting investment in rental housing and in the maintenance of rental

stock are the various rent control laws. The Commission had made extensive recommendations concerning reforming rent laws in its Interim Report, which have been reiterated here.

The existing rent acts have had a most deleterious effect on the housing situation: poor maintenance and premature decline of housing stock due to unrealistically low rental incomes; the consequential insecurity of those who live in such dilapidated buildings; the decline in the quantity of housing constructed for rental whether by the state or by private individuals; the holding back from the rental market of unoccupied houses for fear of losing control; demands for up-front and illegal payments; and the stagnation of municipal revenues where these are linked to old rents.

In the case of commercial premises, as well as luxury apartments, it is clear that both landlord and tenant are often equally privileged. Therefore, bearing in mind the importance of protecting the economically weaker sections from the unleashing of market forces, the Commission has the following recommendations to make:

- a. All existing tenancies should continue to enjoy tenure protections but rents should be adjusted upward such that there is a 100 per cent neutralisation of increases in the consumer price index from 1974 onwards for non-residential premises; 50 per cent neutralisation up to, say, January 1, 1989, and 100 per cent thereafter for residential premises of 80 sq m and more; and 100 per cent neutralisation only after January 1, 1989, for residential premises under 80 sq m.
- b. In the case of premises rented after January 1, 1989, none of the provisions of the rent acts should apply, not even tenancy protection, for non-residential premises and residential premises of 80 sq m and more. However, in the case of residential premises below 80 sq m tenancy protection would be

available but rent should be linked to a 100 per cent neutralisation of the consumer price index.

- c. Litigation should be brought out of the purview of civil courts and instead placed within the jurisdiction of quasi-judicial tribunals which should adopt summary procedures, though the writ jurisdictions of the High Courts and the Supreme Court would continue.

## **WATER AND SANITATION**

Regardless of whether we are looking at the new growth centres of the future, the existing urban settlements which make a substantial contribution to national wealth, or the cities and towns which are stagnating, one common strain is the total inadequacy of water supply, drainage, sewerage and housing. Under Article 47 of the Constitution, it is the duty of the State to improve the standard of living of the people and, in particular, to improve public health standards. Water, sewerage and housing are three critical elements for life, without which there can be neither health nor comfort.

The Commission has noted with deep regret that these three most critical areas relating to urban development, have been given, respectively, 1 per cent, 1.36 per cent and 1.6 per cent of the outlay for the Seventh Five Year Plan. Taking the share of the central sector in all three activities combined, it comes to 0.25 per cent of the Plan, with no central assistance for urban water supply and sanitation. This means that even the meagre amount available under the Plan is largely notional because, without the spur of matching central contributions, the state governments treat the urban sector as one of low priority and do not adhere to the provisions made in the Plan. The Commission feels very strongly that, if a beginning is to be made in providing at least the basic services to all our urban settlements, the share of urban development, housing

and urban water supply and sanitation must go up to at least 8 per cent of the Plan, with half of this coming from the central government. Then and then alone will it be possible to extend at least some basic services to our towns and cities.

A major feature of our urban scene is the misery and serious health hazards caused by lack of water supply and sanitation. Almost all our urban centres, even those which at one time had reasonably adequate water supply, are now suffering from crippling shortages. It is a matter of national disgrace that, in 1988, there were prolonged periods when Hyderabad and Madras received piped water supply for only about 20 minutes a day-with many localities doing without water for days on end. Delhi, too, has had to face severe problems in the summer of 1988.

On the one hand, there is no long-term planning for urban water needs; on the other, there is a constant paucity of funds. The Ministry of Water Resources Development has gradually evolved basin development plans for our major rivers for the purpose of irrigation and hydro-power development, but urban water supply is looked upon as a totally residual item. It does not seem to be adequately realised that if water is an input into agriculture, it is equally an input into non-agricultural productive activity. It is erroneous to assume that water for urban use is less important than water for a field of sugarcane. Both are equally critical.

The Commission recommends that unified plans should be drawn up for all water resources and their utilisation, both for agriculture and for urban use. The allocation of water resources should be done in an integrated manner, which means that the funding of water development and utilisation schemes should treat all uses on an equal footing. The Seventh Plan allocates a total of Rs 16,97.9 crores for irrigation, command area development and flood control. The Commission feels that the allocation would have been much

more meaningful if it had taken into account the requirements of water for non-agricultural purposes also. It is hoped that the Eighth Plan will look at water resources and their use in totality, rather than for agriculture alone.

The Commission has looked into the ways in which our urban centres utilise their water. Various studies on the subject indicate that as much as one-third of the treated water is wasted because of leakages in the distribution system. Even before we think of augmenting water supply we should ensure that line losses are decreased substantially. If the major part of the water which is lost in transit in fact becomes available for distribution, many cities would have adequate water for at least the next decade. Investing in the repair of an existing system is obviously much less costly than augmenting the system through new works. If Vadodara, for example, instead of spending Rs 60 crores for additional water supply, were to invest Rs 2.5 crores on improving the system, the city could carry on till the end of the century with the present system. Studies should be undertaken immediately of the water supply system in urban centres throughout India and measures suggested to improve their efficiency. Money must be found on a high-priority basis for improving the existing systems. At the same time, the Commission also recommends that normative standards of supply should be reviewed and the new standards applied to different categories of towns and cities.

In the matter of water supply, the Commission also feels that various options should be looked at and that technical staff be reoriented to view water-supply schemes, not solely as piped water supplied through a mains system. There has to be acceptance of such alternatives as localised supply from underground and surface sources which serve only one or two localities, household-based supply from individually owned sources, or a combination of some or all of these. There is

nothing new about this idea because, even today, most newly developed colonies have their own water supply systems.

Regarding sewerage, since, in the foreseeable future, we are unlikely to achieve a level of water supply which would permit a universal water-borne system of sewerage, the Commission recommends that, where the water supply is inadequate, there should be no mains sewerage system, because it obviously will not work. Therefore, in planning waste disposal there should be a disaggregated approach analogous to that suggested for water supply. This does not mean that no mains sewerage project will be undertaken, but that there should be ready acceptance of alternative systems which may be cheaper and more appropriate to Indian conditions (where adequate water is often not available). If the systems are properly designed, it should be possible to generate by-products, including gas and manure, as well as treated water which could be used for irrigation and gardening.

It is estimated that, by the year 2001, the city of Delhi will generate approximately 4,100 million litres of sewage per day, out of a total water supply of approximately 5,100 million litres per day. The non-domestic requirement of water in Delhi is a quarter of the total water supply, which will be approximately 1,300 million litres a day by the year 2001. To the extent that sewage can be recycled, the need to impound, pump and treat raw water is reduced. If one-third of the sewage generated by Delhi is made available (after proper treatment) for industrial use, fire-fighting and garden purposes, Delhi would need, by 2001, about 4,000 million litres of treated water per day instead of 5,100 million litres.

The treatment of sewage, including up to the tertiary stage, would be very much cheaper than the impounding, transport and subsequent treatment of raw water for distribution. The Commission strongly recommends that, as a means of

reducing the water requirement of cities, every major centre which generates a substantial quantity of sewage should install adequate recycling facilities so that the treated effluent is utilised for non-domestic purposes. This should be a high-priority requirement and the Central Government should provide adequate assistance for this purpose. Plan priorities must be altered accordingly. Similarly, there should be both recycling of solid waste and its utilisation for manufacturing gas, etc. At present, most large cities dump solid waste as landfill, which only serves to spread insanitation.

## TRANSPORTATION

All our major cities are plagued with traffic congestion. The obvious factors responsible are the concentration of too many people and activities in too small a space, and the inefficient relationships of work-places and residences. In the past two decades, the situation has deteriorated significantly. The total number of trips per person per day, the average trip length and trip cost have all increased. In the absence of an integrated policy and coordinated approach, intracity transportation has grown in a haphazard manner, without any long-term perspective, causing congestion and severe crises in our cities.

An urban transportation system can be developed optimally only when transport and land-use planning are examined together. Transport is not a separate entity in itself, but is part of an intricate feed-back involving locational decisions in the city. Too often, traffic engineers are given a brief wherein the existing land-use patterns-and hence the desire lines across the city-are unquestionable 'givens'; then they are asked to postulate traffic 'solutions'. This then takes the form of exorbitantly expensive hardware (flyovers, freeways, underground railways, etc.), which we cannot afford to implement. In any case, the efficiency of such palliatives is short-lived, since ease of movement encourages

more journeys, thus clogging the traffic arteries once again. It must be realised that land-use and traffic are but two sides of a single complex. Far from taking existing desire lines as immutable 'givens', we should examine alternative patterns of land-use which would optimise our traffic systems by *altering these desire lines*. This is a crucial option not available to traffic planners in the West (where urban population have already stabilised-often in rather inefficient patterns), but is perfectly viable in Indian contexts, where urban centres double in size within two decades.

Another important change we need to bring about is in the present bias-especially evident among our urban elite-towards personalised transport. The same person who would happily wait for a bus in London would never be seen in a similar queue in Bombay or Delhi. There seems to be an extraordinary social/psychological barrier operating, inherited from the 'sahib' life-style (which, as discussed under Urban Form, also makes our power elite want to live in large anti-urban bungalows right in the heart of what are some of the most crowded cities in world). How do we break down this barrier, this taboo? As a first step, the Commission has recommended the introduction of mini-bus services, which can be signalled to a stop anywhere along the street (thus avoiding the trauma of standing in a queue!). The tariff could be about three times that of the regular bus service and about one-third that of a taxi ride. The advantages would be considerable: firstly, almost every passenger in the mini-bus would represent one less car on the road. Secondly, once the social/psychological barrier (really the class barrier) is broken, these decision-makers and their families would probably start using the regular bus services-which, given the nature of our society, would then improve by leaps and bounds.

Though public sector bus transport undertakings enjoy unlimited protection from Central and State Governments, their performance has been

far from satisfactory, with ever-mounting losses and low levels of performance. In order to ensure better service, it is essential to bring about a judicious balance between public and private sector operation. There are very strong economic and performance indicators in support of such a rationale for breaking the monopoly of the public sector. The privatisation of a selected number of routes should, therefore, be seriously considered. The modalities of operation should be based on performance criteria and productivity.

## ENERGY

The Commission is of the view that electricity-supply planning and pricing should be employed as important policy tools to promote the urbanisation patterns recommended in this Report. Electricity is the prime mover for industry and draws industries to locate in those areas where there is relatively continuous power supply. Delhi, for example, is attracting industry because of the more assured supply there as compared to the adjoining smaller towns.

Pricing can also be employed effectively to influence the pattern of urban growth. Presently, most electricity boards have tariff structures which are differentiated only by sector and not spatially. All industries in a state pay the same rate for electricity, irrespective of where they are located. Tariff differentials should be worked out such that there is a definite encouragement for industry to locate in preferred areas.

Another issue that needs to be considered is that of the role of the private sector in the generation of electricity. With increased urbanisation, the power requirements will no doubt grow substantially. It is unlikely that investments in electricity generation by the public sector alone will be sufficient to meet the increasing demand. The Commission, therefore, feels that, the private

sector should not be excluded from the area of power generation and distribution but should, in fact, be encouraged to enter it.

Transportation within and between urban settlements accounts for a major share of urban energy requirements. Various modes of transport have different characteristics in terms of energy consumption. Moreover, the spatial pattern of urban development and the mix of urban functions can strongly influence the number and length of passenger trips. In planning the structure of urban settlements, due regard should be paid to the amount and energy efficiency of transport required.

At present, urban development plans do not give adequate consideration to mass public transport. In preparing development and traffic plans, specific measures should be built in to facilitate the efficient operation of a public transport system. The plans should also provide for bicycle paths and pedestrian walks, in order to facilitate non-motorised movement.

We should also establish laws regulating energy use in buildings, defined in terms of energy per square metre of floor area. This will encourage innovation in design and construction in order to find economical and acceptable ways of meeting the required standard. Building regulations should take this factor into account.

The use of solar energy should be made compulsory in commercial buildings, particularly hotels, hospitals, restaurants, office canteens, etc., and encouraged in other types of built-form, including housing, where densities would need to be low enough to permit adequately sized solar energy collection. The use of bio-gas on a city scale should also be examined.

The Commission feels that energy planners have not fully appreciated the impact of urbanisation on the quantity and type of fuels that would

be demanded by households for cooking and heating. We need a perspective plan for household energy, keeping in view the urbanisation process spelt out in this Report. In particular, it is important to pay attention to firewood use in urban areas because;

- it is a major fuel used for basic needs by the poor,
- currently, about one third of the total fuel-wood is used in urban areas, and
- urban consumption of fuel-wood contributes to deforestation.

An analysis of data on expenditure shows that the urban poor spend a substantial share (12 to 16 per cent) of their income on purchasing fuels for meeting their cooking and heating needs. In contrast, the urban rich only spend 6 to 7 per cent of their incomes on household fuels. To make matters worse, the urban poor are forced to consume fuels which are high in cost, low in efficiency and, being smoky, cause health hazards. It is imperative that an integrated policy of energy prices and supplies, covering all fuels (including electricity) is evolved which would meet the twin objectives of equity and efficiency.

## CONSERVATION

India's architectural heritage is truly extraordinary. Our towns and cities, especially the historic quarters in the older urban centres, present a number of unique characteristics worthy of preserving. Apart from the most outstanding buildings, this must also cover the relationship between groups of buildings and the spaces around them, certain focal points or landmarks in the city-scape, and that part of the architectural fabric which expresses special vernacular styles.

For urban conservation is no longer confined to 'preserving' isolated buildings of outstanding architectural importance, but must involve a much broader approach, one which aims at identifying and retaining those parts of the built-environment whose character is vital to our

natural and real heritage. It, therefore, follows that any new development, or redevelopment, should be in sympathy with, and contribute to, the character of that area.

Recycling buildings for adaptive reuse opens up enormous possibilities (seen so far only on a small scale in the hotel sector and in some government-occupied buildings). Some of the country's most outstanding buildings in urban areas requiring special attention and care are under the direct control of a number of government agencies and the Commission has offered many suggestions on how this can be provided.

A package of incentives and fiscal reliefs to encourage better maintenance and upgradation of the usable housing stock on the one hand, and some legislative provisions to protect that part of the heritage which is deemed to be of lasting value on the other, will be needed for creating an awareness of economic and social benefits of the proposed conservation policy.

## RENEWING THE CITY

All matter, whether organic or inorganic, has a life cycle. Decay is built into the very process of creation. A city structure too has a similar dynamic. Where market forces operate, a decaying area falls in price and there is an incentive to buy over cheap properties. These are redeveloped and, being renewed, command a greater price. The city core thus passes through a cycle of high value with new developments, low value as passage of time causes decay, and then, once again high value through redevelopment.

In urban India, rent laws and industrial development policy inhibit the phasing out of uneconomic land-use its replacement by new development. Whether it be the old city in Delhi, the mill area of Parel in Bombay, or the Khatahs of Calcutta, all the older parts of our major cities have been allowed to degenerate into slums. Thus good available land gets locked into a use which neither yields revenue, nor supports gainful

employment. Furthermore, it is not available for housing or for any form of social infrastructure which benefits the community. Finally, the low values of these properties deny the city resources which would flow out of municipal taxes based on a realistic evaluation of rentals and property values. More than anything else, the stagnating cores of our large cities have contributed to the decline of what were once the thriving nerve centres of this nation.

The Commission is acutely aware of the fact that the major urban settlements need a great deal of support if they are to recover their health. The answer, however, does not lie in merely pumping in ad hoc funds from time to time. While it can be argued that Calcutta would have been a much worse city if support had not been extended, and that the services of Delhi work' have been even poorer if massive Plan aid had not been made available, this kind of 'help' has also resulted in these cities refusing to take a good, hard look at their own tax-base in order to raise resources internally.

In this connection, it is intriguing to note that the higher the real estate prices climb in our metropolises the more viable become the strategies for recycling urban land, (e.g., replacing underused and outmoded industry or port facilities either by housing or by new, state-of-the-art industry). Thus the distorted scarcity value of existing buildings in the city of Bombay could make viable the cost of a railway bridge to the mainland (through the levy of a betterment cess on building construction at the other end). In short, the worse conditions in our cities become, the more amenable they could be to solution; for the prices climb, the greater the incentive created by the difference between the scarcity value of that accommodation and its replacement cost in a new location. All our major cities abound in examples of industries seeking permission to remove their factories from the heart of the city to locations outside, with the land so released being used for alternative purposes within the general ambit of the master plan. The labour force

thus displaced would be taken care of by payment of compensation or absorption at the new location. Political interests have so far succeeded in stalling almost all such proposals. The release of land in the very heart of a metropolis (part of it for social purposes, part for giving profit to the landowner, and the rest for bringing in such compatible activities as would generate wealth) would have completely transformed overcrowded localities. And this could happen without any cost to the State. What the large cities need is not so much an infusion of funds as a clearing of the cobwebs of the mind so that the resources locked up within a city become available for constructive purposes. This Report has, therefore, recommended in detail the steps necessary to permit periodic recycling of land within a city so that there is a constant upgradation of both infrastructure and employment.

## URBAN LEGISLATION

The Commission feels that urban India is over-regulated, with laws and rules which inhibit enterprise rather than encourage it. Broadly speaking, these laws and rules could be categorised as laws relating to planning, those relating to land, those relating to municipal administration, and fiscal laws. The Commission's views on each of these are outlined below.

*Laws relating to planning:* The town planning acts and their offshoots are the basic laws which relate to planning. They tend to be largely negative in their approach. They state what cannot be done, they make rigid prescriptions about land-use and they hinder land development rather than facilitate it. The underlying assumption in the existing planning laws is that it is possible to put cities in a strait-jacket, regardless of the dynamic forces which might operate on them. Thus, the Delhi Development Act starts with the preamble that it is an Act to provide for the planned development of Delhi; the Madhya Pradesh Town & Country Planning Act refers to the planning and development of land, the execution of town planning schemes, and the-compulsory

acquisition of land. None of the acts speaks of the people who inhabit the cities. The Commission, therefore, feels that not only the approach to planning should be changed but even the laws should be altered in such a way that they generate collective and individual initiative in the process of city development.

*Laws relating to land:* State intervention in the urban land market is imperative for ensuring land for the urban poor. The Urban Land (Ceiling and Regulation) Act, 1976, has, however, failed to transfer vacant land to State ownership, in fact, has led to an increase in land prices. Because of the urgency of the situation, the Commission in its Interim Report had suggested amendments to the Act. On further consideration, the Commission feels that the Act be changed radically to encourage owners to develop the land for housing the lower and middle income groups, or pay a heavy tax for keeping the land vacant; they would be compelled to surrender it to the state if it is not developed within a five year period. Another alternative would be not to have a Ceiling Act at all, but to bring all underutilised land under a punitive tax. The proceeds of the tax in either case would be used to create a Shelter Fund for the poor.

The supply of serviced land can also be increased by promoting what is generally termed as land assembly. Here the basic principle is that the land values increase significantly when a proper layout is prepared and infrastructure developed. The increase in value is of such magnitude that even after allowing for land used for infrastructure and public purposes, the schemes offer an attractive rate of return to private land owners on the value of the undeveloped land. This can form the basis for joint participation of private land owners and public agencies in land development. The Town Planning Schemes implemented in Gujarat and Maharashtra, therefore, deserve replication in other states. In these schemes half the incremental value is to be recovered as betterment levy. Variations of similar approach where part of the land is retained by

the public agency for recovering the cost of infrastructure and/or providing sites to urban poor could also be attempted.

Several factors today prevent a city from developing along desirable lines. One is the plethora of laws, rules and regulations which restrict rather than encourage. Ahmedabad has few unauthorised colonies because the provisions relating to town planning schemes permit the owners of open land to get layouts approved, exchange land on an equitable basis where the planning norms so require, and develop housing layouts. Almost half the population of Delhi and Bombay live in unauthorised colonies because the system of planning militates against landowners developing their own lands and, therefore, when demand outstrips supply, people build unauthorisedly. Whether the restrictive laws relate to planning or whether they arise out of misplaced social legislation, the Commission recommends that they be done away with so that new lands come on the market at a rate commensurate with demand.

There are two other sets of laws relating to land which need drastic change. The first relates to urban land tenure. One reason why the land market is distorted in India is that urban tenancies are highly complicated, with the result that a mortgage market or a market for sale and purchase of land has not developed adequately. This leads to underinvoicing of land values, evasion of stamp duty and registration fees, and the use of unaccounted funds in the matter of land sale and purchase. The laws relating to tenure must also be simplified.

The second set of laws requiring revision relate to sub-division, diversion from agricultural use and the ceiling on holdings in urban areas. In the urban context, diversion of land to urban use and sub-division should form a part of planning laws and not of land revenue codes. If there is no planning objection to diversion of land, then it is the layout which should generally determine



sub-division. What should be done, however, is to tap the incremental value of diverted land so that money becomes available for development of the infrastructure. With regard to the ceiling on holdings, the law has yielded no results, both because it is defective and because there is no will to enforce it. Its purpose was to ensure that there is no cornering of land for the purpose of speculative profit and there is equity in land distribution. A secondary purpose was to make available land for city development, especially for social purposes. The Commission has recommended that the law should be so amended that the holding of vacant land or the retention of land under uneconomic use is so heavily taxed (to finance a shelter fund for the poor) that there is a strong incentive to develop land quickly.

*Laws relating to municipal administration:* Like town-planning laws, these also tend to be regulatory in their approach. The extent of unauthorised construction suggests that the laws have failed. The Commission feels that, regulation of activity in identified areas, specified uses or in the case of buildings which totally dominate, the rules relating to housing, should be made as liberal as possible. If the guidelines provide for a development envelope, the detailing within that envelope need not be of great concern to the local bodies. Instead, the laws should be amended in such a way that the discretionary powers of local bodies to raise resources, frame bye-laws and regulations, etc. are greatly enhanced and the interference of government reduced.

*Fiscal laws:* At present, fiscal laws are heavily weighted against city development. Tax rebates are offered for investment in industries in backward areas. Is a city which largely consists of slums, not backward? Should incentives not be offered for investing in housing in such a city? The Commission feels that the fiscal laws should be so amended that those businesses which contribute to city development, either through infrastructural development or by investment in

social housing, etc., get such tax incentives by way of encouragement. At the same time, the tax laws should discourage and penalise those who add to the city's burden. Provided the tax laws are properly devised and operated, they can bring about substantial and beneficial change in the structure of cities.

## AT THE CROSSROADS

The National Commission on Urbanisation is convinced that urbanisation provides alternatives to poverty and stagnation for the surplus rural population. Furthermore, it provides a market for agricultural produce and thus encourages higher production, provides services to the rural areas, helps in the creation of an adequate social infrastructure in the villages, and encourages the strengthening of the rural-urban continuum. Urbanisation, thus, is a positive input into rural development.

We are at a crossroads at which two distinct options are available. The first is a noninterventionist approach which would gradually see large urban centres grow to the point where growth itself begins to destroy. This is the road to disaster. The second option is that by appropriate interventions and basically sound spatial distribution, settlements are strengthened so that there is growth in equilibrium at various levels of settlements. The policies recommended in this Report could bring about, by the year 2001, a more balanced and productive system of urban centres across the nation. If, by that year, we bring down the net reproduction rate (NRR) to unity, the nightmarish horrors of the open-ended population growth we experience today would be gradually dissolving into a thing of the past.

The Commission unequivocally endorses the second option. It is well within our power to bring about the emergence over the next two decades of a strong, prosperous, and efficient urban India.

**Classification of Cities and Towns Adopted by the  
National Commission on Urbanisation**

Class of Cities	Range of Population
C 1 :	1 Lakh to 5 Lakh
C 2 :	5 Lakh to 10 Lakh
C 3 :	10 Lakh to 20 Lakh
C 4 :	20 Lakh to 50 Lakh
C 5 :	50 Lakh to 100 Lakh
C 6 :	100 Lakh & above
Towns	
T 1 :	20,000 to 50,000
T 2 :	50,000 to 100,000

**Census Classification of Cities and Towns**

Class of Cities/ Towns	Range of Population
Class I	100,000 and above
Class II	50,000 to 99,999
Class III	20,000 to 49,999
Class IV	10,000 to 19,999
Class V	5,000 to 9,999
Class VI	Below 5,000

According to Census practice, Class I cities denote towns with population of 1 lakh & above.

## 2. Recommendations

The Commission, having looked into various facets of urbanisation, has made detailed recommendations, listed at the end of each chapter in Volume II of this Report. Our principal recommendations are summarised below.

### Dimensions of Urbanisation

1. The urban centres which can generate economic momentum and require priority in development have been identified. They include National Priority Cities (NPCs), State Priority Cities (SPCs), Spatial Priority Urbanisation Regions (SPURs) and the small towns which serve the rural hinterland. From the 8th Plan onwards the fullest support must be given to the development of the identified growth centres.

2. The process of urbanisation can and must be used to improve agricultural performance and create localised employment opportunities.

3. Population control measures must be made really effective in both urban and rural areas in order to stabilise the urban situation.

### Land

4. Since the most disastrous feature of Indian urbanisation has been the failure to anticipate the rising demand for urbanised land, a key resource of urban planning, the supply of such land should be given the topmost priority.

5. A Settlement Survey of India should be established at national level and a Directorate of Urban Land in each state. At the city level there should be an Urban Land Manager under the control of the District Collector.

6. The urban land tenure system must be changed to ensure security of tenure.

7. Future land requirements, especially for housing the poor, should be anticipated and provided for.

8. Squatting on public land may be regularised where possible, but land required for public and social purposes must be protected and selective re-location of squatters from ecologically sensitive land must be undertaken.

9. The State must intervene to provide equitable access to land.

10. To bring increasing quantities of land to the market the Urban Land (Ceiling & Regulation) Act, 1976, should be drastically amended, and supplemented by taxation measures that would discourage landowners from keeping their land vacant and encourage proper utilisation.

11. Various forms of land assembly, through land exchange scheme, layout approval and other similar measures should be encouraged.

12. The Land Acquisition Act should be amended to eliminate delay and ensure timely payment to the affected citizens.

13. All laws which inhibit or restrict the recycling of land should be suitably modified.

### **Water and Sanitation**

14. A holistic rather than a compartmentalised view of water resource management should be taken.

15. Water, being an absolutely critical input for human survival, must be treated as such and accorded suitably high priority in the planning process.

16. The immediate objective should be the provision, on an equitable basis, of at least 70 litres of water per capita per day in urban areas for domestic requirements.

17. To ensure better maintenance of existing water systems, an additionality of Rs. 1000 crores per annum must be provided to local bodies. Waste water recycling and its use for non- domestic purposes should be encouraged.

18. To ensure water conservation, a differential tariff on water use should be applied, with a sharp increase in the rate charged for consumption in excess of 100 litres per capita per day.

19. Legislation should be introduced to control water drawal even from private sources in order to maintain the water table. This may include nationalisation of all water sources.

20. The collection of solid waste and its use in composting and as an energy source should be made more efficient. Where possible the service should be transferred to private hands.

21. Laws relating to control of pollution must be strictly enforced.

### **Energy**

22. Energy demands of urban areas must be anticipated and advance action taken to meet them and optimise energy use.

23. Energy supply planning and pricing should be used to influence activity location.

24. Land-use planning should be used as a means of reducing the energy need of the transport sector.

25. Development control rules and building bye-laws should be modified to ensure the construction of energy-efficient buildings.

26. An integrated pricing and supply policy, covering all fuels, should be evolved to achieve equity and efficiency.

27. A data base on energy use in urban areas should be built.

### **Transport**

28. To ensure increase in city efficiency, land-use and transportation planning should be integrated.

29. The bias towards personalised forms of transport must be corrected and mass transportation encouraged. By allowing a wide variety of multi-purpose vehicles to operate, including luxury buses, the use of road space by private cars must be reduced.

30. Short-term, affordable solutions rather than capital-intensive, long-term plans should be resorted to. This implies optimising the use of currently available transportation modes.

31. Cycling and pedestrian facilities should be improved.

32. Management of transportation at city level should be unified under a single authority.

### **Urban Poverty**

33. The amelioration of urban poverty should be accorded the same priority as that given to rural poverty.

34. Four lakh urban youth should be selected from poor households every year and trained in skills for which there is a demand.

35. Self employment of the urban poor must be encouraged by an appropriate credit-support programme.

36. Production and market support should be given to the self-employed urban poor.

37. City planning should be geared to providing shelter and sites for employment generation programmes.

Local bodies should be supported in their efforts to create special employment facilities, including workshops for tiny manufacturers.

38. The shelter programme should be used to provide employment to the urban poor.

39. Wage employment for the urban poor should be provided through a programme for creation of such urban assets as water supply, drainage systems, land development, etc.

40. The public distribution system should be strengthened to meet the consumption requirements etc.

41. Community development should be the strategy for the improvement of the living conditions of the poor and an Urban Community Agency should be set up at national level.

### **Housing**

42. Housing policy must aim at increasing the supply of serviced land and low-cost shelter, improving and upgrading slums and conserving the existing housing stock.

43. The State must facilitate housing and ensure access to basic inputs. It should not become a real-estate developer.

44. The sites and services programme should be extended to cover the entire cross-section of society. Besides providing housing, the programme should be used to generate employment.

45. Apart from providing access to land, the housing programme must also provide for finance, infrastructure development, and community facilities.

46. Inner city upgradation and housing repair must be encouraged.

47. Public agencies in the housing sector should be restructured for fulfilment of their new role as facilitators rather than providers of housing.

48. Rent acts should be modified to limit tenancy protection to the poor and to the existing tenancies and to provide for annual revision of rents to reflect

increases in the cost of living, the increases varying between residential and nonresidential premises and houses above and below 80 square metres.

### **Urban Form**

49. Low-rise, high-density development should be the predominant built-form in urban India.

50. Municipal regulations regarding minimum plot sizes, buildable plot area, etc., should be amended, building envelopes designed and building codes modified so that the desired built-form is achieved.

51. Controlled streetscapes should be achieved through mandatory building lines and developing appropriate building envelopes.

52. Public squares, parks, promenades and other nodal points of urban centres should be rehabilitated by restricting vehicle entry and ensuring controlled development. Civic landmarks should be treated as urban events which lend identity to a city neighbourhood and enhance civic pride.

53. Land allocation must be consistently monitored and readjusted to ensure equitable city growth.

### **Conservation**

54. Conservation should go beyond preservation of monuments and encompass the whole built heritage.

55. Rules and regulations should be amended to encourage conservation of the living environment.

56. City planning must encourage conservation of old city areas and not just development of new areas.

57. Direct fiscal and other incentives should be offered as an encouragement to individuals to conserve places and sites.

### **Spatial Planning**

58. There is a need to supplement economic development planning by inter-sectoral coordination through the spatial planning process. Spatial planning at state and district level should concentrate on National Priority Cities, State Priority Cities and spatial Priority Urbanisation Regions with a view to bringing about

integrated development. Therefore, multi-level spatial planning at the national, state and district level is recommended.

59. At the city level, to make planning more comprehensive, the local Government should adopt the three-fold development planning process, viz. Master Directive Plan for the entire city, and Execution Plan and Action Area Plans as programmes, taking into consideration major sectors of development such as employment, housing, transport, and the essential urban infrastructure. The execution plan should replace the present zonal development plan and should correspond in preordination to national and state Five Year Plans, thus forming a capital investment plan as a budgetary tool and also as an instrument of coordination and implementation of public and private sector projects. The action area plans should be used as a means of detailed planning.

### **Finance**

60. The priority accorded to urbanisation in the Five Year Plan should be raised from the current share of about 4 per cent of the total to at least 8 per cent. Half of this should be from the central sector.

61. To ensure devolution of funds from the state governments to local bodies, there should be a constitutional provision for setting up quinquennial State Finance Commissions.

62. The tax base of local bodies must be strengthened.

63. Four major banking institutions—a Metropolitan Cities Development Bank, National Housing Bank, an Urban Infrastructure Development Bank and an Urban Small Business Development Bank should be set up.

### **Management**

64. The Planning Commission should have a full-time member incharge of urbanisation.

65. The Urban Development Ministry should be nodal and should have division dealing with urbanisation and urban poverty alleviation.

66. At the national level, there should be a National Urbanisation Council, with a counterpart State Urbanisation Council in each state. The councils will formulate urbanisation policies.

67. To encourage citizens participation there should be an Indian Council for Citizens' Action, with counterparts at state and city level.

68. The municipal administration should be restructured so that cities with a population of more than 5 lakhs have a two-tier administration consisting of the city corporation and local councils.

69. The division of functions between the elected, deliberative wing and the executive wing of local bodies should be codified. The responsibility and accountability of each functionary must be made specific and the management of city services professionalised.

70. The supersession of local bodies should be the exception rather than the rule, and the holding of elections for reconstituting a superseded local body within the specified period should be made mandatory and the municipal electoral process brought under the umbrella of the State Chief Electoral Officer.

### **Information System**

71. Various data sources at national level should be modified to provide spatially disaggregated data.

72. Access to data at source should be made easier.

73. Two new data systems pertaining to land and the environment should be organised.

74. The information system should be designed to facilitate decision making.

75. The information system at local level should use data generated through the normal administrative processes.

76. To facilitate urban planning locationspecific information systems should be devised.

77. Remote sensing should be used to monitor changes in regional land-use and expansion of urban areas.

78. Pilot projects for developing integrated urban information systems should be launched in selected major cities.

# REPORT OF THE NATIONAL COMMISSION ON URBANISATION

August 1988 Volume II

## Part I

### 1. DIMENSIONS OF URBANISATION

In this chapter we outline the urban demographic scene in India on the basis of 1981 census data and consider the scenario for the future as revealed by projections of urban population. The salient features of the urbanisation process are also described to provide an overview of the demographic context in which any strategy of urbanisation will have to operate.

#### 1.1 The Urban Demographic Scene

**1.1.1** The total urban population of India in 1981 (including the projected urban population of Assam where the census enumeration did not take place) was 15.97 crores or roughly 16 crores. This accounted for 23.3 per cent of the total population of India (it is 23.7 per cent excluding Assam). This aggregate figure can be misleading unless one does not bear in mind the distribution of this urban population among the different states and union territories. At one end of the spectrum, we have Arunachal Pradesh and Himachal Pradesh with 6.6 per cent and 7.6 per cent urban population respectively; at the other are Maharashtra and Tamil Nadu with 35 per cent and 33 per cent urban population respectively. In between, we have states with proportions of urban population ranging from 11 to 32 per cent. The Union Territory of Chandigarh is 93.6 per cent urban, while Dadra and Nagar Haveli Union Territory is only 6.7 per cent urban.

**1.1.2** In terms of the absolute number of people living in urban areas, the leading states are: Maharashtra (2.2 crores), Uttar Pradesh (2 crores), Tamil Nadu (1.6 crore), West Bengal (1.5 crore), and Andhra Pradesh (1.3 crore), followed by Karnataka (1.7 crore), Gujarat (1.6 crore), and Madhya Pradesh (1.6 crore). Interestingly enough, of these eight states with large urban population, the proportion of urban population in Uttar Pradesh (18.0 per cent), Madhya Pradesh (20.3 per cent) and Andhra Pradesh (23.3 per cent) is below the national average of 23.7 per

cent. Thus urban India is a mixed bag: we have 'high urban' (in the Indian context) states like Maharashtra, Tamil Nadu and West Bengal, dominated by cities like Bombay, Madras, and Calcutta, and 'low urban' states like Uttar Pradesh, Madhya Pradesh and Andhra Pradesh, with a large agricultural sector but nevertheless having a large urban population by virtue of their large total population. Urbanisation thus is both a function of expanding non-agricultural economic activity (reflecting economic growth momentum) and also an expanding population base (reflecting population growth momentum). It follows, therefore, that any (strategy to contain migration to big cities by itself will not succeed unless it is a part of a wider strategy of containing the natural increase in population (births minus deaths). This highlights the need for making a success of our family planning programme in the country as a whole.

**1.1.3** In the context of urban planning, absolute numbers have to be considered. On statistical grounds we may first consider states which claim more than 5 per cent of the total urban population of India. These are: Maharashtra (13.8 per cent), Uttar Pradesh (12.5 per cent), Tamil Nadu (10.0 per cent), West Bengal (9.0 per cent), Andhra Pradesh (7.8 per cent), Karnataka (6.7 per cent), Gujarat (6.6 per cent), Madhya Pradesh (6.6 per cent) and Bihar (5.5 per cent). These nine states account for 78.5 per cent of the urban population of India. It may be noted that the overall rate of population growth in Uttar Pradesh, Bihar, Madhya Pradesh and Andhra Pradesh is high and the sheer increase in the number of people in these states itself generates urbanisation. In other words, we have to reckon with two types of urbanisation: (1) economic urbanisation in response to economic growth momentum, and (2) demographic urbanisation in response to population growth momentum.

**1.1.4** According to the 1981 census, there were 3301 cities and towns in India (excluding Assam). Class I towns with a population of 100,000 and over are designated cities in the Indian Census. The states which claimed more than 5 per cent of the total number of towns in India are as follows: Uttar Pradesh (20 per cent), Maharashtra (8.4 per cent), Tamil Nadu (7.4, per cent), Andhra Pradesh (7.1 per cent), Gujarat (6.7 per cent), Karnataka (6.6 per cent), Rajasthan (5.9 per cent) and Bihar (5.4 per cent). The five large states with high urban growth rates during 1971-81, namely, Uttar Pradesh (60.6 per cent), Rajasthan (58.7 per cent), Madhya Pradesh (56.0 per cent), Bihar (54.8 per cent) and Andhra Pradesh (48.6 per cent) have a sizeable number of urban settlements even though they have large rural populations and a large number of villages. It would be a mistake, therefore, to relegate these states to the background' in the context of urbanisation on the ground that they have a predominantly large rural sector. Any meaningful urbanisation policy designed to modify and regulate the present pattern of rural urban migration must focus attention in a big way on these large rural states. It may seem paradoxical, but it is nonetheless the essence of the current demographic scenario, that a large rural population and a large number of urban settlements coexist. For example, in 1981, Uttar Pradesh was only 18 per cent urban but had as many as 659 urban settlements.

**1.1.5** According to the 1981 census, in India as a whole (excluding Assam), the decadal (1971-81) urban growth rate was 46.2 per cent. The range of variation among the states is indeed striking. In the smaller states, the urban growth rates were: Mizoram (222 per cent), Manipur (165 per cent), Sikkim (160 per cent), Arunachal Pradesh (140 per cent) and Nagaland (134 per cent). These figures, apart from reflecting the statistical phenomenon of a small urban base inflating the growth rates, do indicate considerable migration (both internal and across the international borders, including illegal migration) to these states.

As already observed, among the larger states, the urban growth rates were high in Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan and Andhra Pradesh. These figures clearly bring out the impact of demographic urbanisation in the large rural states. In the 'traditional' urban states, the picture is very mixed: in Maharashtra, the urban growth rate was 40 per cent, in West Bengal, 31.7 per cent and in Tamil Nadu, only 28 per cent. If we compare the urban growth rates for the two decades, 1961-71 and 1971-81, we get an interesting pattern. In Maharashtra, the urban growth rate was 40.8 per cent during 1961-71 and 40 per cent during 1971-81; in West Bengal, the growth rates were 28.4 per cent and 31.7 per cent, respectively; while in Tamil Nadu the urban growth rate declined from 38.6 per cent to 28.0 per cent. In short, among the 'traditional' urban states, the urban growth rate is stagnating. This is a reflection of the saturation point reached by Bombay, Calcutta and Madras. In the rural states of Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan and Andhra Pradesh, there has been an acceleration of the urban growth rates as will be revealed by the figures in Table 1.

**Table 1. Decadal Urban Growth Rate (Per Cent)**

State	1961-71	1971-81
Uttar Pradesh	30.7	60.6
Rajasthan	38.5	58.7
Madhya Pradesh	46.6	56.0
Bihar	44.0	54.8
Andhra Pradesh	33.9	48.6

**1.1.6** It might be mentioned in passing that states like Uttar Pradesh adopted a liberal policy of classifying erstwhile rural settlements as towns, while states like Tamil Nadu made almost no additions to the list of towns during 1971-81. Urban growth rates of other states have also been affected for the same reason. In India as a whole, in the 1981 census list of towns, as many as 881 new towns were added to the 1971 list (largely as a result of reclassification of villages and urban settlements). Of these, Uttar Pradesh alone added

379, Madhya Pradesh 75, Rajasthan 44, Bihar 30 and Andhra Pradesh 29. In the high urban category states, Maharashtra added 31, West Bengal 19 and Tamil Nadu 18. There are obvious pitfalls in comparing urban growth rates in different states of India.

**1.1.7** While explaining urban growth, one must consider at least three components, namely, natural increase in population in urban areas, net migration to urban areas, and the impact of reclassification. According to estimates made by the National Institute of Urban Affairs (NIUA) in their report on STATE OF INDIA'S URBANISATION (1988), during the 1971-81 decade, natural increase accounted for a little over 41 per cent of the total urban growth, migration for a little over 40 per cent, and reclassification for about 19 per cent. The state wise picture reveals that, in Maharashtra, migration accounted for 49 per cent, in West Bengal 40 per cent and in Tamil Nadu 32 per cent. In the states of Andhra Pradesh, Rajasthan, Madhya Pradesh, Bihar and Uttar Pradesh, the figures were: 51 per cent, 41 per cent, 39 per cent, 38 per cent and 22 per cent respectively. Karnataka recorded the highest figure for migration: 55 per cent, while in Orissa the figure was 45 per cent. Natural increase accounted for 60 per cent of urban growth, in Tamil Nadu, 46 per cent in Maharashtra and 44 per cent in West Bengal, which suggests that, in the case of the more urbanised states, it would be wrong to assume that it is migration that is sustaining urbanisation: the share of natural increase is substantial.

**1.1.8** This highlights the need for providing employment opportunities to the urban labour force: urban dwellers obviously cannot migrate to the villages. This explains the (rowing trend of migration from small towns to big cities. Regardless of our efforts to slow down rural to urban migration, we must have bold programmes to absorb the increase in the urban labour force itself. Efforts must also be made to slow down the

increasing trend of migration from small and medium towns to the big cities, resulting in a virtual breakdown of the infrastructure of big cities (in the small towns there is hardly any infrastructure).

**1.1.9** Finally, we have a look at the impact of reclassification. Interestingly enough, in Kerala, 82 per cent of the urban growth was due to reclassification while in Tamil Nadu hardly 8 per cent was attributable to this factor.

**1.1.10** An important phenomenon, which deserves detailed study is the impact of agricultural prosperity on urbanisation. In Punjab, the urban growth rate increased from 25.3 per cent during 1961-71 to 44.5 per cent during 1971-81, while in Haryana the comparable figures were 35.6 per cent and 59.5 per cent. Thus we have a somewhat paradoxical situation: both in large rural states, characterised by extreme rural poverty, as well as in small rural states with considerable agricultural prosperity, the urban growth rates are high. The first phenomenon can be termed rural-poverty-induced urbanisation, the second, rural-prosperity-induced urbanisation. Urbanisation strategies must deal with both these situations.

**1.1.11** In terms of annual growth rates of the urban population during the 1971-81 decade, we have a whole gamut ranging from 2.5 per cent in Tamil Nadu to 5.4 per cent in Orissa (barring the smaller states). Likewise, the annual growth rate of the rural population ranged from 1.2 per cent in Tamil Nadu to 2.5 per cent in Rajasthan. To what extent the overall low growth rate of population in Tamil Nadu has helped in slowing down the tempo of rural to urban migration and thus contributed to the low rate of urban growth needs detailed investigation. Kerala also has an overall low growth rate of population but the urban growth rate is fairly high. It is natural that the states where the overall population problem is most acute, namely, Uttar Pradesh, Rajasthan, Bihar, Madhya



Pradesh and Andhra Pradesh, have the highest rate of urban growth, namely, 4.9 per cent, 4.7 per cent, 4.6 per cent, 4.6 per cent and 4.0 per cent respectively. These five states account for over 47 per cent of the total population of India. This gives an idea of the relevance of demographic urbanisation.

**1.1.12** According to the 1981 census estimates, there were 3 crore 40 lakh migrants in urban areas with duration of residence of 10 years or less in the place of migration. Of these, 1 crore 70 lakhs were rural-urban migrants and a little over 1 crore 30 lakhs urban-urban migrants (the residual number were unclassified). As shown in Table 2, in the high urban states, the urban-urban migrants far exceeded the rural-urban migrants. In contrast, in the low urban states, rural-urban migrants far exceeded urban-urban migrants. In the third group of states, urban-urban migration had by 1981 caught up with and exceeded rural-urban migration.

**1.1.13** Table 2 highlights the important role of urban to urban migration in the process of urbanisation. There is no doubt that, by virtue of the higher levels of education and skill even in small urban areas compared to rural areas; the potential migrant from the small town to the big cities has an edge over his counterpart from the rural areas in finding employment in the city, except when the demand is for unskilled labour or labour of a specialised type like construction labour. This has obvious policy implications. It is not enough to develop rural areas in our endeavour to discourage migration to the big cities. The need for development of the small towns is no less urgent if this migration is to be contained. If the district headquarters of predominantly rural districts (say, with rural population of 90 per cent and over at the district level) and those of urban districts (say, with urban population of 30 per cent and over) are developed in a big way, not only will the rural hinterland be opened up and the small

urban centres get a boost but there will be a spread effect which might slow down migration to the big cities.

**Table 2. Migration Streams, 1971-81**

States	Rural-urban migrants (in thousands)	Urban-urban migrants (in thousands)
Maharashtra	145	313
Tamil Nadu	148	271
West Bengal	71	217
Uttar Pradesh	1,170	688
Bihar	464	217
Rajasthan	240	184
Karnataka	199	232
Gujarat	152	162
Andhra Pradesh	172	184
Madhya Pradesh	162	179

Note: Only migrants with duration of residence below 10 years are considered here.

**1.1.14** While interpreting the figures of growth, rates of cities, utmost care should be taken to consider the extension of city boundaries and its impact on the growth rate. For example, in Ondal Urban Agglomeration in West Bengal which recorded a growth rate of 236 per cent during 1971-81, the area increased from 10 sq km in 1971 to 72 sq km in 1981. In Bangalore, during 1971-81, the area increased from 177 sq km to 366 sq km, in Faridabad from 26 sq km to 178 sq km, in Bhopal from 71 sq km to 285 sq km, in Indore from 59 sq km to 114 sq km and so on. The area figures are not generally considered while giving urban growth rates. This often leads to misleading conclusions.

**1.1.15** The 1981 census presents urban growth rates by the six fold classification. It reveals that, in 1981, Class I cities accounted for 60.5 per cent of the urban population; Class II, 11.5 per cent; and Class III, 14.3 per cent, i.e., Classes I to III accounted for 86.3 per cent of the total urban population. Urban areas with 'population below 20,000 accounted for the remaining 13.7 per cent. It may also be noted that, in 1971, Class I cities had accounted for 55.8 per cent of the urban population compared to 60.5 per cent in 1981. We

have not considered the growth rates of the six urban classes because, in our analysis, we have examined the growth rate of every single town and city before arriving at our conclusions. The class wise growth rates are therefore redundant for our purpose.

**1.1.16** Of the 218 Class I cities in India (excluding Assam), there were 12 with a population of one million (ten lakhs) and more, 30 with a population in the range of 500,000 to 999,999, 41 in the range of 250,000 to 499,999, and 135 in the range of 100,000 to 249,999.

**1.1.17** Finally, a word about the primate cities. According to the 1981 census, Gangtok accounted for 72 per cent of the urban population of Sikkim. The comparable figure for some other primate cities are as follows: Calcutta (West Bengal): 64 per cent, Shillong (Meghalaya): 72 per cent, Aizawl (Mizoram): 61 per cent, Agartala (Tripura): 69 per cent, Srinagar (Jammu & Kashmir): 48 per cent and Imphal (Manipur): 42 per cent. In contrast, the biggest city in Uttar Pradesh, Kanpur, accounted for only 8 per cent of the urban population of the state. Some other comparable figures are: Indore (Madhya Pradesh) 8 per cent, Patna (Bihar) 11 per cent, Jaipur (Rajasthan) 15 per cent. It may be noted that Greater Bombay accounted for 37 per cent of Maharashtra's urban population while the comparable figure for Madras (Tamil Nadu) was 27 per cent. It will be evident that barring the capitals of small states and that of West Bengal, there are no primate cities in India. Calcutta is the only primate city in a regional context: it has a dominating role in eastern and north-eastern India (including Uttar Pradesh, Bihar, Orissa, Assam and the northeastern states). In this sense, it is a national city. Bombay and the Madras have a semblance of the characteristics of regional primate cities and can also claim the title of national cities. Delhi being the capital is obviously a national city.

**1.1.18** The Indian census customarily classifies urban areas into six population size groups as follows: I. 100,000 and over, II. 50,000 to 99,999, III. 20,000 to 49,999, IV. 10,000 to 19,999, V. 5,000 to 9,999, and VI below 5,000. -This classification, introduced over hundred years ago, is now obsolete. Keeping in view the expanding urban base and the rate of urban growth, one must consider population size groups of larger dimensions. There is not much point in considering towns with population below 20,000 as urban except in special cases like new factory towns, hill towns etc. Similarly, the customary classification of towns with population of over 100,000 as cities needs revision. In our report we have used the term city to denote all urban areas. We have excluded urban areas with population below 20,000 unless these happen to be capitals of states or union territories or are located in remote mountainous areas.

## 1.2 Urban Projections

**1.2.1** The Commission has examined various projections of urban population, including the projections made by the Expert Committee appointed by the Registrar General. The Office of the Registrar General made a series of projections based on different methods. The Commission has also examined projections of the total population of India, based on various methods. In the Commission's view, it seems likely that the urban population of India in 2001 will be in the range of 34 to 35 crores, though the Expert Committee projected an urban population of 32.6 crores in 2001. It does seem likely that the total population of India in 2001 will exceed 100-crores and the urban proportion will be roughly 35 per cent of the total. These calculations will have to be revised in the light of the 1991 census. Our urbanisation strategy must therefore visualise a population of 35 crores in urban India in 2001.

**1.2.2** In the discussion which follows, the estimates of the Registrar General's Expert Committee will be used. In 2001, in terms of the absolute number of people in urban areas, the leading states will be Uttar Pradesh (5.3 crores), Maharashtra (3.8 crores), Madhya Pradesh (2.5 crores), Tamil Nadu (2.4 crores) Andhra Pradesh (2.4 crores), West Bengal (2.4 crores), Karnataka (2.2 crores), and Bihar (2.1 crores). In terms of the proportion of urban population in 2001, there will be at least 11 states with more than 30 per cent urban population as - follows: Maharashtra (44.1), Karnataka (42.3), Punjab (40.5), Tamil Nadu (38.7), Gujarat (38.3), Haryana (37.4), Andhra Pradesh (32.9), Madhya Pradesh (32.7), Uttar Pradesh (32.1), Rajasthan (31.7) and West Bengal (31.6).

**1.2.3** What should worry the planners, however, is the enormity of the rural population base and the potential for rural-urban migration. In 2001, in India as a whole, the estimated rural population will be 66 crores. Rural Uttar Pradesh alone will have a population of over 11.2 crores, rural Bihar 8.5 crores, rural Madhya Pradesh 5.1 crores, rural Andhra Pradesh 4.9 crores, and rural Maharashtra 4.9 crores.

**1.2.4** In the last five years of this century, 1996-2001, the annual exponential growth rate in urban India as a whole is expected to be of the order of 3.4 per cent and for rural India 0.7 per cent. It is noteworthy that in the economically backward states, the urban growth rates are estimated to be as follows: Uttar Pradesh (5.1), Orissa (4.7), Rajasthan (4.4), Bihar (4.4), Madhya Pradesh (3.9), Andhra Pradesh (2.9). Their rural growth rates will be as follows: Uttar Pradesh (0.5), Orissa (0.4), Rajasthan (1.1), Bihar (1.4), Madhya Pradesh (0.2) and Andhra Pradesh (0.5). In contrast, the urban growth rates in the high urban states are expected to be as follows: Karnataka (3.3), Maharashtra (2.6), West Bengal (2.3), Gujarat (2.3) and Tamil Nadu (1.8). Their

rural growth rates will be as follows: West Bengal (0.8), Maharashtra (0.6), Tamil Nadu (0.6), Gujarat (0.6) and Karnataka (-0.2). As will be seen, in Karnataka the rural population is expected to go down in absolute terms. The same is true of Punjab (rural growth rate: -0.3) and Haryana (-0.4). The urban growth rates of Punjab and Haryana are 3.2 and 4.3 respectively. Thus we have a variety of demographic situations which indicates that there can be no worthwhile urbanisation strategy of a blanket nature; a number of strategies is called for in the light of the sharply differing demography situations in the country.

**1.2.5** In 1981, there were 12 million-plus (ten lakh-plus) cities in India. Having examined a number of projections done for these cities (including projections made by the United Nations), the Commission is of the view that there will be around 40 such cities in India in 2001.

**1.2.6** In matters concerning urbanisation, one must necessarily take a long-term view and consider at least the next three decades. The projections made by the Expert Committee of the Registrar General limit their projections to the year 2001. The United Nations has, however, made projections till 2025. According to the latest projections, India's urban population is expected to be 33 crores in 2000, 45.4 crores in 2010, 59.1 crores in 2020 and 65.8 crores in 2025. It may be noted that, according to the UN projections (medium variant), the total population of India in 2025 is expected to be 122.9 crores. Population projections are not predictions but estimates based on several assumptions and are therefore in the realm of statistical speculation. Without being obsessed with I numbers, all one can say is that, as things are, the demographic scene in India is far from encouraging. Population control programmes must succeed; otherwise even the best of urbanisation strategies will fail.

Classification of Cities and Towns adopted by the National Commission on Urbanisation		Census Classification of Cities and Towns	
Class	Range of Population	Class	Range of Population
Cities		Cities	
C1 :	1 Lakh to 5 Lakh	Class I	100,000 and above
C2 :	5 Lakh to 10 Lakh	Class II	50,000 to 99,999
C3 :	10 Lakh to 20 Lakh	Class III	20,000 to 49,999
C4 :	20 Lakh to 50 Lakh	Class IV	10,000 to 19,999
C5 :	50 Lakh to 100 Lakh	Class V	5,000 to 9,999
C6 :	100 Lakh & above	Class VI	Below 5,000
Towns		According to Census practice, Class I cities denote towns with population of 1 lakh & above.	
T1 :	20,000 to 50,000		
T2 :	50,000 to 100,000		

### STATISTICAL APPENDIX

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**Table A.1. India: Size of Urban Population by States and Union Territories, 1961-81**

India/State/ Union Territory	Urban Population		
	1961	1971	1981
(1)	(2)	(3)	(4)
INDIA	78,936,603	109,113,977	159,727,357*
States			
Andhra Pradesh	6,274,508	8,402,527	12,487,576
Arunachal Pradesh	0	17,288	41,428
Assam	781,288	1,289,222	2,047,186**
Bihar	3,913,920	5,633,966	8,718,990
Goa	87,329	203,243	322,785
Gujarat	5,316,624	7,496,500	10,601,653
Haryana	1,307,680	1,772,959	2,827,387
Himachal Pradesh	178,275	241,890	325,971
Jammu & Kashmir	593,315	858,221	1,260,403
Karnataka	5,266,493	7,122,093	10,729,606
Kerala	2,554,141	3,466,449	4,771,275
Madhya Pradesh	4,627,234	6,784,767	10,586,459
Maharashtra	11,162,561	15,711,211	21,993,594
Manipur	67,717	141,492	375,460
Meghalaya	117,483	147,170	241,333
Mizoram	14,257	37,759	121,814
Nagaland	19,157	51,394	120,234
Orissa	1,109,650	1,845,395	3,110,287
Punjab	2,567,306	3,216,179	4,647,757
Rajasthan	3,281,478	4,543,761	7,210,508
Sikkim	6,848	19,668	51,084
Tamil Nadu	8,990,528	12,464,834	15,951,875
Tripura	102,997	162,360	225,568
Uttar Pradesh	9,479,895	12,388,596	19,899,115
West Bengal	8,540,842	10,967,033	14,446,721
Union Territories			
Andaman & Nicobar islands	14,075	26,218	49,634
Chandigarh	99,262	232,940	422,841
Dadra & Nagar Haveli	0	0	6,914
Daman & Diu	13,335	23,531	29,023
Delhi	2,359,408	3,647,023	5,768,200
Lakshadweep	0	0	18,629
Pondicherry	88,997	198,288	316,047

Source: Census of India, 1981 and State of India's Urbanisation, National Institute of Urban Affairs New Delhi, 1988.

\* Including Projected Population of Assam. \*\* Projected Population.

Table A.2. India: Levels of Urbanisation, 1961-81

India/State/ Union Territory	Percentage Of Urban Population to Total Population		
	1961	1971	1981
(1)	(2)	(3)	(4)
<b>INDIA*</b>	<b>18.24</b>	<b>20.21</b>	<b>23.70</b>
States			
Andhra Pradesh	17.44	19.31	23.32
Arunachal Pradesh	0.00	3.70	6.56
Bihar	8.43	10.00	12.47
Goa	14.80	25.56	32.03
Gujarat	25.77	28.08	31.10
Haryana	17.23	17.66	21.88
Himachal Pradesh	6.34	6.99	7.61
Jammu & Kashmir	16.66	18.59	21.05
Karnataka	22.33	24.31	28.89
Kerala	15.11	16.24	18.74
Madhya Pradesh	14.29	16.29	20.29
Maharashtra	28.22	31.17	35.03
Manipur	8.68	13.19	26.42
Meghalaya	15.27	14.55	18.07
Mizoram	5.36	11.36	24.67
Nagaland	5.19	9.95	15.52
Orissa	6.32	8.41	11.79
Punjab	23.06	23.73	27.68
Rajasthan	16.28	17.63	21.05
Sikkim	4.22	9.37	16.15
Tamil Nadu	26.69	30.26	32.95
Tripura	9.02	10.43	10.99
Uttar Pradesh	12.85	14.02	17.95
West Bengal	24.45	24.75	26.47
Union Territories			
Andaman & Nicobar Islands	22.15	22.77	26.30
Chandigarh	82.80	90.55	93.63
Dadra & Nagar Haveli	0.00	0.00	6.63
Daman & Diu	36.36	37.56	36.74
Delhi	88.75	89.70	92.73
Lakshadweep	0.00	0.00	46.28
Pondicherry	24.11	42.04	52.48

Source : Census of India, 1981 and NIUA, op. cit.

\* Excluding Assam

**Table A.3. India: Ranking of States and Union Territories by Level of Urbanisation, 1981**

India/State/ Union Territory	Rank	Percentage of Urban Pop- ulation to Total Population	Percentage of urban to total urban Population of India
(1)	(2)	(3)	(4)
<b>INDIA*</b>		<b>23.7</b>	<b>100</b>
<b>States</b>			
Maharashtra	1	35.03	13.77
Tamil Nadu	2	32.95	9.99
Goa	3	32.03	0.20
Gujarat	4	31.10	6.64
Karnataka	5	28.89	6.72
Punjab	6	27.68	2.91
West Bengal	7	26.47	9.04
Manipur	8	26.42	0.24
Mizoram	9	24.67	0.08
Andhra Pradesh	10	23.32	7.82
Haryana	11	21.88	1.77
Jammu & Kashmir	12	21.05	0.79
Rajasthan	13	21.04	4.51
Madhya Pradesh	14	20.29	6.63
Kerala	15	18.74	2.99
Meghalaya	16	18.07	0.15
Uttar Pradesh	17	17.95	12.46
Sikkim	18	16.15	0.03
Nagaland	19	15.52	0.08
Bihar	20	12.47	5.46
Orissa	21	11.79	1.95
Tripura	22	10.99	0.14
Himachal Pradesh	23	7.61	0.20
Arunachal Pradesh	24	6.56	0.03
<b>Union Territories</b>			
Chandigarh	1	93.63	0.26
Delhi	2	92.73	3.61
Pondicherry	3	52.28	0.20
Lakshadweep	4	46.28	0.01
Daman & Diu	5	36.75	0.02
Andaman & Nicobar Islands	6	26.30	0.03
Dadra & Nagar Haveli	7	6.67	0.04

Source: Census of India, 1981 and NIUA, op cit.

\* Excluding Assam

Table A.4. India: Number of Towns by States and Union Territories, 1961-81.

India/State/ Union Territory	number of Towns		
	1961	1971	1981
(1)	(2)	(3)	(4)
<b>INDIA*</b>	<b>2317</b>	<b>2574**</b>	<b>3301</b>
States			
Andhra Pradesh	212	207	234
Arunachal Pradesh	0	4	6
Bihar	132	161	179
Goa	11	11	15
Gujarat	167	200	220
Haryana,	61	65	77
Himachal Pradesh	29	35	46
Jammu & Kashmir	41	43	56
Karnataka	219	230	250
Kerala	92	88	85
Madhya Pradesh	208	232	303
Maharashtra	239	257	276
Manipur	1	8	32
Meghalaya	3	3	7
Mizoram	1	2	6
Nagaland	3	3	7
Orissa	60	78	103
Punjab	107	106	134
Rajasthan	141	151	196
Sikkim	1	8	8
Tamil Nadu	265	241	245
Tripura	6	6	10
Uttar Pradesh	244	292*	659
West Bengal	119	134	130
Union Territories			
Andaman & Nicobar Islands	1	1	
Chandigarh	1	1	1
Dadra & Nagar Haveli	0	0	1
Daman & Diu	2	2	2
Delhi	1	1	6
Lakshadweep	0	0	3
Pondicherry	4	4	4

Source : Census of India, Statewise tables, 1961, 1971 and 1981 and NIUA, op. cit. \* Excluding Assam

\*\* Excluding one uninhabited town of Badrinathpuri (U.P.)



TABLE A. 5. India : Urban Growth Rate by States and Union Territories, 1961-71 and 1971-81

India/State/Union Territory	Decadal Urban Growth Rate (per cent)	
(1)	(2)	(3)
<b>INDIA *</b>	<b>37.96</b>	<b>46.24</b>
<b>States</b>		
Andhra Pradesh	33.92	48.62
Arunachal Pradesh	0.00	139.63
Bihar	43.95	54.76
Goa	132.73	58.81
Gujarat	41.00	41.42
Haryana	35.58	59.47
Himachal Pradesh	35.68	34.76
Jammu & Kashmir	44.65	46.86
Karnataka	35.23	50.65
Kerala	35.72	37.64
Madhya Pradesh	46.63	56.03
Maharashtra	40.75	39.99
Manipur	108.95	165.36
Meghalaya	25.27	63.98
Mizoram	164.85	222.61
Nagaland	168.28	133.95
Orissa	66.30	68.54
Punjab	25.27	44.51
Rajasthan	38.47	58.69
Sikkim	187.21	159.73
Tamil Nadu	38.64	27.98
Tripura	57.64	38.93
Uttar Pradesh	30.68	60.62
West Bengal	28.41	31.73
<b>Union Territories</b>		
Andaman & Nicobar Islands	86.27	89.31
Chandigarh	134.67	81.52
Dadra & Nagar Haveli	0.00	0.00
Daman & Diu	76.46	23.34
Delhi	54.57	58.16
Lakshadweep	0.00	0.00
Pondicherry	122.80	59.39

Source: Census of India, 1981 and NIUA, op. cit. \* Excluding Assam.

TABLE A. 6. India: Rural and Urban Growth Rates, 1971-81

India/State/Union Territory	Annual Growth Rate (Per cent)	
	Rural	Urban
(1)	(2)	(3)
<b>INDIA *</b>	<b>1.78</b>	<b>3.87</b>
States		
Andhra Pradesh	1.58	4.04
Arunachal Pradesh	2.75	9.13
Bihar	1.90	4.46
Goa	1.43	4.73
Gujarat	2.03	3.53
Haryana	2.02	4.78
Himachal Pradesh	2.08	3.03
Jammu & Kashmir	2.32	3.92
Karnataka	1.76	4.18
Kerala	1.47	3.25
Madhya Pradesh	1.78	4.55
Maharashtra	1.63	3.42
Manipur	1.16	10.25
Meghalaya	2.39	5.07
Mizoram	2.36	12.43
Nagaland	3.48	8.87
Orissa	1.47	5.36
Punjab	1.62	3.75
Rajasthan	2.46	4.73
Sikkim	3.39	10.02
Tamil Nadu	1.23	2.50
Tripura	2.74	3.34
Uttar Pradesh	1.82	4.85
West Bengal	1.87	2.79
Union Territories		
Andaman & Nicobar Islands	4.58	6.59
Chandigarh	1.70	6.14
Dadra & Nagar Haveli	2.69	
Daman & Diu	2.52	2.12
Delhi	0.77	4.69
Lakshadweep	-3.79	
Pondicherry	0.54	4.77

Source : Census of India, 1971 and 1981.

\* Dadra & Nagar Haveli and Lakshadweep were entirely rural in 1971. The emergence of some towns of the 1981 Census in the case of both could be statistically deemed as representing infinite urban growth rate during 1971-1981.

TABLE A. 7. India : Distribution of Towns by Growth Behaviour, 1971-81.

India/State/ Union Territory	All Towns	New Towns	Towns which existed both in 1971 & 1981
(1)	(2)	(3)	(4)
<b>INDIA *</b>	<b>3,301</b>	<b>881</b>	<b>2,420</b>
<b>States</b>			
Andhra Pradesh	234	29	205
Arunachal Pradesh	6	2	4
Bihar	179	30	149
Goa	15	4	11
Gujarat	220	29	191
Haryana	77	17	60
Himachal Pradesh	46	11	35
Jammu & Kashmir	56	14	42
Karnataka	250	34	216
Kerala	85	39	46
Madhya Pradesh	303	75	228
Maharashtra	276	31	245
Manipur	32	24	8
Maghalaya	7	4	3
Mizoram	6	4	2
Nagaland	7	4	3
Orissa	103	27	76
Punjab	134	30	104
Rajasthan	195	44	151
Sikkim	8	0	8
Tamil Nadu	245	18	227
Tripura	10	4	6
Uttar Pradesh	659	379	280
West Bengal	130	19	111
<b>Union Territories</b>			
Andaman & Nicobar Island	1	0	1
Chandigarh	1	0	1
Dadra & Nagar Haveli	1	1	0
Daman & Diu	2	3	2
Delhi	6	5	1
Lakshadweep	3	3	0
Pondicherry	4	0	4

Source: NIUA, op. cit.

\* Excluding Assam

TABLE A. 8. India: Components of Urban Growth, 1971-81

India/State/Union Territory	Percentage of Urban Population contributed by			Components of reclassification	
	Natural Increase	Migration	Reclassification	New towns	Change in territorial jurisdiction
(1)	(2)	(3)	(4)	(5)	(6)
<b>INDIA *</b>	<b>41.25</b>	<b>40.13</b>	<b>18.60</b>	<b>16.57</b>	<b>2.03</b>
<b>States</b>					
Andhra Pradesh	42.98	50.67	6.34	7.32	-0.98
Arunachal Pradesh	N.A.	N.A.	N.A.	58.47	N.A.
Bihar	35.57	38.29	26.12	10.95	15.17
Goa	20.98	47.63	31.39	32.81	-1.42
Gujarat	50.85	43.42	5.70	5.40	0.30
Haryana	36.50	39.52	23.97	17.20	6.76
Himachal Pradesh	43.52	16.32	40.14	39.38	0.76
Jammu & Kashmir	33.28	46.86	19.84	18.63	1.21
Karnataka	34.81	54.81	10.37	10.66	0.29
Kerala	43.21	-25.25	82.03	62.64	19.39
Madhya Pradesh	39.53	39.05	21.40	18.13	03:27
Maharashtra	45.99	49.27	4.73	5.61	-0.88
Manipur	10.23	36.16	53.58	52.93	0.65
Meghalaya	20.00	59.54	20.44	19.59	0.75
Mizoram	N.A.	N.A.	40.57	35.82	4.75
Nagaland	N.A.	N.A.	51.78	50.77	1.01
Orissa	29.02	44.93	26.03	21.32	4.71
Punjab	45.24	29.03	25.71	15:49	10.22
Rajasthan	38.20	41.18	20.60	20.06	0.54
Sikkim	N.A.	N.A.	N.A.	N.A.	N.A.
Tamil Nadu	60.05	32.24	7.70	4.13	3.27
Tripura	31.67	35.70	32.61	37.52	0.09
Uttar Pradesh	33.74	21.97	44.27	42.60	1.67
West Bengal	44.15	40.27	15.56	5.65	9.91
<b>Union Territories</b>					
Andaman & Nicobar Islands	21.73	77.66	0.60	0.00	0.60
Chandigarh	33.27	44.34	22.38	0.00	22..38
Dadra & Nagar Haveli	N.Ap.	N.Ap.	N.Ap.	N.Ap.	N.Ap.
Daman & Diu	N.A.	N.A.	N.A.	N.A.	N.A.
Delhi	34.36	45.10	20.51	1.83	18.68
Lakshadweep	N.Ap.	N.Ap.	N.Ap.	N.Ap.	N.Ap.
Pondicherry	22.83	33.05	44.11	0.00	44.11

Source: NIUA, op. cit.  
 \* Excluding Assam.

N.A. - Not Available  
 N.Ap. - Not Applicable

**Table A. 9. India: Rural-Urban and Urban-Urban Migrants among Internal Migrants (Excluding those Born in other Countries), 1971 and 1981.**

Types of Migrants	Migrants in Millions	
	1971	1981
(1)	(2)	(3)
Rural-Urban	23.95	34.20
Intrastate	18.23	26.14
Inter-state	5.72	8.06
Urban-Urban	13.98	21.83
Intrastate	8.98	14.80
Inter-state	5.00	7.02

Source: NIUA, op. cit.

Note: 1. The number of urban migrants born in other countries was 4.12 millions in 1971 and 3.17 million in 1981.

2. 1981 figures exclude and 1971 figures include Assam.

**TABLE A. 10. India : Urban Migrants (Rural-Urban and Urban-Rural) Classified by Duration of Residence, 1981.**

India/State/Union Territory	Any duration			Duration of residence less than 10 yrs. (1971-81 migrants)		
	Total Migrants*	Rural- Urban Migrants	Urban-Urban Migrants	Total Migrants	Rural- Urban Migrants	Urban-Urban Migrants
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>INDIA States</b>	<b>60,911,969</b>	<b>33,485,090</b>	<b>23,974,064</b>	<b>34,134,878</b>	<b>17,381,226</b>	<b>13,431,195</b>
Andhra Pradesh	7,57,014	388,331	366,392	356,903	172,164	183,704
Arunachal Pradesh	3,287	1,670	1,552	2,755	1,416	1,295
Assam	126,383	44,079	76,848	76,801	24,861	49,306
Bihar	1,433,776	966,173	437,953	696,528	463,885	216,508
Goa**	96,539	31,916	64,529	28,689	7,917	20,713
Gujarat	830,992	422,312	405,532	316,943	151,761	163,797
Haryana	650,813	319,854	325,445	322,945	156,408	163,916
Himachal Pradesh	278,456	182,422	92,445	142,182	95,764	44,725
Jammu & Kashmir	66,138	17,838	47,294	40,130	10,65	28,944
Karnataka	873,429	402,652	469,442	431,197	198,637	231,674
Kerala	758,314	352,810	395,286	411,350	194,445	208,549
Madhya Pradesh	629,663	288,276	336,164	344,015	161,555	178,727
Maharashtra	856,494	286,238	568,738	459,083	145,193	313,008
Manipur	12,208	3,888	7,807	7,732	2,475	5,194
Meghalaya	11,765	1,427	9,677	7,998	926	6,974
Mizoram	4,745	2,485	2,235	3,188	1,265	3,188
Nagaland	6,321	2,128	3,567	4,997	1,675	2,762
Orissa	274,594	175,019	94,597	133,013	79,761	50,542
Punjab	751,604	254,301	490,083	313,369	101,069	209,419
Rajasthan	921,996	520,647	393,779	426,525	239,648	183,628
Sikkim	4,711	1,569	2,589	3,023	786	1,853
Tamil Nadu	826,560	306,845	514,453	423,098	147,775	270,767
Tripura	15,512	6,096	8,453	7,585	2,983	4,091
Uttar Pradesh	3,472,048	2,141,627	1,293,253	1,879,159	1,170,308	688,305
West Bengal	553,287	148,199	403,331	288,656	71,041	216,547
<b>Union Territories</b>						
Andaman & Nicobar Islands	4,403	1,431	2,823	2,943	904	1,915
Chandigarh	61,745	5,836	55,492	51,001	3,922	46,761
Dadra & Nagar Haveli	2,184	755	1,408	1,167	424	743
Delhi	348,284	24,082	321,549	218,101	13,804	202,816
Lakshadweep	345	183	162	206	123	83
Pondicherry	55,693	13,582	47,713	25,584	5,565	25,621

Source: Census of India 1981, Report and Tables Based on Five Per cent Data and NIUA, op. cit.

\* Among the urban migrants classified by place of last residence 3,172,917 in 1981 and 2,459,195 in 1971 had moved from a foreign country. Due to rounding up during estimation, totals may not tally exactly.

\*\* Includes Union Territory of Daman &amp; Diu.

Table. A. 11 India : New Town by States and Union Territories, 1981

India/State/ Union Territory	Total No. of towns urban agglomerations	Number	% to all towns/urban agglomerations	New Town		
				Total area (Km2)	Total Population	Average Pop. Per Town
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>INDIA*</b>	<b>3,301</b>	<b>881</b>	<b>26.69</b>	<b>6,736.42</b>	<b>8,262,665</b>	<b>9,379</b>
<b>States</b>						
Andhra Pradesh	234	29	12.39	334.07	299,037	10,312
Arunachal Pradesh	6	2	33.33	N.A.	14,116	7,058
Bihar	179	30	16.76	288.2	337,965	11,265
Goa	15	4	23.52	46.47	39,217	9,804
Gujarat	220	29	13.18	140.75	167,871	5,789
Haryana	77	17	22.07	70.59	181,463	10,674
Himachal Pradesh	46	11	23.91	48.37	33,114	3,010
Jammu & Kashmir	56	14	25.00	86.01	74,943	5,358
Karnataka	250	34	13.60	616.52	384,754	11,316
Kerala	85	39	45.88	430.33	817,390	20,959
Madhya Pradesh	303	75	24.75	1,265.45	689,462	9,193
Maharashtra	276	31	11.23	213.82	353,050	11,389
Manipur	32	24	75.00	81.54	123,859	5,161
Meghalaya	7	4	57.14	33.29	18,450	4,612
Mizoram	6	4	66.66	124	30,116	7,529
Nagaland	7	4	57.14	52.17	34,956	8,739
Orissa	103	27	26.21	307.48	269.74	9,990
Punjab	134	30	22.38	71.86	221,831	7,394
Rajasthan	195	44	22.56	489.56	535,115	12,162
Sikkim	8	0	0.00	0	0	0
Tamil Nadu	245	18	7.35	84.37	154,495	8,583
Tripura	10	4	40.00	11.93	20,558	5,139
Uttar Pradesh	659	379	57.51	1,382.25	3,199,802	8,443
West Bengal	130	19	14.61	129.08	196,901	10,363
<b>Union Territories</b>						
Andaman & Nicobar Islands	1	0	0.00	0	0	0
Chandigarh	1	0	0.00	0		0
Dadra & Nagar Haveli	1	1	100.00	6.65	6,914	6,914
Daman.& Diue	2	0	0.00	0	0	0
Delhi	6	5	83.33	51.07	38,917	7,783
Lakshadweep	3	3	100.00	10.59	18629	6,210
Pondicherry	0.4	0	0.00	0	0	0

Source : Census of India, 1981, NIUA, op.cit. \* Excluding Assam

Table A. 12. India : Percentage Share of Urban Population by Size Class of Towns, 1981

India/State/ Union Territory	Percentage of urban population in towns belonging to size class*					
	I	II	III	IV	V	VI
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>INDIA *</b>	<b>60.5</b>	<b>11.5</b>	<b>14.3</b>	<b>9.5</b>	<b>3.6</b>	<b>0.5</b>
<b>States</b>						
Andhra Pradesh	53.8	16.2	20.8	7.4	1.7	0.1
Arunachal Pradesh	0	0	0	0	90.7	9.3
Bihar	54.2	14.4	19.2	10	2	0.2
Goa	0	60.1	13.4	11.2	11.5	3.8
Gujarat	58	14.5	13.3	10.2	3.7	0.2
Haryana	56.7	10.8	14.8	11.6	5.8	0.3
Himachal Pradesh	0	21.7	12.5	22.1	19.8	23.9
Jammu & Kashmir	65.8	0	11.7	6.1	10.9	5.5
Karnataka	58.7	6.4	17.7	13.7	2.9	0.6
Kerala	53.1	9.5	31.9	4.8	0.7	0
Madhya Pradesh	46.8	18	12.2	15.1	7.7	0.1
Maharashtra	75.3	5.9	11	6.1	1.5	0.2
Manipur	41.7	0	11.2	14.8	16.7	15.6
Meghalaya	74.4	0	14.6	5.4	2.5	5.1
Mizoram	0	61.2	0	14.1	24.7	0
Nagaland	0	0	55.9	25.2	18.9	0
Orissa	41.6	12.8	21.8	17	6.3	0.4
Punjab	46.4	14.4	20.2	11.3	6.5	1.2
Rajasthan	46.8	10	21.9	18.6	2.6	0.1
Sikkim	0	0	71.9	0	0	28.1
Tamil Nadu	62.2	16	12.5	7.4	1.8	0.1
Tripura	58.6	0	9.2	23.1	6	3.1
Uttar Pradesh	51.4	12.4	12.6	13.5	8.6	1.4
West Bengal	77	10.7	7.5	3.6	1	0.2
<b>Union Territories</b>						
Andaman & Nicobar Islands	0	0	100	0	0	0
Chandigarh	100	0	0	0	0	0
Dadra & Nagar Haveli	0	0	0	0	100	0
Daman & Diu	0	0	72.32	0	27.63	0
Delhi	99.3	0	0	0.2	0.5	0
Lakshadweep	0	0	0	0	100	0
Pondicherry	79.6	0	13.7	3.7	3	0

Source : Census of India, Statewise Tables, 1971 and 1981, and NIUA, op.cit.

\* Class I Towns have Population more than 100,000 Class II 50,000 to 99,999, Class III 20,000 to 49,999, Class IV 10,000 to 19,999, Class V 5,000 to 9,999 and Class VI less than 5,000

**Table A. 13. India: Percentage Share of Cities (Class 1 Towns) in Urban Population, 1961, 1971, 1981**

India/State/ Union Territory	Percentage share of cities in urban population in		
	1961	1971	1981
(1)	(2)	(3)	(4)
<b>INDIA*</b>	48.4	55.8	60.5
<b>States</b>			
Andhra Pradesh	43.2	48.4	53.8
Arunachal Pradesh	0.0	0.0	0.0
Bihar	39.4	45.4	54.2
Goa	0.0	0.0	0.0
Gujarat	44.4	49.0	58
Haryana	8.1	12.8	56.7
Himachal Pradesh	0.0	0.0	0.0
Jammu & Kashmir	67.4	68.5	65.8
Karnataka	39.7	51.1	58.7
Kerala	27.0	42.3	53.1
Madhya Pradesh	39.1	45.1	46.8
Maharashtra	65.8	70.8	75.3
Manipur	0.0	70.9	41.7
Meghalaya	87.2	83.4	74.4
Mizoram	0.0	0.0	0.0
Nagaland	0.0	0.0	0.0
Orissa	13.2	38.3	41.6
Punjab	38.6	40.6	46.4
Rajasthan	38.5	41.9	46.8
Sikkim	0.0	0.0	0.0
Tamil Nadu	47.5	57.7	62.2
Tripura	0.0	61.8	58.6
Uttar Pradesh	54.4	57.1	51.4
West Bengal	72.1	71.0	77.0
<b>Union Territories</b>			
Andaman & Nicobar Islands	0.0	0.0	0.0
Chandigarh	0.0	100.0	100.0
Dadra & Nagar Haveli	0.0	0.0	0.0
Daman & Diu	0.0	0.0	0.0
Delhi	100.0	100.0	99.3
Lakshadweep	0.0	0.0	0.0
Pondicherry	0.0	78.1	79.6

Source : Census of India, 1961, 1971 and 1981, and NIUA \* Excluding Assam.



**Table A. 14. Classification of Cities and Towns Adopted by the National Commission on Urbanisation**

Class	Range of Population	1981	
		No. of Cities	Total Population (in thousands)
(1)	(2)	(3)	(4)
Cities			
C 1 :	1 Lakh to 5 Lakh	176	33,379
C 2 :	5 Lakh to 10 Lakh	30	19,832
C 3 :	10 Lakh to 20 Lakh	12	42,122
C 4 :	20 Lakh to 50 Lakh	-	-
C 5 :	50 Lakh to 100 Lakh	-	-
C 6 :	100 Lakh & above	-	-
	Total	218	95,333
Note : At present, according to Census practice, Class I cities denote all towns with population of 1 lakh & above.			
Towns			
T 1 :	20,000 to 50,000	743	22,557
T 2 :	50,000 to 100,000	270	18,190
	Total:	1013	40,747

Source: Computed from Census of India, 1981.

**Table A. 15. Projected Percentage of Urban Population to Total Population, using Various Methods of Projections, India, 1986-2001**

Sr. No.	Methods	1981	1986	1991	1996	2001
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Linear	23.3	25	26.7	28.4	30.1
2.	Second degree	23.3	25.8	28.2	31.4	34.6
3.	Using Inflation factor	23.3	25.3	27.4	29.7	32.1
4.	URGD Constant	23.3	25.2	27.1	29.2	31.4
5.	URGD Increasing	23.3	25.4	28	31.2	35
6.	Modified increasing URGD method (Expert Committee)	23.3	25.3	27.5	30.1	33.1

Source: PROCEEDINGS OF WORKSHOP ON MIGRATION AND URBANISATION, March 10-28, 1986, New Delhi. Office of the Registrar General &amp; Census Commissioner, India. pp. 156-162.

Note: including the Population of Assam.

**Table A. 16. Range of Urban Projections, India, 1986-2001, According to Six Methods**

Year	Per cent Urban
1981	23.3
1986	25.0 to 25.8
1991	26.7 to 28.2
1996	28.4 to 31.4
2001	30.1 to 35.0

**Table A. 17. Range of Projected Urban, Population According to Various Methods, as Applied to "High, Medium and Low" Projections to Total Population, India, 1986-2001**

Year	(Urban population in millions)		
	High	Medium	Low
(1)	(2)	(3)	(4)
1981	159.7	159.7	159.7
1986	191.8 to 196.4	191.8 to 196.4	191.8 to 196.3
1991	224.7 to 237.4	223.6 to 236.1	222.9 to 235.4
1996	263.9 to 291.7	259.4 to 286.8	256.9 to 284.0
2001	307.6 to 357.7	296.8 to 354.1	290.9 to 338.3

Source: Derived by applying projected proportions given in Table A.16 to projections of total population of India.

**Table A. 18. Projected Percentage of Urban Population, India and Major States, 1991-2001**

India/States	1981 (actual)	1991	2001
(1)	(2)	(3)	(4)
INDIA	23.3	27.5	33.1
Maharashtra	35.0	39.3	44.1
Karnataka	28.9	34.6	42.3
Punjab	27.7	32.9	40.5
Tamil Nadu	33.0	35.8	38.7
Gujarat	31.1	34.4	38.3
Haryana	21.9	27.8	37.4
Andhra Pradesh	23.3	27.9	32.9
Madhya Pradesh	20.3	25.4	32.7
Uttar Pradesh	18.0	23.5	32.1
Rajasthan	21.1	25.4	31.7
West Bengal	26.5	28.6	31.6
Kerala	18.8	21.9	26.2
Orissa	11.8	16.5	23.2
Bihar	12.5	15.6	19.9
Assam	10.3*	11.9	13.4

Source: Registrar General, India op.cit.

\* Projected.

Note: States are arranged in order of the Urban proportion in 2001.

**Table A. 19. Projected Urban Population, India and Major States, 1991-2001 (in million)**

India/State	1981 (actual)	1991	2001
(1)	(2)	(3)	(4)
INDIA	159.7	230.1	326.0
Uttar Pradesh	19.9	32.0	53.2
Maharashtra	22.0	29.6	38.3
Madhya Pradesh	10.6	16.3	24.5
Tamil Nadu	16.0	20.2	24.4
Andhra Pradesh	12.5	17.9	24.2
West Bengal	14.4	18.9	24.0
Karnataka	10.7	15.7	22.0
Bihar	08.7	13.5	21.0
Gujarat	10.6	14.1	17.8
Rajasthan	07.2	11.3	17.8
Kerala	04.8	06.6	09.0
Punjab	04.6	06.5	08.9
Orissa	03.1	05.2	08.4
Haryana	02.8	04.6	07.1
Assam	02.0*	03.0	04.1

Source: Registrar General, India op.cit.

\* Projected.

Note: States are arranged in order of projected Urban population in 2001.

**Table A. 20. Projected Rural Population, India and Major States, 1991-2001 (in million)**

India/States	1991	2001
(1)	(2)	(3)
INDIA	607.0	660.0
Andhra Pradesh	46.3	49.3
Assam	22.0	26.4
Bihar	73.0	84.8
Gujarat	26.9	28.7
Haryana	11.9	11.8
Karnataka	29.7	30.0
Kerala	23.5	25.2
Madhya Pradesh	47.9	50.6
Maharashtra	45.7	49.0
Orissa	26.3	27.9
Punjab	13.3	13.2
Rajasthan	33.3	38.2
Tamil Nadu	36.2	38.7
Uttar Pradesh	104.5	112.5
West Bengal	47.1	51.8

Source: Registrar General, India op.cit.

**Table A. 21. Annual Exponential Growth Rates of Urban and Rural Population, India and major States, 1981-2001 (per cent)**

India/States		1981-86	1986-91	1991-96	1996-2001
(1)	(2)	(3)	(4)	(5)	(6)
INDIA	U	3.7	3.6	3.5	3.4
	R	1.6	1.3	1.0	0.7
Andhra Pradesh	U	3.7	3.5	3.2	2.9
	R	1.3	1.1	0.8	0.5
Assam	U	3.8	3.6	3.4	2.9
	R	2.1	2.1	2.0	1.6
Bihar	U	4.3	4.5	4.5	4.4
	R	1.8	1.8	1.6	1.4
Gujarat	U	3.0	2.7	2.4	2.3
	R	1.5	1.2	0.8	0.6
Haryana	U	5.0	4.7	4.5	4.3
	R	2.1	1.2	0.4	-0.4
Karnataka	U	3.9	3.7	3.5	3.3
	R	1.4	0.9	0.4	-0.2
Kerala	U	3.3	3.2	3.1	3.1
	R	1.4	1.1	0.8	0.6
Madhya Pradesh	U	4.4	4.3	4.2	3.9
	R	4.6	1.3	0.9	0.2
Maharashtra	U	3.2	2.7	2.6	2.6
	R	1.5	0.8	0.7	0.6
Orissa	U	5.2	5.1	5.0	4.7
	R	1.3	1.1	0.8	0.4
Punjab	U	3.6	3.2	3.1	3.2
	R	1.3	0.5	0.02	-0.3
Rajasthan	U	4.5	4.6	4.6	4.4
	R	2.2	1.9	1.7	1.1
Tamil Nadu	U	2.5	2.2	2.0	1.8
	R	1.2	1.0	0.7	0.6
Uttar Pradesh	U	4.6	4.9	5.1	5.1
	R	1.5	1.3	1.0	0.5
West Bengal	U	2.7	2.6	2.5	2.3
	R	1.7	1.5	1.1	0.8

Source: Registrar General, India op.cit.

Table A. 22. Cities with an estimated Population of one million and Above in 2001

		(in million)		
S. NO.	CITY	POPULATION 1981	ESTIMATES	
			R.G. 2001	U.N. 2000
(1)	(2)	(3)	(4)	(5)
1	Greater Bombay	8.24	13.95	16.00
2	Calcutta	9.19	12.93	16.53
3	Delhi	5.73	12.90	13.24
4	Bangalore	2.92	7.63	07.96
5	Madras	4.29	7.37	08.15
6	Hyderabad	2.09	4.62	05.13
7	Ahmedabad	2.55	4.55	05.28
8	Pune	1.69	3.31	03.69
9	Bhopal	0.67	3.07	01.54
10	Surat	0.91	2.59	01.93
11	Kanpur	1.64	2.57	03.17
12	Patna	0.92	2.50	01.38
13	Jaipur	1.02	2.38	02.21
14	Nagpur	1.30	2.27	02.56
15	Indore	0.83	1.77	01.68
16	Ranchi	0.50	1.75	-
17	Vadodara	0.74	1.58	01.64
18	Ulhasnagar	0.65	1.55	04.59
19	Jamshedpur	0.67	1.52	01.34
20	Vishakhapatnam	0.60	1.50	01.77
21	Dhanbad	0.68	1.47	02.34
22	Lucknow	1.01	1.46	02.01
23	Madurai	0.91	1.39	02.68
24	Jabalpur	0.76	1.39	01.67
25	Coimbatore	0.92	1.36	02.83
26	Vijayawada	0.54	1.22	-
27	Varanasi	0.80	1.31	01.57
28	Jodhpur	0.51	1.19	-
29	Cochin	0.69	1.19	01.31
30	Ludhiana	0.61	1.18	01.50
31	Srinagar	0.61	1.09	01.30
32	Meerut	0.54	1.08	-
33	Agra	0.75	1.00	01.59
34	Gwalior	0.56	1.00	01.15
35	Tiruchirapalli	0.61	1.00	02.05
36	Allahabad	0.65	1.00	01.21
37	Amritsar	0.59	-	01.03
38	Hubli-Dharwad	0.53	-	01.27
39	Salem	0.52	-	01.58
40	Trivandrum	0.52	-	01.16

Source: Registrar General, India op.cit.

and

United Nations estimates quoted in GLOBAL REPORT ON HUMAN SETTLEMENTS-1988, UNCHS, 1987.

Note: In our text we have ignored Ulhasnagar as it is a part of the Greater Bombay metropolitan Region.

**Table A.23. UN Projections of India's Population, 1985-2025  
(in million)**

Year	Medium	High	Low
(1)	(2)	(3)	(4)
1985	759	-	-
1990	827	843	822
1995	897	924	886
2000	964	1006	946
2005	1025	1082	999
2010	1082	1151	1051
2015	1137	1217	1099
2020	1186	1282	1140
2025	1229	1346	1173

Source: UN, Global Estimates & Projections of Population by Sex and Age -the 1984 Assessment, New York 1987. pp. 268, 269.

**Table A. 24. Annual mid-Year Population medium variant**

Medium Variant	1985	1990	1995	2000	2010	2020	2025
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total							
(in 1000)	758927	827152	896676	944072	1081821	1186344	1228829
Urban Pop. (in 1000)	193612	231604	277158	330018	453724	590906	658218
Rural Pop. (in 1000)	565315	595548	619518	634054	628097	595438	570611
Per cent Urban	25.5	28.0	30.9	34.2	41.9	49.8	53.6
Per cent Rural	74.5	72	69.1	65.8	58.1	50.2	46.4
Pop. Density	231	252	273	294	330	362	375
Per Sq. M.)							

Source: United Nations World Population Prospects as assessed in 1984.

## 2 URBAN FUTURE

### 2.1 Implications of Urban Growth

**2.1.1** India is likely to enter the 21st century with an urban population of 34 and 35 crores. It is also estimated that the number of cities with a population of more than one million (ten lakhs) each will go up from 12 in 1981 to around 40 in the year 2001. Hitherto urban India has been dealt with as a residual issue, an adjunct to rural India. Notwithstanding the demographic projections for the year 2001, urban India has become a massive and, perhaps, a frightening reality of the first magnitude. This country can no longer afford to allow cities and towns to take care of themselves: they need the full and undivided attention of our planners and administrators.

**2.1.2** As already observed, one of the interesting facts about urban growth in India is that there is an almost even balance between the natural increase in the, population of the urban centres and growth through migration. Each accounts for

approximately 40 per cent of the increase, with a little less than 20 per cent accruing from reclassification of rural areas as urban. While the natural increase of large cities tends to remain within these cities, the migration stream tends to be from village to town and town to large city. There is little evidence of a reverse flow of any substantial magnitude from large cities towards rural areas. If, therefore, there is no intervention, the present trend of migration is likely to bring about a massive increase in the size of existing large cities, perhaps at the cost of the countryside and the smaller towns. Can India afford to allow this to happen?

**2.1.3** Conversely, a selectively interventionist policy which aims at creating new urban centres while allowing the existing towns and cities to decay will lead to the collapse of an existing infrastructure without necessarily creating alternative growth centres which can productively employ large sections of the population. The

present indications are that, while very little money is available for rescuing our decaying urban centres, the thinking of government is to create new growth centres in backward areas. Even-if the money so invested does lead to the creation of new towns, the gestation period would be long and, meanwhile, the other cities would be brought to the brink of disaster for want of adequate investment in maintenance. Can we afford this? We also reject the thesis that urbanisation is coterminous with industrialisation and, therefore, do not subscribe to a policy which looks at urbanisation in the narrow context of industrialisation only. The Commission also rejects the present approach which relegates urbanisation to a residuary status linked with housing. Urbanisation, we believe, is a vital element of the national economy and should be viewed as such.

**2.1.4** In recommending new urban policy it is necessary to take stock of what already exists. In 1981, the 218 Class I cities accounted for more than 60 per cent of the total urban population of the country. On the assumption that the urban population of India in mid-1988 is of the order of 20 crores, the Class I cities would contain about 12 crores people. The metropolitan cities alone have about 5 crore and sixty lakh people living in them. These are the cities which are the main transport hubs, the ports, the industrial centres and the largest employers of people in the secondary and tertiary sectors. Among them are also some of the cities which are under the greatest strain because the infrastructure is overloaded to the point of breakdown. While not agreeing with the suggestion that Calcutta alone needs Rs 20,000 crores in order to survive, the Commission does recognise that unless these major urban centres receive a substantial influx of funds, their efficiency as large habitats and employers of people will rapidly dwindle. Any sensible urban policy, therefore, requires that the existing urban centres be assisted, both to revive their economies and to upgrade their infrastructure. Not all of the 218 Class I towns are a Calcutta or a Bombay and

many of them, in fact, have considerable scope for growth and expansion. An urbanisation policy must, therefore, begin by identifying those Class I cities which have a potential for growth and give priority to their development. At the same time, those cities which are very large, and are almost at Saturation point and whose capacity to generate wealth is now in jeopardy, also need priority in the matter of revival of their flagging economies.

**2.1.5** The Commission has looked at the urbanisation process at different levels and in varied slices. This has thrown up a whole series of options, the adoption of some or all of which could lead to a better urban future. One could begin by looking at the urban problem from the point of view of the survival of what exists and its development for the future. In this context, in its interim report, the Commission has identified four cities as qualifying for national status, Calcutta, Bombay, Delhi and Madras. These are the largest in terms of population. They are also the cities which in the past 100 years have received maximum development impetus because they were the administrative capitals of British India and its Presidencies. Sea, road and rail transport emanated from and terminated at the three great port cities and the inland city of Delhi. Calcutta, Bombay and Madras became the financial and industrial foci of India and Delhi, post-partition, also had a massive growth of its commercial and industrial plant. These cities have been the generators of national wealth and, if they were to collapse, the economy would receive a grievous body blow. Unfortunately, these four national cities have come under very severe strain. Much of the industrial plant of Calcutta, Bombay and Madras is obsolete, non-profit making and worthy of replacement. The social and physical infrastructure is totally inadequate to serve the needs of a burgeoning population. Vast areas of these cities have degenerated into slums. Housing is in critically short supply. As the cities grow in size and population, the demands on their services increase, but their revenue base shrinks. The

Commission feels that it is a matter of the topmost national priority to not only save the national cities but to help them revive their economies. Because a number of other very large cities are also now approaching a condition similar to that of the national cities, the Commission further feels that the future of all the metropolitan centres should be a matter of national concern.

**2.1.6** On a somewhat lower size and population scale are the non-metropolitan cities and towns. In the decade 1971-81, around 600 of these towns have exhibited rapid demographic growth. In many of these, the infrastructure is rudimentary and is under severe pressure. At the same time, the impact of the non-metropolitan towns and cities on a definable, localised hinterland is perhaps greater than that of the metropolises because the rural-urban continuum is stronger at intermediate level. The development of the intermediate-level urban centres would have strong regional ramifications and would assist in strengthening the economy at regional levels. These towns and cities also need assistance in maintaining the existing infrastructure and augmenting it to a level where they become more efficient urban entities. The rest of 'urban India is largely static. Their growth rate is a little higher than that of rural India, but only marginally so. Many of these are located in the midst of a densely populated countryside which has reached saturation point in its capacity to gainfully absorb any more people. Many of the slow-growing towns will come under the pressure of local migration in the near future. Unless they develop a capacity to gainfully employ the new migrants they will become centres of transference of rural poverty to an urban or semi-urban environment, without any enhancement in the quality of life of the poor. This would be a tragedy of the first magnitude.

**2.1.7** One reason why the existing towns need support is that as much as 40 per cent of the increase in urban population will be the result of natural growth through births within urban India.

Even if the existing urban settlements are not to cater for migration, they will certainly have to develop an ability to at least provide for the natural increase in population. Even this would amount to about six crore people by 2001. If urban India finds it difficult to hold even the existing population of about 20 crores, how will our cities and towns look after an additional 40 per cent, unless their employment capability, level of infrastructure, housing, transportation systems, etc., are vastly improved? In the absence of investment in improving our urban centres one can almost certainly forecast a situation; by the turn of the century, in which the cities recommended by us for designation as C 4 to C 6 would become vastly larger, with other intermediate-level cities of larger size also growing almost out of bounds. Their infrastructure would come under such enormous strain that, eventually, no part of urban India would be anything but an unserved slum. To prevent such a scenario from developing, this country has no option but to invest in the maintenance of the existing urban centres and a suitable upgradation of their infrastructure. The Commission would like to state, with all the emphasis at its command that this has now become as critical as the need to invest in energy, agriculture or industry. The Eighth Plan itself must reflect this new priority.

## **2.2 Integration of Economic and Spatial Planning**

**2.2.1** The positive role of urbanisation as envisaged by the Commission can materialise only if the cities are economically viable and capable of generating economic growth in a sustained manner. Instead of remaining isolated centres of economic activity, with weak linkages with the rural hinterland, the cities must become vibrant centres, making the best use of the natural and human resources in the region where they are located, and, over time, expand their economic base to enable them to assume economic functions which transcend regional boundaries. Spatial planning should be given due consideration

and a pattern of human settlements should evolve which would minimise the present ills of urbanisation and pave the way for an era of HUMANE CITIES. Our concern for economic growth should not lead us to neglect the imperatives of social justice and equity.

**2.2.2** In the absence of policy interventions, the urbanisation process and the settlement pattern will largely depend on the interplay of market forces aiming at maximising private profit. This will lead to distortions and accentuation of urban misery. The wider social objectives of equity and social justice will be beyond the ken of private entrepreneurs. On the other hand, excessive reliance on the public sector has its own limitations. Political factors often dominate decisions regarding public sector investments. Our objective should be 'a scientific assessment of the existing urban settlement pattern and a careful selection of cities with a high economic growth potential on a priority basis and a concern for harmonious development of all regions and sub-regions in the country.

**2.2.3** Spatial planning in India has largely been relegated to geographers and town planners while economic planning, centred on allocation of resources to different sectors of the economy, has been the domain of economists. Successive five year plans have recognised the need for regional planning, but the discussion has been largely at a philosophical level and has neither led to crystallisation of ideas at the operational level nor to identification of a strategy which goes beyond ad hocism. The Integrated Development of Small and Medium Towns (IDSMT) scheme launched in 1979 is an example of such ad hocism. It was decided to select about 236 towns in the population range of 20,000 to 100,000 and give them a financial backup to the tune of As 1.07 crore per town (out of which the centre's share was As 0.55 crore and the state's share was As 0.52 crore). The objective was to strengthen the infrastructure of such towns. The working of the IDSMT scheme

over the years does not inspire much confidence among policy-makers and planners. While size of population is an important consideration, it is much more important to begin with the geographical location of a town, availability of water and energy, its transport alignment, the resource base and such other factors which influence economic growth when selecting towns for assistance. Further, a blanket formula of allocating As 1 crore per town has its own limitations, apart from the very small quantum of this financial input. While it is feasible to make some improvement in the water supply or sewerage of these towns through an effective utilisation of even this "meagre financial input, it is not clear how this, by itself, will generate economic growth and sustain the process of urbanisation.

**2.2.4** Unless we change our perception of urbanisation and move away from the traditional linking of urban development with housing and visualise urbanisation as an essential input to economic growth, our efforts to integrate spatial planning with economic planning will not succeed. The first concern in any such exercise should be employment generation. Urbanisation strategy should be a part of a bigger strategy of generating economic growth, not one of doling out some residual funds for urban housing, slum clearance, water supply and sewerage schemes, and occasional induction of foreign funds for augmenting resources for such development.

**2.2.5** The Planning Commission must play a much more significant role in linking urbanisation to economic planning while formulating the five year plans and the long-term perspective plan. The concern for space should be adequately reflected in the planning exercises. Land is perhaps the biggest resource when one thinks of urbanisation. Therefore, the optimum utilisation of land, the conservation of land and the development of a healthy land market, keeping in mind the social objectives of urbanisation, should



receive high priority from the Planning Commission. Similarly, employment generation, increasing productivity and income of workers not only in the organised sector but also in the larger informal sector should receive much greater attention from our planners. While industrialisation is a major concomitant of urbanisation, in a country like India, urbanisation strategy must visualise a much wider spectrum of developmental effort. In particular, the role of urbanisation in agricultural development must be clearly understood if any meaningful urbanisation strategy is to be spelt out. It should be remembered that, given a human reservoir of over 66 crore people in rural areas (the projected figure in 2001), no amount of meticulous planning of urban areas will succeed in the face of the avalanche of rural to urban migration, unless bold intervention policies are thought out.

**2.2.6** While dealing with matters concerning urbanisation, one must necessarily take a long-term view, say, of the next three decades or so. It is important to keep in mind that the location of economic activities must be decided on the basis of scientific criteria and not political expediency; the decisions must be based on technical considerations in regard to physical conditions, water and power resources, transport alignments, telecommunication facilities, the socio-economic profile of the population, considerations of environment, national security and related factors. Since planning for urbanisation can not start on a new slate, our first concern should be with the existing settlement pattern and containing the growing misery in our cities. Our next concern should be with planning of the future settlement pattern. These two tasks call for a series of interventions at various levels.

**2.2.7** In a country like India, where over two-thirds of the working force is engaged in agriculture, urbanisation should be visualised as a major instrument of agricultural and rural development. Throughout the world, historically

speaking, industrialisation and urbanisation have gone hand in hand, yet the primacy of agriculture in the development of the Indian economy must be kept in mind while making recommendations about policy interventions in the field of urbanisation. At least in the next two decades, there is no likelihood of a very substantial reduction in the proportion and number of workers engaged in agriculture, and it is unlikely that the share of agriculture in terms of the proportion of the working force and the proportion of GNP originating from agriculture will be so substantially reduced that agriculture will cease to be a major sector of the Indian economy. This is not to deny that it is expected that India will take massive strides in the field of industrialisation and will emerge as a major industrial nation. Urbanisation, therefore, must necessarily also cater to the increasing demands made by industrialisation. It follows, therefore, that, at least for the next two decades, our urbanisation strategy should aim at promoting both agricultural and industrial development and thus play a positive role in the challenging task of generating rapid economic growth.

**2.2.8** If this philosophy is accepted, our intervention strategies in the field of urbanisation should give adequate attention to agricultural development and concentrate on the rural poor, who are the potential migrants to the big cities, in the absence of adequate employment opportunities in the rural areas. Intervention is certainly called for to take care of the urban poor, but the starting point should be concern for the rural poor. If our intervention strategy succeeds in reaching them at the district level and giving them the much-needed vocational skills and helping them in getting employment, preferably at the district level itself, the rural hinterland will be opened up, and the blind migration to the cities avoided. When agriculture prospers and the rural income levels go up, there will be a rising demand for consumer goods which will sustain the process of

industrialisation and, consequently, of urbanisation also. This calls for a highly efficient system of planning at the district level which will integrate spatial planning with economic and social planning. In the Commission's view, urbanisation should be a major instrument in our antipoverty programmes in backward rural districts as well as a major generator of economic growth in agriculturally prosperous districts.

**2.2.9** The Prime Minister has recently announced that the formulation of the Eighth Five Year Plan will be based on district level planning. On the basis of the limited data available, the Commission undertook a series of statistical exercises in order to evolve guidelines for intervention strategies at the district level. The objective of these exercises is to minimise the influence of political considerations, ad hoc decisions and conjectures. Regardless of past performance or the rate of growth of any city or town, policy intervention must consciously seek to bring about a balanced development of all regions in a phased manner, keeping in mind the overriding resource constraint and the need for raising productivity and generating economic growth with equity.

### **2.3 Future Urban Settlement Pattern**

**2.3.1** In our new categorisation of urban centres, ranging from Class C 1 to Class C 6, the Commission has tried to look at cities ranging from a population of 1 lakh to 1 crore and above arranged in six population slabs. Obviously, the cities ranging from Class C 4 to C 6 are reaching a size which renders them difficult to manage and where diseconomies of excessive size might well have begun to operate. These diseconomies could take the form of excessive densities in core areas, non-availability of land, and overloaded infrastructure which is no longer amenable to improvement, lack of housing and a transportation system which, for want of land space, can no longer be augmented! In fact, in many of these cities, there is a discernible movement outwards, towards the periphery, as

evidenced by the urban outcroppings of Calcutta, Madras and Bombay, and the new townships being developed on the periphery of Delhi by adjoining state governments. Even for the sake of survival, urban policy must aim at relieving the enormous pressures on our very large metropolitan centres. This means that cities ranging from Class C-1 to Class C 3, as also the Class 2 towns, must be given a greater growth momentum. This would imply not only the maintenance of the existing infrastructure but creation of all those opportunities which can make these towns and cities economically viable and attractive centres for location of new economic activities. The Commission has noted, with some regret, that the Planning Commission has merely proposed the development of a hundred new industrial centres in backward areas. This is a different proposition from the one propounded by the Commission, viz. that if India is not to have a lop-sided urban settlement pattern, the intermediate-level towns must be developed. Even if they are not coated in backward regions, the industrial investment now proposed for the 100 new centres should gravitate towards the intermediate-level towns which have a growth potential. Because many of them are in fact located in or near backward areas, equity of development would still be ensured if, instead of 100 wilderness areas being developed at great cost, the existing towns which have a potential receive a threshold level of investment.

**2.3.2** Urbanisation can make a positive contribution to economic growth only when the cities generate economic momentum, their economic base expands and productivity increases. Left to the market forces, some cities will generate this momentum, but in a country like India, where the planning process has taken deep roots and the public sector is bound to play a significant role, the need for policy intervention in directing the urbanisation process is obvious. Due consideration has to be given to key sectors like development of water and sewerage system, energy, transport, communications and environment,

keeping in mind the objectives of efficiency and equity, of regional balance and harmonious development of rural and urban areas. In short, urban development should not be at the cost of rural development nor should there be rural development at the cost of urban development. To translate these broad objectives into concrete programmes of urbanisation, it is necessary to identify a number of cities and towns which should receive priority in our development plans, both at the central and state levels. While our objective should be to create conditions which will make all cities and towns economically viable and vibrant, our resource constraint calls for adopting a strategy of phased development and specifying priorities. On the basis of the census data mentioned earlier, the Commission has attempted to identify 329 urban centres and 49 urbanisation regions where the limited resources available could be applied to the maximum advantage of the country as a whole.

**2.3.3** As the maps and statements at the end of this chapter show, they are not concentrated in any one part of the country alone, but are reasonably well distributed spatially and are to be found in all states. Naturally, there is a high concentration in the most densely populated parts of the country, North Bihar and Eastern UP in particular, where the population mix is heavily biased in favour of the rural. Agricultural productivity is at a plateau and there is real threat of migration from rural areas. Every town or city which has a high demographic growth momentum on a sustained basis calls for immediate attention for improvement of its ability to absorb migrants.

**2.3.4** The Commission has further looked at those towns and cities which are growing fast and which have also shown signs of economic growth. Conversely, the Commission has tried to identify those towns which do not at present exhibit economic growth but which are located 'in regions from which out-migration will occur and

where there is a crying need to develop urban centres so that migration from rural areas can be localised within the region itself another task, the Commission has also looked at those districts where more than 30 per cent of the population is urban and where, therefore, there is likely to be a further increase in urbanisation in the near future. Here, also, it would be necessary to develop the predominant urban centre in the-district so that urbanisation does not become a matter of population distribution alone but also leads to a healthy generation of non-agricultural jobs.

**2.3.5** One of the major factors leading to development is the availability of a higher level of administrative services in a town. It is not surprising that 14 of the state and union territory capitals have shown growth characteristics in excess of the national average, with another 5 being close to that figure. The Commission feels that, if the administrative capitals are provided with a suitable infrastructure and their activities are diversified from the merely administrative to a more well-balanced combination of appropriate industry, commerce and services, they would become strong centres of development, especially in the backward regions. The process could be extended to eventually cover a substantial number of district headquarters also.

**2.3.6** As mentioned earlier, the Commission has been able to identify 329 urban centres, which have a high demographic growth momentum, coupled with an equally promising economic momentum or a potential for development if the right kind of Investment is made. These include 20 headquarters of districts where the urban population is more than 30 per cent of the total population of the district and 109 which are located in districts where more than 90 per cent of the population is still rural, but where the greatest possibility of migration from rural areas exists. In the districts where the urban population is substantial, the rapid economic development of

selected towns would create new job opportunities in urban centres other than the metropolitan. We would then break away from the British system of accumulation of wealth in only a few large cities which, from a colonial point of view, had strategic importance and, instead, move towards an urban system in which wealth is generated in a large number of towns. Similarly, if the communication system, transport facilities, water and sewerage facilities, housing and the social infrastructure of the 109 towns to be selected in the backward rural districts could be significantly improved, it should be possible to attract investment into these areas where a huge pool of surplus labour is available. If this investment is integrated with a massive training programme which prepares the rural folk for urban employment, the whole of the middle and lower Gangetic Valley for example, could become a throbbing dynamo generating economic power.

**2.3.7** To elaborate, our present approach to preventing the runaway growth of large cities and migration of rural people into metropolitan centres is to try and put some marginal resources into the development of small towns selected on an ad hoc basis, inducing of investment in so-called backward areas, which have little potential for growth, by artificial stimulants, and the launching of employment programmes in rural areas which do not create assets which can sustain employment in the future. Works which are akin to relief operations cannot possibly provide long-term employment to the surplus population of the rural areas. This population must not only be permitted to move to some form of urban or semi-urban settlement but, in fact, should be encouraged to do so. The policy of developing selected towns in the largely rural districts, therefore, is likely to work much better in terms of creating nonagricultural jobs, which are productive and which, in turn, would create more jobs - than either the policy of locating industry in backward areas, as under the present programme,

or creating temporary and illusory employment through rural employment guarantee programmes.

**2.3.8** In addition to the above-mentioned towns, the Commission also feels that all state and union territory capitals must be developed. These number 30. Obviously some of these, such as Delhi, Bombay, Chandigarh, Calcutta, Madras, Bangalore, Hyderabad, Bhopal, etc., stand on a different footing because they are either metropolitan or already enjoy a high level of economic development. These are cities which fall in the category in which the investment needed is in order to ensure survival and improvement rather than future development. The others, especially in the remote states, could benefit by an improvement in their infrastructure and enhancement of their capacity to sustain economic activity other than merely government service and, therefore, act as viable growth-centres within their own regions. The state and union territory capitals and the 129 towns mentioned earlier apart, the balance of about 170 towns and cities include those which are located in rich agricultural regions such as Punjab, Haryana, Western U.P., or have sprung up around - resource-specific industries, or where an economic growth momentum has been generated by past policies. These include some of the new industrial towns where massive investment has been made - in the recent past under the programme for developing backward areas. A large number of these, theoretically situated in designated backward districts, are actually located adjacent to large cities. In most of them, the development is lopsided, the investment in the industrial plant not being matched by investment in township development. This has prevented or retarded the growth of ancillary activities which could support the dominant industry and, by creating downstream jobs, and fully exploit the employment potential of the new town. Such towns also need attention so that their development becomes well-rounded.

**2.3.9** There is nothing sacrosanct about our list of towns and, on detailed examination whilst preparing project reports, it would always be possible to add to it or delete from it. However, the Commission has been able to apply certain well-considered criteria to identify specific urban centres into which the country should make investment for the future. These urban centres are fairly well distributed over 49 urban regions, all of which have discernible linkages with each other. They are located along existing transport arteries and are firmly grounded in a local resource base, whether it be people, minerals or agricultural produce. The development of these 329 towns, coupled with a revival of urban settlements across the board by renewal of infrastructure, would have the following beneficial effects:

- (1) The essential harmony and equilibrium in the urban settlement system, which is now showing signs of strain and distortion, would be strengthened. Because the new development centres are equitably distributed in space, a new, more viable regional equilibrium would be established.
- (2) By moving away from theories relating to decongestion of large cities, development of small towns per se; industrialisation of backward areas, etc., into a more logical system of investing in those urban centres which have a potential for growth, there would be optimisation of investment and creation of job opportunities on a reasonably widely dispersed basis.
- (3) With job opportunities being available locally in a large number of urban centres, the migration picture would alter. While highly trained, technically skilled, fairly mobile labour would still tend to migrate to the cities where their skills are needed, those rural and small-town migrants who possess a relatively lower skill level or whose propensity to migrate is limited, would move to the newly developed urban centres.
- (4) The revival of the stagnating towns in densely populated districts and the improvement of their economic infrastructure would induce migration from the rural countryside into a more productive urban environment. This has to be one of the major objectives of the future urban policy because, unless the idle, unemployed youth of the rural areas can be made to move out into nonagricultural jobs, there can be no rural prosperity. Perhaps the strongest argument for the development of the identified towns, or those which might be identified in the future, is that their wide regional dispersion would encourage migration from rural areas, limited largely within the region, so that new employment opportunities bring greater prosperity to the whole region.
- (5) If a sufficient number of towns and cities gain economic viability, there is a possibility that, from those metropolitan centres where the infrastructure is under unbearable strain, there would be some outward movement of activity and people. Vapi in South Gujarat is a good example of how the development of a small town into a major industrial centre has attracted young trained people even from cities such as Bombay and Pune. The possibility of the newly developing towns attracting some of the labour-intensive industry out of the large cities, for relocation after suitable renovation and technology upgradation, also cannot be ruled out. If the restrictions on urban renovation are removed in large cities and phasing out of the absolute industrial plant and its replacement by new, high technology industries is encouraged, a cycle of renewal may be set in motion, to the benefit of both the small towns and the metropolitan cities.

**2.3.10** This Commission has addressed itself to the question of how change is to occur. Obviously the rail, road and telecommunication linkages

between the urban centres identified for development would have to be improved. This means that, instead of politics determining the areas of investment in these key towns, the plans of the departments concerned for the Eighth, Ninth, Tenth and Eleventh plan periods will have to be adjusted to the needs of the new development centres. This should not be a very difficult exercise because, as already stated, most of the towns suggested for development are located on existing transportation and communication arteries. The investment would take the form of removal of bottlenecks and improvement of services. This would necessitate improvement in water supply, sewerage and power availability also. Because most of these centres are on or near a power grid it is only the distribution system that would have to be improved. Power is one of the major levers which could be manipulated to ensure the growth of the selected towns, either by ensuring constant supply or by applying a differential tariff so that people who insist on locating industries in large urban centres would have to pay more for obtaining power than those entrepreneurs who exercise the choice to locate in the newly developing smaller towns and cities. It should also be possible to ensure an adequate supply of water because the Commission has taken care to try and select only those places where there is a possibility of tapping either surface or ground water sources. Those cities and towns where water will not be easily available in the near future have been deliberately excluded from our list.

**2.3.11** Development is, ultimately a function of entrepreneurial choice. Where the entrepreneurial decision is forcibly induced by external pressure, the diseconomies of lack of scale begin to manifest themselves very rapidly. It is a well-known fact that many industrialists locate industries in so-called backward areas only to avail of subsidies and concessions. The industries function below par and very often not function at all. The subsidies are transferred to the existing plant in large cities or are otherwise misapplied.

Therefore, the availability of an adequate infrastructure including power, differential tariffs which encourage location in identified intermediate-level towns and cities, easy access to land and housing; and a perception that profits would be as easily available in the newly developing urban centres as in the larger metropolitan cities, are all factors which should encourage investment in these towns. For this purpose, it would be necessary for the state to invest in developing at least the basic infrastructure. Obviously, at the present level of availability of funds, such investment is not possible. The Commission has, therefore, separately recommended that the share of urban development in the plan should be substantially increased (see chapter on Finance). In the Seventh Five Year Plan, 1.01 per cent of the total is assigned to urban development, 1.3 per cent to urban housing and 1.6 per cent to urban water supply. This comes to just under 4 per cent of the total outlay. The share of the central sector is just 0.25 per cent of the total plan outlay, with nothing being provided for urban water supply. Even this does not give a true picture because the share of the central sector goes largely to Delhi and other union territories. Because urban development is a residuary sector which receives a low priority even in the state plans, this is the first outlay to be slashed when there is stringency of funds. The Commission, therefore, feels that the share of urban development, including housing and water supply, should be doubled, i.e., raised to 8 per cent from 4 per cent, with half coming from the central sector. Assuming that the Eighth Five Year Plan would be 10 per cent larger than the Seventh, it would be of a magnitude of approximately Rs 200,000 crores. Urban development would thus be slated to receive about Rs 16,000 crores in the Eighth Plan, of which Rs 8,000 crores would be in the central sector. Similarly, the size of the Ninth Plan could be assumed to be Rs 2,25,000 crores, with urban development receiving Rs 18,000 crores. Taking the Eighth and Ninth Plans together, if the

above level of investment is available, the Commission envisages an investment of between Rs 30,000 and 35,000 crores over a ten-year period, or Rs 50,000 crores in the next fifteen years. The annual investment would range between Rs 3,000 and Rs 3,500 crores, with the central government contributing between Rs 1,500 and Rs 1,800 crores per annum. This is a level of investment which this country can afford. If half of these funds go into the development of the 329 identified urban centres and half in reviving the existing cities, a totally new urban picture would emerge. The large cities, the intermediate-level towns and the stagnating towns would come alive and the quality of life would substantially improve. Even the slums would largely disappear. At the same time, if the 49 urbanisation regions are developed, there will be vibrant, dynamic, economic life throughout the country. Undoubtedly this would encourage further migration from rural to urban areas, but being spatially well-distributed, this would not bring about a distorted urban settlement. If the rural population surplus is siphoned into productive, non-agricultural activity at intermediate-town level, there would be a discernible improvement in the rural economy, with a simultaneous development thrust in the smaller towns located within each region. The Commission is of the view that such an urban future is well within the capability of our government and our people.

## 2.4 RECOMMENDATIONS

The Commission recommends that our urbanisation strategy should be guided by the following considerations.

**2.4.1** The decay and degradation of services and the increasing pauperisation of the existing urban centres should be immediately reversed.

**2.4.2** The Commission has noted that by the year 2001 anything between 14 and 15 crores extra people will have to be accommodated in urban areas. Of these at least 6 crores will accrue to the

existing towns by way of natural growth. The capacity of the present urban settlements to absorb the natural growth has to be built up on a high priority basis.

**2.4.3** Of the 600 towns-Which are growing rapidly in terms of population, 329 have shown signs of fast economic growth also or have a potential for such growth in the future. The Commission recommends that these towns should receive the highest priority in future development.

**2.4.4** The logic of developing more towns in urbanised districts is that if economic activity gravitates to these towns, there would be a break-away from the British system of concentrating wealth in just a few metropolitan cities. Similarly, the development of towns in highly rural districts, which are densely populated, would create new, nonagricultural employment opportunities and encourage the siphoning off of the idle, surplus labour of the rural areas into productive urban employment. This would localise migration within the region, and by relieving pressure on an overloaded agricultural system, would bring wealth to the villages.

**2.4.5** The development of state capitals and other administrative centres, especially those in backward areas, would diversify employment from just government service into industry, trade and commerce and other services. This would generate a growth momentum in the backward regions.

**2.4.6** The development, of towns in agriculturally rich areas, investment in improving rural linkages of resource- specific towns located in the midst of industrial towns in backward area which have been developed in the recent past, would strengthen the rural-urban continuum and pass on prosperity from relatively wealthy urban areas to the countryside which services them.

**2.4.7** The Commission unequivocally recommends the abandonment of the policy of locating new industries in backward areas and its replacement by a policy of developing the towns identified on the basis of the criteria mentioned above. Instead of, forcibly inducing investment in areas which are backward and have little infrastructure and in which the concessions are likely to be misused, the Commission recommends the development of the identified existing urban centres at intermediate and small town level so that entrepreneurial decisions may be taken in favour of these towns in preference to the overloaded large cities. Because the selected towns are located in 49 closely interrelated regions, their development would benefit the backward areas in a much better fashion than the mere development of hundred totally new growth centres.

**2.4.8** The Commission recommends that the share of urban development in the plan outlays should increase from the present level of about 4 per cent of the total outlay to 8 per cent, with half coming from the central sector. In the Eighth and Ninth Plans along this would make available anything between Rs 3,000 and As 3,500 crores per year for urban development, of which half would be provided by the central government. If 50 per cent of the investment goes to developing the identified growth centres and the balance to improving the existing infrastructure of all the cities and towns, a completely new urban picture would emerge. The capacity of urban centres to absorb migration will improve. A substantial amount of out-migration from rural areas to places where gainful employment is available would also be encouraged. This would be a positive input into rural prosperity also. With adequate investment being made in infra-structural upgradation, the growth of slums would be checked and even reversed. The Commission feels that the level of

investment suggested is reasonable and can be afforded in 5-year tranches over the next few Plans.

## 2.5 Appendix

### Identification of National and State Priority cities and Spatial Priority \ Urbanisation Regions.

**2.5.1** Having made a preliminary list of Cities Generating Economic Momentum (GEMs) covering about 600 cities and towns all over the country, the Commission made a final selection of 329 GEMs.

**2.5.2** The Commission has taken note of the 15 Agro-Climatic Regions recently formulated by the Planning Commission and also the 80 natural regions which serve as the framework for collection of National Sample Survey data. From the broad agro-climatic regions, we have proceeded to the NSS natural regions, then to individual states, and then to districts. Finally, we have considered every single individual Standard Urban Area, Urban Agglomeration, City and Town. We have also considered the Urban Outgrowths and rural areas within the ambit of the Standard Urban Areas. We have examined the growth rate of rural and-urban population for each district in India. In regard to the economic data, there were serious constraints. Unfortunately, the 1981 census discontinued the tabulation of data on all the nine industrial categories of workers in each town and city, which was done in earlier censuses. Thus no comparison of the economic structure of cities in terms of the industrial classification is possible between 1971 and 1981, except for Class I cities of 1981. Wherever possible, the fullest use of the 1971 census data on industrial classification of workers for each individual city or town was made in our exercises.

**2.5.3** Since we have examined the data for each individual city or town, our analysis does not follow the customary six urban classes, except that we have deliberately not considered quasi-urban towns with population below 20,000 (i.e., urban Classes IV, V, and VI). We have also not engaged ourselves in the needless controversy on the growth rate of urban population by different population size classes. Since the essence of our approach is centred on spatial planning, the statistical artifact of urban class is only of marginal interest to us, except in the case of cities which have or are expected soon to cross a population of one million (ten lakhs).

**2.5.4** The Commission also made a detailed study of the available infrastructure facilities and the scope for development of a variety of economic functions in the future. The final list was restricted to 329 GEMs. The next step was to distribute these GEMs between National Priority Cities (NPCs) and State Priority Cities (SPCs). Briefly, the methodology adopted was as follows:

- (1) In order to respect the norms of federalism and national integration, the capitals of all the states and union territories were designated National Priority Cities (NPCs), regardless of their population size. The Commission considers it important to respect the dignity of the state capitals and made these shining examples of positive urbanisation.



- (2) All cities with a population of one million (ten lakhs) and over have been classified as NPCs in view of their vital role in generating economic growth. There are at present 12 such cities. The scale of effort and the magnitude of finances required to deal adequately with the problems of the strained infrastructure of these cities justify their inclusion in the NPC list.
- (3) According to the projections made by various organisations and our own assessment of the future, as things are, there will be another 27 cities which will join the ranks of million plus cities by the year 2001. Since we have pleaded for positive intervention policies, our objective should be to see that this upgradation of so many cities to the million plus level does not take place and migration streams are diverted to other growth centres to bring about a more balanced pattern of urbanisation. Therefore, we have classified these potential million plus cities as NPCs.
- (4) In addition we have included in the list of NPCs a number of cities which we consider as having the potential of generating economic growth. However, these considerations are not restricted merely to economic activity; administrative factors have, been given due consideration. Socio-cultural factors have also been considered.
- (5) All GEMs, other than NPCs, have been classified as State Priority Cities (SPCs). The following considerations prevailed in arriving at the list of SPCs:
  - (i) There are a number of towns which have shown an economic momentum as measured by the proportion of workers in these towns engaged in the manufacturing sector, other than household industry, and construction. As mentioned earlier, here we have a data constraint: the detailed nine-fold classification of workers in each city and town is not available for the 1981 census, except for Class I cities. Therefore, our statistical analysis has been confined only to Class I cities in our search for GEMs. All places which have shown such economic growth momentum (EGM) have been classified as GEMs, priority being given to cities which have shown an above average performance in 1961, 1971 and 1981. In addition, the functional classification of towns was considered for all towns in 1961 and 1971 census data for screening the GEMs.
  - (ii) For each city and town, the population growth figures and, therefore, the growth rates are available for all the decades. We have compared the population growth rates for the 1961-71 and 1971-81 decades. If the rate of population growth is above the national urban growth rate, it is evidence of a population growth momentum (PGM) in such cities. We have given preference to cities which have recorded higher than national average figures, both in the 1961-71 and 1971-81 decades. It can be argued that mere population growth is not necessarily a reflection of economic growth and expanding employment opportunities. On the other hand, it can also be argued that a high rate of population growth in any city does reflect migration to these cities and a response to the creation of employment opportunities in the organised as well as the unorganised sectors. In this sense PGM is a proxy for EGM.
  - (iii) We have also designated as SPCs the headquarter of all districts (excluding those which are already covered in the list of towns showing economic growth momentum) where the 1981 urban population was already 30 per cent of the total Population of the district. In other words, in such districts there is a fairly sizeable urban infrastructure and this has to be backed-up for realising the growth potential.
  - (iv) In keeping with the objective of discouraging migration from backward rural areas to the big cities and the need for developing regional growth centres, the headquarters of all districts with a rural population of more than 90 per cent were classified as SPCs. It is in such remote and backward areas that the poor feel the greatest need to migrate to the cities in search of a living. We believe that one cannot ignore such rural districts merely because they are so predominantly rural. One of the objectives of positive urbanisation policy should be to open up the rural hinterland and generate economic activity within the regional nexus so that the need for long distance migration is minimised.
- (6) We have broadly examined the data, in regard to urban infrastructure like water, sewerage, power, road network, communication etc., while selecting cities which are generators of economic momentum (GEMs). In addition, we have also considered factors like (i) whether the GEM is located in a drought-prone area; (ii) whether it has a large scheduled caste and/or scheduled tribe population; (iii) whether it is a mandi town as classified by governmental agencies; (iv) whether it is located in a no-industry district as classified by the Planning Commission; (v) whether it is an ecologically sensitive area; (vi) whether it is a centre of higher learning of art and culture; (vii) whether it has attracted massive investments either in the public sector or private sector; (viii) whether it has a potential for becoming a growth centre in agriculturally prosperous areas; (ix) whether it possesses other special characteristics such as availability of special natural resources, and conducive environment, or determining factors like proximity to international borders, etc.
- (7) The Standard Urban Area (SUA) concept developed in the 1971 census did take note of the growth potential of large cities, keeping in mind the core city, satellite towns and intervening rural areas. However, in the Commission's view, the SUAs, while useful for individual master plans, are too restrictive for the delineation of larger urban regions. We have identified in all 49 Priority Urbanisation Regions (not merely urban corridors) to cover the whole country, keeping in mind the present pattern of settlement and the potential for development of the nodal cities and towns in the context of expanding economic opportunities.

**2.5.5** The list of NPCs, SPCs, and SPURs (Spatial Priority Urbanisation regions) are given in Statements 1,2 and 3 respectively, followed by Maps 4,5, and 6, indicating their spatial distribution. Map 1 indicates the distribution of urban settlements with population of over 20,000 in the 15 agro-climatic regions, Map 2 shows the potential of water resources and Map 3 prepared by the office of the Registrar General gives an idea of the current 'urban corridors' (which incidentally, is different from our proposed priority urbanisation regions).

**2.5.6** The Commission has thus not only laid down general guidelines for the future urban settlement pattern but has also

indicated in concrete terms, the specific regions and cities and towns which need a thrust on a priority basis. Needless to say, our statistical exercise is of a preliminary nature and the Planning Commission and the state governments will have to undertake further detailed exercises. Our objectives was more to illustrate (through a few elementary maps) our vision of the future pattern of urban settlement rather than arrive at a firm list of cities to be backed. The essence of our philosophy is that cities must create employment, open up the hinder land, generate wealth with equity, be engines of growth and catalysts of social transformation and modernisation of our economy and society.

### STATEMENT III SPATIAL PRIORITY, URBANISATION REGIONS (SPURs)

1. NATIONAL CAPITAL REGION
  2. KURUKSHETRA-JIND-HISSAR-BHIWANI-ROHTAK
  3. LUDHIANA-JULLUNDHAR-KAPURTHALA
  4. LUDHIANA-KHANNA-PATIALA
  5. BHATINDA-FARIDKOT-FEROZEPUR
  6. PATHANKOT-DHARAMSHALA-DALHOUSIE-KULU-MANALI
  7. SHIMLA-NAHANV8ILASPURMANDI
  8. KATHUA-JAMMU-UDHAMPUR
  9. KOTA-BHILWARA-CHITTORGARH-UDAIPUR
  10. AJMER-JAIPUR-ALWAR
  11. GANGANAGAR-SURATGARH
  12. AHMEDABAD-BARODA-ANKALESHWAR-SURAT-VALSAD
  13. BOMBAY-THANE-PANVEL-NASIK-DHULE
  14. AHMEDNAGAR-AURANGABAD-NANDED-BID
  15. F'UNE-SHOLAPUR
  16. AKOLA-AMRAVATI-NAGPUR-BHANDARA
  17. RATNAGIRI-GOA-KARWAR-MANGALORE
  18. HYDERABAD-MEHBOOBNAGAR-NALGONDA-KURNOOLANANTPUR
  19. ADILABAD-NIZAMABAQ-KARIM NAGAR-WARANGAL
  20. NELLOFIE-TIRUPATI
  21. VTSHAKHAPATNAM-RAJAMUNDY-VIJAYAWADA-GUNTUR
  22. BELGAUM-HUBLI-DHARWAD-DAVENGERE-HARIHAR
  23. TUMKUR-BANGALORE-HOSUR-MYSORE-MANDYA
  24. HOSPET-BELLARY-RAICHUR
  25. TRIVANDRUM-KOTTAYAM-COCHIN
  26. MADRAS-ARCOT-VELLORE
  27. COIMBATORE-ERODE-SALEM
  28. MADURAI-TIRUCHIRAPALLI-TANJAVORE
  29. ROURKELA-SAMBALPUR-CUTTACK-PURI-PARADEEP
  30. RATLAM-UJJAIN-DEWAS-INDORE-DHAR
  31. RAJANANDGAON-DURG BHILAINAGARLRAIPUR-BILIASPURRAIGARH
- 
32. BHIND-MORENA-GWALIOR-SHIVPURI-GUNA
  33. SHAHDOL-KATNI-JABALPUR-MANDLA
  34. BETUL-CFINDWARA-SEONI-BALAGHAT
  35. SEHORE-BHOPAL-VIDISHA-RAISEN-HOSHANGABAD
  36. JHANSI-HAMPRPUR-CHATARPUR-SAGAR-LALITPUR
  37. ALMORA-NAINITAL-HALDWANI-PILIBHIT
  38. HARDWAR-RISHIKESH-DEHRADUN-UTTAR KASHI
  39. KANPUR-LUCKNOW-FAIZAI3AD-GORAKHPUR
  40. VARANASI-GADPUR-BALLIA
  41. BETTIAH-MOTIHARI-DARBHANGA-JOGABANI
  42. RANCHI-DHANBAD-HAZARIBAG
  43. CHAPRA-PATNA--t3HAGALPUR-KATIHAR
  44. CALCUTTA-KHARAGPUR-MIDNAPUR-JAMSHEDPUR
  45. CALCUTTA-BURDWAN-DURGAPUR-BOLPUR-DHANBAD
  46. DARJEELING-SILIGURI-ALIPUR DAUR-COOCH BIHAR
  47. GAUHATI-SHILLONG-SILCHAR
  48. DIMAPUR-KOHIMA-IMPHAL
  49. JORHAT-TINSUKIA-DIGBOI
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Note: The cities and towns listed here as nodal points are not necessarily NPCs and SPCs. The regions shown in map 6 give only a rough idea of the delineation based on a few nodal points.

**LIST OF STATEMENTS****I. NATIONAL PRIORITY CITIES (NPCs)**

Table A Capitals of States and Union Territories

Table B Million Plus-Cities as of 1981

Table C Cities which are Heading Towards the Million Plus Mark in 2001.

Table D Others Cities with Potential for Generating Economic Momentum

Table E Residual List

**II. STATE PRIORITY CITIES (SPCs)**

Table A Cities with Potential for Generating Economic Momentum (GEMs)

Table B Headquarters of Districts with 30 per cent and More Urban Population

Table C Headquarters of Districts with 90 per cent and More Rural Population

Table D Residual List

**III SPATIAL PRIORITY URBANISATION REGIONS (SPURs)****MAPS**

1. India : Agro-Climatic Regions with Location of Urban Centres (population 20,000 and above) 1981.

2. India : Surface and Ground Water Potential

3. India : Urban Corridors (Special urban Regions)

4. India : National Priority Cities (NPCs)

5. India : State Priority Cities (SPCs)

6. India : Spatial Priority Urbanisation Regions (SPURs)

**LIST OF STATE PRIORITY CITIES**  
(Location codes as in Map 5)

**ANDHRA PRADESH**

Guntur (1) Warangal (2) Rajamundry (3) Nellore (4) Kurnool (5) Nizamabad (6) Machilipatnam (7) Tirupati (8) Cuddapah (9) Khammam (11) Mahbubnagar (12) Karimnagar (13) Ongole (14) Narsaraopet (15) Nalgonda (16) Madanapalle (17) Adilabad (18) Dharmawaram (19) Siddipet (20)

**ASSAM** Digboi (21) Jorhat (22) Nowgaon (23) Tinsukia (24) Silchar (25) Dhubri (26) Tezpur (27) Bongaigaon (28) Diphu (29) Haflong (30)

**BIHAR**

Muzaffarpur (31) Darbhanga (32) Bihar Sharif (33) Katihar (34) Chapra (35) Purnia (36) Bermo (37) Patratu (38) Dehri (39) Hazaribag (40) Sasaram (41) Bettiah (42) Begusarai (43) Giridih (44) Motihari (45) Hajipur (46) Saharsa (47) Daltonganj (48) Siwan (49) Samastipur (50) Sitamarhi (51) Madhubani (52) Nawada (53) Aurangabad (54) Dumka (55) Gopalganj (56) Narkatiaganj (57)

**GUJARAT** Rajkot (58) Jamnagar (59) Bhavnagar (60) Porbandar (61) Junagarh (86) Navasari (62) Patan (63) Anand (64) Mahesana (65) Palanpur (66) Himmatnagar (67) Dwaraka (68)

**HARYANA** Faridabad (69) Panipat (70) Hissar (71) Ambala (72) Sonapat (73) Sirsa (74) Jind (75) Bahadurgarh (76)

**HIMACHAL PRADESH** Nahan (77) Mandi (78) Dharamshala (79) Chamba (80) Kulu (81) Una (82) Hamirpur (83) Balaspur (84) Dalhousi (85) Keylong (87)

**JAMMU & KASHMIR** Udhampur (89) Pulwama (90) Doda (91) Kargil (92) Kupwara (93) Gulmarg (94)

**KARNATAKA** Belgaum (95) Gulbarga (96) Bellary (97) Davangere (98) Shimoga (99) Raichur (100) Tumkur (101) Mandya (102) Bidar (103) Harihar (104) Karwar (105) Madikeri (106)

**KERALA** Calicut (107) Trichur (108) Alleppey (109) Cannanore (110) Kottayam (111) Malapuram (112) Shornur (113) Idukki (114) Kalpetta (115)

**MADHYA PRADESH** Raipur (116) Ujjain (117) Bilaspur (118) Ratlam (119) Satna (120) Rajnandgaon (121) Dewas (122) Bhind (123) Morena (124) Raigarh (125) Itarsi (126) Vidisha (127) Guna (128) Seoni (129) Balaghat (130) Chhatarpur (131) Shandol (132) Betul (133) Mandla (134) Panna (135) Ambikapur (136) Sidhi (137) Jhabua (138) Raisen (139) Pithampur (140)

**MAHARASHTRA** Nasik (141) Aurangabad (142) Dhule (143) Nanded (144) Ichalkaranji (145) Chandrapur (146) Parbhani (147) Bid (148) Ratnagiri (149)

**MANIPUR** Ukhrul (150) Tamenjlong (151) Krong Senapati (152)

**MEGHALAYA** Tura (153) Jowai (154) Williamnagar (155) Nongstoin (156)

**NAGALAND** Tuensang Town (157) Mon (158)

**ORISSA** Cuttack (159) Berhampur (160) Sambalpur (161) Baleshwar (162) Balangir (163) Baripada (164) Bhawanipatna (165) Dhenkanal (166) Phulabani (167)

**PUNJAB** Jullandhar (168) Patiala (169) Bhatinda (170) Pathankot (171) Batala (172) Hoshiarpur (173) Phagwara (174) Gobindgarh (175) Rupnagar (176)

**RAJASTHAN** Ajmer (177) Bikaner (178) Alwar (179) Bhilwara (180) Bharatpur (181) Barmer (182) Banswara (183) Dungarpur (184) Jalor (186)

**SIKKIM** Namchi (187) Mangan (188) Gyalshing (189)

**TAMIL NADU** Tirunelveli (190) Erode (191) Tuticorin (192) Tiruppur (193) Tiruppur (194) Kanchipuram (194) Sivakasi (195) Ootacamund (196) Dharmapuri (88) Hosur (197) Kodaikanal (198)

**TRIPURA** Udaipur (199) Kailashahar (200)

**UTTAR PRADESH** Bareilly (201) Moradabad (202) Gorakhpur (203) Dehradun (204) Ghaziabad (205) Jhansi (206) Muzaffarnagar (207) Mathura (208) Hardwar (209) Jaunpur (210) Bulandshahar (211) Sitapur (212) Bahraich (213) Rae Bareilly (214) Fatehpur (215) Haldwani (216) Unnao (217) Gonda (218) Basti (219) Azamgarh (220) Barabanki (221) Ballia (222) Lakhimpur (223) Ghazipur (224) Deoria (225) Bela-Pratapgarh (226) Sultanpur (227) Rishikesh (228) Nainital (229) Almora (230) Mussoorie (231) Pithoragarh (232) Pauri-Garhwal (233) Uttarkashi (234) Chamoli (235) Narendranagar (236)

**WEST BENGAL** Asansol (237) Siliguri (238) Bankura (239) Maldah (240) Medinipur (241) Conch Bihar (242) Purulia (243) Jalpaiguri (244) Suri (245) Krishnanagar (246) Murshidabad (185)

**ARUNACHAL PRADESH** Tezu (247) Bomdila (248)

**DAMAN & DIU** Daman (249)

**PONDICHERRY** Karaikal (250) Yanam (251) Mahe (252)

## Part II

### 3 URBAN PATTERN

#### 3.1 Settlement Structure and Urban Form

**3.1.1** At the settlement level, urban physical structure in India is characterised by irrational land-use disposition, inefficient land development and utilisation, large-scale physical deterioration, acute housing shortages, both quantitative and qualitative, and, above all,

environmental degradation to varying degrees. While the smaller urban centres remain impoverished and unable to provide even a minimum level of infrastructure and services, the larger ones suffer from acute inadequacy of services and distribution, creating zones of extreme urban deprivation. A new form of urban dichotomy had emerged in which an affluent urban minority flourishes at the cost of a deprived urban majority. This is also reflected in social and economic imbalances and inequitable income distribution.

**3.1.2** The urban form of most towns is the result of laissez-faire development, with inefficient and uneconomic ribbon extensions along trunk roads sprawling out of a highly concentrated core, and sporadic growth on the fringes with vast tracts of vacant lands encircled by such development. Municipal limits get extended periodically not on the basis of any planning criteria but as political whims and expediency dictate. The result is a disjointed urban form which is highly uneconomic to service and extremely difficult to manage for an average-sized municipality.

**3.1.3** Problems arising out of an imbalanced urban structure get magnified manifold at the metropolitan level where they are further compounded by sky-rocketing land and property values in and around the concentrated core, lack of a dispersed pattern of work-centres, sprawling residential dormitories and suburbs entailing long-distance travel between home and work-place, inefficient transport and services systems, and proliferation of slums and squatter settlements in which, at a conservative estimate, more than a third of the population of the large metropolitan cities live. Proliferation of mixed land-uses, multiple building uses, and informal sector occupations have been the people's response to a hostile land market, and these features have become ingrained in the urban fabric.

**3.1.4** The emergent urban spatial pattern is the product of two diverse but interrelated processes: one resulting in unabated polarisation of activities in large urban centres, particularly the metropolitan cities, owing largely to economies of scale and higher levels of economic and social

infrastructure available there; and the other conditioned by the inadequacy of resources for public investment in upgrading and infrastructure in small and medium cities owing to the competing demands of large cities. As more and more investments flow in, the attractiveness of the large cities for still further investment increases, resulting in further aggravation of inter-settlement disparities. No attempt has been made so far to fully evaluate the social cost of large city concentrations, which could well offset the gains accruing from economies of scale.

### Policy Issues

**3.1.5** In the situation described above, the following dominant issues emerge for consideration:

- \* In developing countries, where resource recycling, conservation and regeneration are imperatives for sustained growth, to what extent and how can public investment in urban infrastructure and development in smaller centres enable resource generation and, at the same time, not retard the pace of economic development?
- \* If metropolitan and large-city growth lead to deterioration of the urban environment, will development of small towns alone, as has been the major thrust of urbanisation policy since the Fifth Five Year Plan, create a balanced urban pattern not only in spatial but also in socio-economic terms?
- \* Should not the policy of selective discrimination in public investments, both in infrastructure and development, in favour of small centres as against large cities, be pursued simultaneously with development programmes directed at small and medium towns (IDSMT) to realise the goal of a more equitable and balanced urban pattern?
- \* What population class of 'city would, given the minimum inputs, be able to achieve, in the shortest time, viability in physical, social

and economic terms and a level of attractiveness that would enable it to emerge as a growth centre without creating conditions of over-growth or over-concentration in the next two or three decades? Obviously, such centres would have to possess an inherent propensity and potential for growth.

- \* Would it be worthwhile to devise an urban pattern based on accelerated urban development of such viable centres as the new growth centres which will have shorter gestation periods for emerging as deflectors to themselves of the migratory pull of large cities and metropolises? In other words, should not the current policy of development of small and medium towns give way to a crash programme of developing 20-25 viable regional cities to establish a base for a balanced and dispersed urban pattern?

### 3.2 Urban Profiles

#### Problems and Prospects

**3.2.1** Unabated and uncontrolled growth and concentration of population in the few metropolitan cities has led to acute exploitative conditions, not only within their confines in terms of access to land, economic opportunities, and income distribution, but also in a wider area in thwarting the growth of second and third order urban centres. However, metropolitan cities have come to be accepted as vehicles of national economic development, in as much as they enable maximisation of economies of scale in production, distribution and consumption of goods and services. As a result, they have emerged as exclusive focal points of employment generation in secondary and tertiary activities, not only in the formal but also in the informal sector, which has the capacity to absorb- new migrants in large numbers.

**3.2.2** Absence of deliberate policies bordering on 'selective discrimination' against metropolitan aggrandisement has contributed as much to the sad state of affairs in the metros as lack of deliberate programmes promoting the emergence of a state-wide hierarchical pattern of urban settlements which would help achieve a planned decentralisation of urban activities and population. The two are interrelated and interdependent, and have to be treated as a single package of a two-pronged strategy. Whatever efforts, though belated, that may have been made so far by the respective state governments and the metropolitan authorities to promote orderly development have obviously not been able to make any tangible impact as they were not backed by any meaningful regional spatial development strategy aimed at reversing the forces of centralisation and channelising the over-spill and new migrants to alternative job centres.

**3.2.3** The skewed urban pattern perpetuated by the continued polarisation of population and activities in the metropolitan cities has emerged largely owing to the ineffectiveness of public policies aimed at channelising the initial spin-offs of the metropolitan-scale economy towards alternative centres outside their influence areas. Central government programmes like the Integrated Urban Development Programme (IUDP) for medium and large-sized cities, and the Integrated Development Programme for Small and Medium Towns (IDSMT) introduced in the Fifth Five Year Plan, have had little success so far in arresting the forces of polarisation, or creating conditions of viability and attractiveness in the medium-size cities which enable them to emerge as alternative centres of growth. The reasons are obvious: meagre financial resources thinly spread over a wide canvas to cover a large number of small and medium towns under the IDSMT programme may at best have enabled implementation of small individual schemes during the last ten years, but major developments like strengthening the regional linkages network

to improve nodality and creating a productive, developmental climate to enable economic viability, have been left to natural growth processes. IDSMT programmes entail long gestation periods before the recipient urban centres get energised and equipped to emerge as alternative regional growth centres. Moreover development of small and medium size towns alone is not enough to successfully combat the forces of metropolitan overgrowth in a rapidly developing economic situation. It must be backed with definite public policies and planned decentralisation.

**3.2.4** At the metropolitan city level, while a polynodal-polycentric physical spatial structure has been universally advocated as a basic concept underlining development strategy, its realisation in the Indian metropolises has so far remained a far cry owing to varied politico-administrative problems, resource constraints and legislative hurdles. The four super-metros present a picture of varied experiences and experiments in adaptation of the decentralisation strategy. While in Bombay (BMRDA), Madras (MMDA), and Calcutta (CMDA) the decentralisation strategy concerns primarily the metropolitan area, in the case of Delhi, a wider area, the National Capital Region (NCR), has been indentified, to enable a wide dispersal of population and activities through accelerated development of several existing cities, in order to deflect migratory forces away from the metro centre. The NCR concept, which was re-energised in 1984 with the setting up of a statutory NCR Planning Board, could be expected to serve as a model for the other three super-metros in view of its wider and more comprehensive coverage of metropolitan issues. Recently the NCR decentralisation concept has been extended to the identification of cities outside the NCR which could emerge as viable counter magnets to the NCR in the larger perspective. The idea is to arrest the forces of migration of Delhi and the NCR by enabling them

to converge on alternative regional growth centres, and thus diffuse the forces of monocentric polarisation.

**3.2.5** For effective handling of the metropolitan situation, and to meaningfully address the multifarious problems in their intra-city, inter-city and regional dimensions, a complete reorganisation and reorientation of not only the metropolitan planning strategy but also of the traditional concepts of metropolitan management is imperative. While reorientation of economic policy relating to industrial location and infrastructure development, and fiscal policies relating taxation, subsidies, institutional credit and controls at the government level are urgent tasks, democratisation and broad-basing of the structure of metropolitan government and promoting a concept of 'partnership' between the metro and small-city authorities to achieve implementation of decentralisation programmes, are equally important measures at the operational level which must also be given priority. Metro-planning practice has also to undergo a major reorientation in order to better address the realities of the socio-economic situation, the aspirations of the people and the limitations of conventional resources and management tools which impede progress towards the ultimate goal of equitable distribution of income and opportunities in the metropolitan environment.

**3.2.6** Keeping in view the role metropolitan cities will inevitably continue to play as nerve-centres of national and regional economy in a functional hierarchy of settlements, the various developmental constraints which are characteristic of a developing country like India, the need to rapidly create new job centres and job markets for rural migrants to ease the pressure on agriculture and to create a situation in which it will be possible to start establishing equilibrium in the urban pattern, a two-pronged strategy appears necessary:

- (a) Public policies incorporating the concept of 'selective discrimination' should make possible the allocation of larger shares of investment in urban development, housing, social services, industry, transport and communication to non metropolitan-scale, Class I cities and district headquarters towns to energise and strengthen their economic, social and physical base, so that they may emerge as viable growth centres over the next ten years. A crash programme of accelerated infrastructure development should be undertaken to cover Class I cities, previously identified as fast-growing so that these may emerge as regional growth centres to deflect migration away from the metropolitan cities. It may be worthwhile to include all state capital cities and take advantage of the administrative primacy, high nodality and level of refurbishing, and development of regional growth centres should be coupled with a massive programme directed at containment and decentralisation of existing metropolitan agglomerations through effective planning and speedy implementation measures. These two programmes ought to be considered complementary, requiring coordinated investment planning.
- (b) As a long-term measure, development programmes directed at small and medium towns development should continue to be pursued with appropriate modifications, to enable maximisation of impact of investments. It appears advisable to concentrate during the next ten years on the fast-growing small and medium towns under this programme, wherein potential for employment generation should be the guiding factor in choosing towns for financial assistance.

### 3.3 The Public Sector New Towns

**3.3.1** There are 115 urban settlements in India (excluding Assam and J & K) which have come into existence due to deliberate public investment. Some of these New Towns were created as

refugee settlements in the aftermath of the partition of the country in 1947. A few (Chandigarh, Bhubaneshwar and Gandhinagar) were built as state capitals. The vast majority, however, were created as industrial townships. These 115 new towns hold a population of nearly 48.6 lakhs which is about 3 per cent of the country's urban population.

**3.3.2** All our major states have at least some new towns. States where the population of new towns (as a percentage of the total urban population of the state) is above the national average of 3.0 per cent are Orissa (20.03 per cent), Haryana (12.56 per cent), Bihar (10.92 per cent), Madhya Pradesh (4.81 per cent) and West Bengal (3.53 per cent) and the Union Territory of Chandigarh (86.69 per cent). The large percentage in the case of Haryana is on account of Faridabad, the largest urban centre in the state, being a new town. The other states mentioned have large steel cities and in Orissa the capital city of Bhubaneshwar is also a new town.

**3.3.3** Of the 115 new towns, there are 10 Class I settlements (accounting for 50 per cent of the new towns population) and 13 Class II settlements (accounting for 17 per cent). Of the Class I settlements, 4 are steel cities (Bokaro in Bihar, Bhilai in Madhya Pradesh, Rourkela in Orissa and Durgapur in West Bengal), 2 are capital cities (Bhubaneshwar in Orissa and Chandigarh), and 4 are general industrial townships of which 3 are parts of metropolitan agglomerations (Pimpri - Chinchwad in the Pune urban agglomeration and Avadi and Ambattur in the Madras urban agglomeration) and the fourth, Faridabad, is virtually a suburb of Delhi.

**3.3.4** Whereas all states have some new towns, only nine have new towns of greater than 50,000 population. Of these, only five have Class I cities which are not engulfed by metropolitan agglomerations. These are Bihar (Bokaro), Haryana (Faridabad), Madhya Pradesh (Bhilai),



Orissa (Rourkela and Bhubaneswar) and West Bengal (Durgapur) - the five states with high percentages of urban population in new towns.

**3.3.5** The role of new towns in bringing a semblance of order to India's urban pattern has been minimal. The new capital cities have, no doubt, emerged as important urban nodes owing to their status and administrative functions, but these also, barring perhaps Chandigarh have had tardy growth and a long gestation period before emerging as meaningful entities. A few of the older and larger public sector industrial towns, particularly the steel cities of Rourkela, Bhilai, Durgapur and Bokaro, have been responsible for triggering expansion and growth in non-company sectors as a spontaneous spin-off from public sector investments unfortunately, owing to lack of planning foresight, and myopic management, such developments have been largely haphazard and unplanned. However, capital cities and steel cities constitute only a small percentage of the new towns.

**3.3.6** Most new towns were set up for locating industries which have less employment than steel works. If an industry enjoys some flexibility in its location, it is simpler to establish it near an existing centre of some size, where skilled and semi-skilled labour is already available. It is thus that about 5Q of the 115 new towns are part of pre-existing larger agglomerations. This is, surprisingly, true even of the larger new towns with 3 out of 10 Class I and 5 out of 13 Class II new towns being parts of existing urban agglomerations, mostly metropolitan agglomerations. Furthermore, unlike capital and steel cities which easily acquire a diversified economic base (with long or short gestation period), other industrial towns tend to remain single-base entities.

### Prospects

**3.3.7** As far as possible, public sector industrial development projects should be located in relationship to existing small towns to enable a sense

of mutual interdependency to develop right from the inception of the new project. This will facilitate integrated development not only in physical but also in social and economic terms. Instead of establishing a township for each industry, it would be worthwhile considering ways and means for the integration of different kinds of industry on a regional basis and then provide an infrastructure to cater to the combined requirements of the industries.

**3.3.8** New towns are areas in which a great deal of public investment has been made. It is imperative to draw upon the assets so created in urban industrial infrastructure to energise such new towns to function as viable urban centres in the regions of their setting. This will call for diversifying their economic base, changing their mono-industrial character and reorganising their urban management systems to enable large-scale urban industrial expansion to take place in an integrated manner.

### 3.4 Settlement Structure

**3.4.1** With a view to focusing on the relative amenability of various-sized urban centres to a balanced spatial structure during the process of growth, this section makes a broad appraisal of the following four aspects of the physical structure of various size groups of urban centres:

- (1) developed and undeveloped land,
- (2) land-use disposition patterns,
- (3) density patterns, and
- (4) infrastructure availability.

#### Developed and Undeveloped Land

**3.4.2** It has been estimated that of the total of 242 sq metres of urban land available per capita, as much as 129 sq m (53.4 per cent) is undeveloped, that is, land which, despite being within urban limits, has not been rendered fit for urban use through the provision of essential services such as roads, drainage, water supply, etc. The extent of undeveloped land (as a percentage of the total land within urban limits) is least in the case of

metropolitan centres, being, nevertheless, as high as 36.5 per cent. In settlements of population size 50,000 to 10,00,00 the extent of undeveloped land varies between 40 and 50 per cent, while in towns with populations less than 50,000 it is in excess of 60 per cent (being 64.5 per cent in towns with population in the range 20,000 to 50,000 and 77.8 per cent in towns with population less than 20,000).

**3.4.3** In per capita terms, too, the extent of undeveloped land correlates negatively with settlement size being least (49 sq m) in the case of metropolitan cities and rising gradually in the case of settlements up to 50,000 population size (being 65 sq m and 88 sq m for Class I cities that have, respectively, greater than and less than 5 lakh population and 112 sq m for Class II settlements) and steeply in case of smaller settlements (being 300 sq m for Class III and 744 for smaller settlements).

**3.4.4** Undeveloped land in the case of smaller settlements may be on account of a persisting share of agriculture and allied sectors in their economies undeveloped land in the case of larger settlements, however, is on account, not of natural forces of urban economics, but of a process of whimsical populist politics which operates against sensible city planning in at least two ways. Firstly, city development authorities, in an attempt at securing public favour, devote much of their resources towards short-term building and construction projects rather than on land development. Secondly, there is much politically motivated regularisation, especially at election times, of non-formal housing activity in fringe areas and territorial expansion of municipal limits. This not only, results in an uneconomic urban form that entails expensive extension of infrastructure, lines to remote fringes but also finds civic authorities financially ill-equipped to either develop or police the vast chunks of intervening undeveloped land which becomes

highly susceptible to squatting, creating long-term problems. In any case, a territorial gain in urban area means a territorial loss to agriculture which is, and is likely to continue to be, a major sector of employment. As such, territorial expansion as a tool for expediting settlement design must be a last resort, adopted only if there is really no alternative.

### **Land use Disposition**

**3.4.5** From a TCPO study of land-use patterns in 407 urban centres of different sizes, the following patterns emerge in respect of the uses to which developed land in urban areas is put:

- (i) The extent of developed land available per capita correlates negatively with settlement size for settlements with up to 1 million population, being maximum at 213 sq m in the case of settlements with less than 20,000 population and a minimum of 70 sq m in the case of cities with 5,00,000 to 10,00,000 population. The million plus cities have a per capita developed land availability of 85 sq m which is half-way between that of the 5,00,000 to 10,00,000 cities (70 sq m) and that of the 1,00,000 to 5,00,000 cities (110 sq m).
- (ii) At the disaggregate level, too, the per capita developed land availability for individual uses shows broadly similar correlations. The minimum per capita availability of land under residential use as well as under parks and playgrounds and other uses is found in the 5,00,000 to 10,00,000 size cities, of land under industry, public and semi-public uses and roads in the million plus cities, and of land under commercial use in all Class I cities together. The maximum per capita availability of land under commercial use, public and semi-public use and roads and other uses is in centres less than 20,000 population, of land under industrial use and parks in centres of size 20,000 - 50,000 and of land under residential use in Class II centres (50,000 - 1,00,000).

- (iii) Within each settlement size, the most extensive use is residential (except in case of the less than 20,000 population centres which have a greater per capita developed land availability for other uses). The less extensive uses are invariably commercial and/or parks and playgrounds.
- (iv) Vacant lands within developed areas are a persistent and significant feature of all settlement sizes, the per capita vacant land being second only to per capita residential land (except in the case of 0.5 to 1.0 million size settlements where it is lower than public use and industrial use area as well). The maximum extent of vacant land - 46 sq m per capita - occurs in settlements less than 20,000 in size. This amounts to 21.8 per cent of the developed land availability. Class III (20,000-50,000) and Class II (50,000-1,00,000) towns each have vacant lands to the extent of 25 sq m per capita. The cities with 1,00,000 population and the cities with 5,00,000 to 1 0,00,000 population have, respectively, 13 and 7 sq m per capita vacant land. The metropolitan cities have 22 sq m vacant land per capita which is more than that other Class I cities. This amount to 25.4 per cent of the developed land, a percentage which is higher than the corresponding percentages for all other settlement sizes.

**3.4.6** Vacant lands, especially in large cities, stand at the core of a speculative market. Legislative and statutory provisions to curb speculative practices, where sound in principle or not, are rendered impractical in the context of inadequate policing machinery and operational encumbrances. The development authorities themselves find it simpler to acquire new land than vacant lands thrive. It has become clear that the withdrawal of these plots from the speculative market will not result from disincentives such as levying

huge unearned increment levies or recurring taxes on vacant plots but only from a public - private convergence through positive incentives.

### **Density Patterns**

**3.4.7** An examination of the gross area, developed area and residential densities of 407 urban centres in various size classes reveals the following:

- (i) Gross area density correlates positively with settlement size, being the least (10 persons per hectare) in the case of urban centres with population less than 20,000 and greatest (75 pp/ha) in the case of the metropolitan centres.
- (ii) Developed area density also correlates positively with settlement size though less systematically than does gross area density. The less than 23,000 size settlements have the least developed area density (47 pp/ha). The highest, however, is found not in metro-cities (where it is 118 pp/ha) but in centres of 5,00,000 to 10,00,000 population size (143 pp/ha).
- (iii) Residential area density correlates negatively with settlement size for settlements with less than 1,00,000 population size, being least for class II (50,000-1,00,000) centres at 171 pp/ha and 190 pp/ha and 206 pp/ha for Class III and smaller settlements, respectively. Among Class I settlements, cities of 5,00,000 to 10,00,000 population size have the highest residential area density (431 pp/ha), followed closely by the metropolitan cities (414 pp/ha), while the smaller Class I settlements (less than 5,00,000) have a much lower residential area density of 249 pp/ha.
- (iv) At the aggregate level, gross area, developed area and residential area densities work out to be 41 pp/ha, 89 pp/ha and 249 pp/ha - i.e., a ratio of 0.5:1.0:2.7. For settlements with more than 50,000 population, the gross densities are around 50 - 60 per cent of the developed area densities, while in the case of smaller settlements the

differential is greater in the case of residential area densities, the differential from developed area density is least in the case of the 5,00,000 size-group, the residential area density being 2.4 and 2.5 times the developed area density in the cases, respectively, of the 50,000 to 1,00,000 and 1,00,000 to 5,00,000 size settlements, and greatest in the case of settlements of less than 20,000 population size (4.4), followed by metro settlements (3.4). In other words, residential crowding *vis-à-vis* overall activity concentration is least in Class II and smaller class I settlements.

**3.4.8** A study of intra-city (ward-wise) density patterns reveals the following:

- (i) 12.8 per cent of the urban population lives in 0.9 per cent of the urban area at high densities in excess of 500 pp/ha. Among these, 2.5 per cent of the urban population lives in 0.1 per cent of the urban area at extremely high densities in excess of 1000 pp/ha. This, roughly speaking, indicates the coverage that would be required in a comprehensive renewal programme. On the other hand, 51.5 per cent of the urban population lives in 91.0 per cent of the urban land at low densities short of 125 pp/ha. Of these, 32.6 per cent of the urban population lives in 80.3 per cent of the urban area at very low densities short of 62.5 pp/ha. This, roughly speaking, represents the magnitude of redensification potential that exists in urban settlements.
- (ii) The percentage of population living at high densities (greater than 500 pp/ha) correlates positively with settlement size, except in the case of the metro cities where it is lower than in other Class I cities. The percentage of population living at low densities (less than 125 pp/ha) correlates negatively with settlement size. The proportion of population living in medium densities is 30-40 per cent except in the case of metropolitan cities

where nearly half (49.2 per cent) of the population is found to live in medium densities.

### Infrastructure Availability

**3.4.9** Kundu and Thorat analysed data pertaining to 1095 urban centres of various sizes with regard to the following four indicators of infrastructural development per thousand populations:

- (a) Average road length (km)
- (b) Average number of domestic electric connections
- (c) Average number of commercial/ industrial electric connections
- (d) Average number of financial institutions (aggregated using weightages: Credit Society = 1, Bank = 2) and the following six indicators of civic amenities per thousand population:
  - (a) Average number of sanitary units (Weightages : Water borne = 3, Dry = 2, Others = 1)
  - (b) Protected water supply (litres)
  - (c) Average number of medical centres
  - (d) Average number of educational institutions (Weightages: Primary School = 1, Secondary School = 2, High School = 3, Polytechnic/Typing School = 5, College = 6, Professional College = 7)
  - (e) Average number of recreational centres (Weightages: Public Library = 1, Drama Hall = 2, Cinema/Stadium = 3) and
  - (f) Number of households per census house.

**3.4.10** An analysis of these data reveals the following:

- (i) Small towns (population less than 20,000) are doing better than medium (20,000 - 1,00,000) or large (greater than 1,00,000) centres. These figures are, in all probability, the outcome of a low demand rather than significant supply.

- (ii) Of the settlements with larger than 20,000 population, the large settlements (greater than 1,00,000 population) are better placed in respect of infrastructural development but not so with regard to amenities, especially institutional amenities. This is undoubtedly due to the large slum and squatter populations especially in large Class I cities, which are bereft of these facilities.

**3.4.11** From the foregoing analysis of, aspects of urban spatial structure, one can surmise that, while all size-classes of urban centres suffer from imbalances in their physical structure and deficiencies in infrastructural facilities, the middle-order settlements (50,000 to 5,00,000) are comparatively better placed.

### **3.5 ISSUES AND PROSPECTS**

#### **The extent of Rural-Urban Transformation**

**3.5.1** Urbanisation is an economic necessity and hence a positive factor in national economic development. There are good prospects that it will proceed at an accelerated pace over the next few decades. However, India's urbanisation so far has resulted more from the 'push' factor of depleting rural incomes rather than the 'pull' factor of assured urban jobs. The disturbing aspect is that the cities are not generating jobs fast enough to keep pace with the inflow of rural migrants, as is evident from increasing unemployment, low per capita incomes and sizeable segments of population categorised as urban poor, which are at the core of urban maladies. It is thus that, on the one hand, urbanisation conditioned by growth and structural changes in the economy is viewed as synonymous with development and, on the other, is typically characterised by intra-settlement problems of decaying urban environment, slum and squatter settlements, housing shortages, low levels of urban services and infrastructure and a poor quality of life. From this contradiction arises the fundamental question of whether or not to restrain urbanisation.

**3.5.2** Studies relating to the likely implications of such factors as trends in economic growth, the relative contribution of agricultural and non-agricultural sectors in the national economy, sectoral work-force participation characteristics, and per capita rural and urban incomes, bring to light certain critical issues for urbanisation policy:

- (i) While economy grows at 5 per cent per annum, the share of non-agricultural sectors is going to increase from 63 per cent in 1985 to 74.5 per cent in 2001.
- (ii) Due to differential changes in productivity, only 35 per cent of the work force is likely to be employed in non-agricultural sectors.
- (iii) of the gross domestic product (GDP) 61 per cent will originate in urban areas by 2000 A.D., but the urban-rural differential will increase to only to 3.28 (from 2.83 in 1985)

The urbanisation policy that is to be developed within the framework of the national planning objectives of growth, equity and social justice, must, therefore, aim at (firstly) more equitable sharing of national income among urban and rural citizens by:

- (i) not adopting measures which try to retain villagers in rural areas, and
- (ii) not restraining employment generation in urban areas.....'

#### **Job-Creation and Size-viability of Urban Centres.**

**3.5.3** Job creation at an accelerated pace therefore emerges as the key issue in planning for India's urbanisation if the full benefit from the process itself is to be realised in the larger context of national economic development. To this end, it is necessary to create conditions for (a) strengthening the economic base and viability of existing urban centres, and (b) creating a larger number of economically viable cities. The question that arises at this point is what size of city can be

considered 'viable' in this context. Some of the factors to be considered when addressing the matter of size-viability are outlined below:

- (a) Studies relating to the growth dynamics of urban centres have revealed that a population size of 50,000 appears to be the cut-off point at which an urban centre shows marked tendencies to diversify and grow at an accelerating rate and this is an indicator of its gradually acquiring economic viability, which smaller sized settlements lack. Furthermore, the differential between the growth of urban population and that of number of urban settlements is significant only in the case of Class I cities, suggesting a need for increasing their numbers.
- (b) Settlement-level, structural imbalances and disparities emerge as another important issue of India's urban pattern and these are generally more pronounced in both large city groups of over 5 lakh population and smaller-sized town groups of less than 50,000 population than in medium size groups of towns and cities. While the former seem to have resulted from over-concentration of population and activities, the latter appear to have been caused by lack of economic viability and, consequently, of infrastructure and services.
- (c) Manageability of the urban functions to be performed by a city is an important determinant of desirable city size for a viable, structurally balanced urban community. While in-depth research on this and inter-related aspects is not forthcoming in the context of Indian situations, from various indicators pertaining to housing shortage, slum and squatter population, per capita land availability, land value differentials, land utilisation patterns, and, more importantly, urban transport system and network efficiency, it would appear that cities up to

5,00,000 population tend to be more manageable than larger cities, while retaining economic viability in terms of diversification and employment generation.

**3.5.4** Medium-sized cities therefore offer dual advantages of minimising structural imbalances and optimising development costs and should, therefore, dominate the urban pattern both in number and in share of urban population. To achieve this, urban development policies would need to be directed, on the one hand, at metropolitan containment and, on the other, at priority development of existing medium-sized cities to further strengthen their economy, and at the enlargement of the network of medium-sized cities through accelerated development of next-lower-order urban centres. These three processes are complementary to each other and should be viewed as a single package of urban development strategy.

### **Regional Balance**

**3.5.5** The other key issue relates to desperate urbanisation with respect to status of both urban population and urban settlements (in terms of settlement densities and distribution) and growth (especially in terms of fast and slow growing regions and settlements) not only between various states but also within states, between sub-regions and clusters of districts. The question that arises is whether priority investments should be made in developed regions or in lagging ones, in fast-growing settlements or stagnating ones.

**3.5.6** This choice has been viewed as, essentially, a choice between growth and equity. Planning experience in the recent past, however, has shown that backward states, despite heavy public investments in new and existing urban centres, have continued to remain backward since the settlements in which investments have been made, on account of the absence in them of any significant inherent potential for growth, have remained, by and large, isolated, failing to trigger

off any meaningful growth impulses in their region, thus failing to achieve their objective of promoting equity. Furthermore, they have also proved counter-productive with regard to growth in as much as they represent non-optimal investments which might have been better developed elsewhere.

**3.5.7** Another way of looking at the growth and equity dilemma is to accord higher priority to equity in income distribution than to the geographic notion of balanced development by:

- (i) promoting centres that have potential for growth instead of planting new centres in so-called backward regions, and
- (ii) treating problems of congestion, etc. in large cities as negative externalities instead of controlling their growth itself.

Such a view may well be pertinent for small states and for macro-regions within large states, even though, on the whole, the 'geographical notion of balanced development' cannot be altogether abandoned considering that:

- (i) the prolific inter-state disparities in the levels of urbanisation can hardly be allowed to expand;
- (ii) the levels of transport and communication technology are not such as can render a disbalanced spatial network of urban centres as effective as a uniform one in extending the urban delivery system evenly throughout the country; and
- (iii) the existing disparities are such that any size or growth viability criteria for choice of investment areas would result in identifying as essentially uneven network of settlements.

**3.5.8** In the interest of spatial equity, there is need for some other criterion for selecting settlements for investments, particularly in situations where (a) large settlements do not exist or are not likely to emerge, or (b) large settlements are numerous and, naturally, not all of them can be invested in.

One qualification for investment could be the location of the district headquarters in the town. Apart from promoting a uniform spatial network of urban centres, district headquarters towns can also be considered as potential growth centres in the following respects:

- (i) In the overall context of planning for social and economic development, there is a growing consensus in favour of a combination of both top-down and bottom-up approaches in the tasks of enunciating developmental goals and objectives, formulating policies, identifying programmes and their implementation. To this end: 'districts' have come to be identified as viable politico-administrative units. District level planning as an integral part of the national planning process has been getting wide recognition at the level of the Planning Commission and within state governments, and a series of recommendations and guidelines for institutionalising district level planning have recently been issued as Planning Commission documents.
- (ii) Within the districts, it is invariably the district headquarters town which, irrespective of its size, emerges as the fountain-head of all development activities and related functions-political, administrative and institutional.
- (iii) Studies of growth dynamics in administrative towns have shown that district headquarters possess higher rates of demographic growth and have a more diversified economic base, with greater employment in the non-primary sectors, especially other services. By virtue of relatively developed secondary and tertiary activities and financial support from the government from, they also acquire a higher level of municipal income and expenditure per 1000 population, and hence have a better resource position than other urban centres in the district.

- (iv) In terms of geographical location, the district headquarters invariably occupies a central position with respect to the district territory, affording easy accessibility to various parts. A relatively higher degree of nodality in terms of inter-district and intra-district transportation routes is an important attribute of district headquarters towns compared to other urban centres in a district, and this has been a decisive factor in their growth propensity.
- (v) Further, the headquarters town, being the seat of district administration, has been receiving preferential treatment in public investments towards provision of social and physical infrastructure facilities and higher order services, a process which, over time, has enabled it to acquire a degree of primacy among other settlements within the district.

### **3.6 Towards A New Urban Pattern**

**3.6.1** While a city structure, at a given stage of time, is largely shaped by the socioeconomic compulsions of the society, it should have the capacity to respond, to changes, not only in societal values, but also in technological skills and advances and innovations, which are the hallmark of the global achievements of the 20th century. While the impact of changes in value systems are felt only over too long a span of time to be able to influence city structure in any tangible manner, technological advances have more immediate, direct and measurable impacts, particularly in the present age, and have to be accorded due cognizance.

#### **Impacts of Transport Technology**

**3.6.2** Transport technology has made rapid strides in recent times in developed countries. This has led to a growing awareness of the need to modernise inter-city and intra-city mass transportation systems in developing countries as well. Futuristic trends in transportation systems networks hold out promise for reduced travel time and costs for both inter-city and intra-city

movements based on functional multi-modal transportation systems. The metro system of Calcutta, now partly in operation, although an inevitably capital-intensive solution for resolving the metropolitan transportation problem, is an example which is likely to be emulated by other Indian super-metros.

**3.6.3** Transportation has an intrinsic relationship with the emerging urban pattern, both at inter-settlement and intra-settlement levels, and the futurology of transport systems planning and design offers good scope for the emergence of a more dispersed but functional and closely knit pattern of urban settlements at the regional scale, and of urban functions and activities at the city and metropolitan scale. New technological thresholds in transportation systems are going to increasingly replace the traditional concepts of home-workplace relationships when viewed in the wider perspective of metropolitan and large-city regions, enabling a functionally segregated pattern of major work-centres, primarily industry-based, and living communities to emerge without detriment to the efficient functioning of the urban system.

**3.6.4** Similarly, a clustered pattern of both mono and multi-functional settlements can be visualised around a central core-city, linked by fast-movement corridors, enabling deconcentration and decentralisation of population and activities at the inter-settlement level, and thus providing a base for a balanced urban pattern in the regional context. To make this possible, it is imperative to restructure the existing large cities and metropolises around an identifiable mass-transport corridors network, and plan for modernising the public transport network, both inter and intra-city, to establish a directional growth pattern for the cities of the future.

**3.6.5** The intra-city spatial structure would benefit greatly from the concept of 'town within town', which would enable the adaptation of the



clustered settlement concept at the city level, by identifying viable, self-contained, and manageable functional communities within the metropolitan fabric circled round the core. Such a physical urban structure would enable efficient functioning of the various city components and sub-systems within an organic whole, ensure a high degree of environmental quality and protection at the component level, impart distinct functional and cultural identity to each component, and usher in a basic structure for democratising the urban metropolitan management system.

**3.6.6** The prospects of such a dispersed but closely knit urban physical structure taking root and emerging as a plausible framework for re-orienting the urban spatial pattern and settlement structure of Indian cities, would seem to gain strength when one considers the radical advances in the field of telecommunication and telematics as well, an area receiving high priority from the national government. It is imperative that future state-level settlement policies should address themselves to these significant issues, and decisions regarding major expansions to existing cities; and development of new towns should emanate from a conscious consideration of these key determinants of future urban pattern and form.

### **Socio-Economic Scenario and Compulsions**

**3.6.7** Pragmatically speaking, despite the projected growth rate of the economy, and measures under way and likely to be taken in the future by the national government for the economic upliftment of the Indian masses, our cities, like those of the developing world, as they enter the 21st century, will continue to be saddled with the dilemma of an urban dichotomy characterised by sharp income disparities, preponderance of the low-income family in the urban community, continuance of the informal sector as a distinct constituent of the urban economy, and related imbalances in the socio-economic fabric. While

public policy should be geared, with renewed vigour, towards minimising the imbalances in their social, economic, and physical manifestations, it is imperative that settlement-level planning policy should recognise the fact that our cities have to be structured to cater primarily to the needs and aspirations of the urban and less-affluent sections which constitute the urban majority.

**3.6.8** A physical urban structure characterised by a low-rise high-density, compact built-form in most parts, with prospects of mixed and multiple use of space for carrying out small-scale service trades and household manufacturing activities, and served by an efficient public transportation system, should dominate the urban physical scene. This would call for a radical departure from conventional planning and development management policies and adoption of policies and plans with a distinctly socialistic bias to combat the onslaughts of the urban market mechanism.

### **The Informal Sector**

**3.6.9** Another important aspect having a bearing on a responsive future city-structure, is the role of the informal sector in the urban economy. The presence of the informal sector in substantial measure (even upto 50 per cent in some Asian cities) is a characteristic feature of cities in most developing countries. This has been attributed largely to structural disturbances within the entire economy. The low rates of industrialisation and the presence of surplus labour have been cited as the principal reasons why a dualistic system has sprung up in Third World cities, where the informal sector is traditionally said to include the mass of the working poor whose productivity is much lower than in the modern, informal urban sector. Recent literature on the informal sector shows, however, that the activities of this sector can be economically quite efficient and profitable. According to this view, the distinction, 'formal' and 'informal', in the urban context would refer to two economic sectors, each with

its own structural consistency and dynamism. It is also recognised that a very large part of the urban multitude is dependent for its subsistence on employment in the informal sector, a situation which Indian cities will have to accept as an essential fact of urban life through the foreseeable future.

**3.6.10** The existence and continuing expansion of the informal sector are increasingly being accepted as an inevitable phase in the development process, with the informal sector functioning as a buffer zone between formal-employment-generating activities and the unemployed and under-employed sections of the community who, for various reasons, (e.g., lack of skill, education, or resources), have been denied access to employment avenues in the formal sector.

**3.6.11** According to various estimates, contrary to popular belief, the contribution of the informal sector to the national product is much greater than originally believed and has possibilities for accumulation of capital which would enable informal enterprises to expand. It has also been urged that links between the formal and informal sectors should be strengthened in order to bring a harmonious cooperation between them for their mutual advantage. They must be recognised as two separate but complementary sectors of the urban economy of Third World cities, each with its own institutional facilities, rationale and structure. However, the prevailing underdevelopment and backwardness of the informal sector can be brought to an end only through restructuring the urban economy.

**3.6.12** In the context of this scenario, it becomes imperative to reshape the settlement structure of large cities to enable them to absorb and expanding informal sector along with planned expansion of formal sector activities, and facilitate efficient functioning of both.

### **Energy Conservation and Ecological Concerns**

**3.6.13** Energy issues are likely to assume critical dimensions in coming decades these will have serious implications for the future desirable pattern and structure of urban settlements. With rising consumption patterns and depletion of conventional energy sources, while the need for tapping alternative sources has long been established, very little thought has as yet been given in India to devising an urban structure module which would be responding to the imperatives of energy conservation and accept alternative forms of energy generation and supply. Both have a bearing on the overall spatial pattern, form and internal structuring of towns and cities. This is an area in human settlement policy planning which calls for sustained research in devising an energy-conserving urban structure module relevant to Indian cities' and this should be accorded high priority. Need for Energy-efficient Built-form

**3.6.14** On a broad assessment in the context of a contemporary city, while the transport system accounts for 25 per cent of the energy consumed, 30 to 35 per cent is attributed to buildings, and the rest to industry and other uses. Of these, the first two are significant in setting norms for an energy-conserving urban form. It needs hardly any emphasis that compared to a compact and well defined urban form, a loosely sprawling urban-form is wasteful of not only transport and related infrastructure costs, but also of energy costs. Similarly, a predominantly high-rise development would result in a built form which will entail high energy use, compared to a low-rise, high density development. It would appear that a generally linear urban form woven around defined public transport corridors, with compact low-rise, high-density residential communities flanking the corridor network, and interspersed with work-centres and public and semi-public urban spaces, would be an appropriate direction in which major expansions to large Indian cities

should be envisaged. A cellular, internal spatial structure, within such an urban-form framework, would lend support to the adaptability of the new city structure to the exploitation of alternative energy sources, e.g., biogas, sun and wind. Recent forecasts envisage that India could hopefully move by 2030 AD into an age of solar energy, which would essentially call for an urban pattern dominated by smaller settlements. A 'cluster approach' at the regional scale and a 'cellular spatial structure' at the metropolitan and large city scale should meet the above criteria and at the same time enable functional linkages to be maintained between the urban communities, which is imperative for successful functioning of the urban system.

### **Ecological Factors and Urban Pattern**

**3.6.15** Apart from the energy issue, the growing ecological and environmental concerns would have profound influence on the emerging urban pattern and settlement form and structure. The built environment of the city is an inevitable imposition on the natural environment and eco-system, and the larger and stronger the urban concentration, the more adverse the impact on the natural eco-system. Ecological thresholds for different intensities of urban concentration should be established for varying situations based on key environment attributes, viz., topography, vegetation, water bodies and drainage, ground water, soil, climate, settlement, land utilisation, etc., and factors relating to scenic potential, fauna and wildlife attractions and ecological and cultural vulnerability. It is also essential to stipulate environmental impact studies as a prerequisite to deciding upon any programme for major urban and industrial expansion in existing cities or for the establishment of a new one.

**3.6.16** The logistics of the ecological problems facing urban India, as also other Third World countries, are appalling and call for Herculean efforts for reinvigorating the dying ecosystems.

The distortions caused by unequal rural development, without building the base of rural eco-systems, coupled with continued depletion of natural resources, are similar to the distortions in urban development which have given rise to unintended cities with a dangerous future. By the end of the century the population in urban India alone is expected to be about the same size as that India's total population in 1947 when India gained Independence -- 350 million. To quote A.D. Moddie:

Western Urbanisation grew out of commercial and industrial growth in the last four hundred years. The more rapid urbanisation of the Third World is largely the product of failed rural development, policies (including population policies) the last 50 years. The eco-systems of cities as well as the external eco-systems of their hinterlands are dying. It is an alarming fact that in countries where 80 per cent of the people, or more, are dependent on non-commercial fuels, the forest cover is fast vanishing.

**3.6.17** In this regard, Third World countries could well emulate examples of cities like Shanghai and Hong Kong in their efforts to restore the eco-system. Shanghai, a city of 11 million, enlarged its boundaries to 6,000 sq km to facilitate recycling of nutrient wastes. Shanghai is now self-sufficient in vegetables, and produces most of its grain, pork, and poultry. Hong Kong today produces 45 per cent of its fresh vegetables, 15 per cent of its pork feed, 130,000 tonnes of vegetables each year for its restaurants and food processing plants, and 60 per cent of its poultry supply. Thirty per cent of the Hong Kong's agricultural land produces vegetables and 15 per cent of the territory comprises fish ponds, yielding 25 to 74 tonnes of fish per hectare.

**3.6.18** Japan can support over 95 per cent of its population on only 20 per cent of its flat lands, because of its high agricultural and industrial productivity. While Third World cities are far way from such phenomenal productivity levels, the

basic needs of our cities would require enormous concentration of food, water, energy and housing. This calls for increasing productivity manifold from present levels, both in agriculture and industry and more land-conserving urban development patterns.

**3.6.19** Nutrient recycling is another important area which has been neglected for long, although it constitutes an important component of the ecological life-support system along with clean water and enough energy. Despite the low capital costs involved, Indian cities, like their Third World counterparts, largely suffer from the absence of a comprehensive system whereby organic matter is collected, treated and nutrients recycled.

**3.6.20** Fundamentally, it would appear that there is a basic lack of understanding of the city as an ecosystem, largely a man-made one, but one which requires nature's ecological balances for life-support Systems to sustain lifestyles. If city planning is undertaken without keeping this in mind, far from promoting better lifestyles, present processes will lead to social cancers in the future.

**3.6.21** Finding solutions to these problems are the urban development and management imperatives to ensure the survival of Indian cities. A dispersed urban pattern comprising clusters of functionally related cities of manageable size (population range 3 - 5,00,000) may be more amenable to measures for conserving the natural ecosystem and ensuring energy-efficient urban form than larger concentrations of population.

### 3.7 Recommendations

**3.7.1** An urbanisation policy evolved within the framework of national objectives of growth and equity should not adopt measures which try either to retain villagers in rural areas or restrain employment generation in urban areas. As such,

job-creation at an accelerated pace through sustained investments in viable urban centres is the key issue.

**3.7.2** With regard to the viability of urban centres in terms of employment generation, certain salient observations can be made. Firstly, although metropolitan centres allow for economies of scale in respect of job-creation, beyond a certain size the social costs of large city concentrations far outweigh the economic advantages. Secondly, programmes for investments in small towns, entailing thinly spreading meagre resources over a large canvas, have succeeded only to the extent of securing physical improvements in recipient centres. Investments in public-sector New Towns have, likewise, failed to make any tangible impact in terms of restoring a semblance of balance in the skewed urban pattern, mainly because most of these towns have remained mono-functional.

**3.7.3** In the light of these observations, the following imperatives emerge:

- (a) A policy of 'selective discrimination' in favour of Class I cities, other than metros, and district headquarters towns to enable them to emerge as viable growth centres.
- (b) A massive programme of containment and decentralisation in existing metropolitan and large city agglomerations.
- (c) A complementary crash programme of accelerated infrastructural development of fast-growing, medium-sized cities.
- (d) Priority development of cities of medium category, in the context of generating urban employment.
- (e) Enlargement of the medium-size city network through accelerated development of next-lower-order urban centres.
- (f) Locating public sector industrial development, as far as possible, in relationship to existing small towns to enable the development of a system of mutual dependence.

- (g) Establishment of multi-industry townships rather than single-industry townships.
- (h) Diversification of the economic base of existing new towns and the reorganisation of their urban management system to enable them to emerge as viable regional centres so as to take fuller advantage of the large public investments that have been made in them.

**3.7.4** Job creation at an accelerated pace is undoubtedly an economic essential of urbanisation as is the creation of proportionate urban employment in resource-rich and populous regions. However, in the context of prolific disparities in the levels of urbanisation in the country, higher priority needs, perhaps, to be accorded to extending a minimum level of urban delivery system, as afforded by medium-sized cities, to all parts of the country. To this end, investment in district headquarters emerges as an extremely viable strategy. It can be reasonably hoped that once a network of viable centres pervades the entire country, commensuration between the extent of urbanisation and urban employment and the extent of resource and population wealth of sub-regions will eventually accrue.

**3.7.5** Settlement-level planning policies should recognise that cities have to be structured to cater to the needs of the less-affluent sections of society who are likely to continue to remain the urban majority at least in the foreseeable future. An urban spatial structure characterised primarily by low-rise, high-density, compact built-form, with prospects of multiple land-use for home-based or small-scale enterprise and catered for by efficient public transport would appear to be most appropriate and should form the basis of city development plans.

**3.7.6** The futurology of transport systems planning and design offers good scope for decentralisation and decongestion of population and activities through the emergence of a dispersed yet functionally knit pattern of settlements. This

could be articulated at the regional level in the form of clusters of mono and multi-functional centres around a core city linked by fast-movement corridors. At the metropolitan and large-city level, the articulation could come through a 'town within town' concept wherein self-contained and manageable functional communities are identified within the metropolitan fabric.

**3.7.7** Issues relating to energy efficiency and ecological conservation are likely to assume critical dimensions in the near future and sustained research and investigation in these areas is called for. In the light of existing research in these sensitive areas, a cluster approach at the regional level and a compact linear form at the settlement level are likely to emerge as most appropriate in this regard as well.

## **4 Spatial Planning**

**4.0.1** Planning in India is limited to economic planning at the national level and physical planning at the urban settlement level. There is a lack of spatial planning in the country and it has not ranked as a priority item in national plans. For example, it was the Fourth Plan that highlighted the need for exploring the potentialities of developing small and medium towns. This issue was mentioned as one of the objectives of the Fifth Plan. However, it was only during the Sixth Plan period that a scheme of integrated development of small and medium towns (IDSMT) was introduced, although with an allotment of just Rs 96 crores in the central sector with matching contributions from the concerned state governments. But even the meagre sum of Rs 200 crores (including the contribution of the states) was not utilised in five years, in spite of there being 3,029 small and medium towns in 1981. In the current plan, this sum has been scaled down to Rs 88 crores in the central sector and, probably to promote this scheme further, the eligibility criteria have been revised to include towns with up to 3 lakh population.

**4.0.2** The guidelines for the IDSMT scheme clearly emphasise that 'for proper development of these towns it is necessary that an integrated development programme of each town is drawn up keeping in view its locational importance and linkages in the region'. This calls for preparation of a regional or sub-regional spatial plan prior to selection of towns for development. But, in practice, in most of the beneficiary states, no such regional or sub-regional spatial plans were prepared to guide the identification of towns for inclusion in this scheme.

**4.0.3** As stated by the Task Force on Housing and Urban Development, the policy and programme interventions of the Five Year Plans in this behalf have been:

half-hearted and loosely coordinated. Spatial considerations have never received adequate attention. Policy has been halfhearted in as much as few of the points at which government might intervene to manage urbanisation and affect its course and direction have been properly tackled. It is uncoordinated in as much as national planning tends to be in terms of sectoral outlays while the urban planning has been mainly linked with physical layouts.

**4.0.4** The Sixth Plan stipulated that a 'cluster of villages approach' be followed for provision of roads in the case of hilly, tribal, desert and coastal areas where the population is sparse and settlements are located far apart from one another. The best and most desirable way to identify these clusters is through spatial planning which will not only design the optimal regional road network but will also guide the distribution of utilities, facilities and services. It is thus clear that, as a whole, the approach to planning for urban development in the Five Year Plans so far has been piecemeal. No efforts have been made to deliberately link the process of urbanisation with the general pattern of economic development, which shows a general lack of spatial concern in the planning process.

**4.0.5** Lack of spatial concern in the national planning process has resulted in a spontaneous pattern of urbanisation. At the national level, the primacy in urban spatial structure may not be significantly dominant, though at the regional levels the primacy is high. For example, within 800 km of Calcutta there is not even a single city of one million or more population.

#### **4.1 The Basic Issues**

##### **Need for Integration of Spatial and Economic Planning**

**4.1.1** The basic issue that emerges out of the discussion so far is that, although India has been engaged in farsighted economic planning since independence, and despite the considerable achievements of the Five Year Plans, very little constructive attention has been paid to the spatial aspects of social and economic change taking place in the country. The Functional character of an area is determined by the aggregate functions of all the sectors of the economy concentrated therein. Development of an area, therefore, requires a deliberate coordination of at least a few key sectors. Such coordination is conspicuously missing in planning efforts. The poorly developed urban hierarchies that lie between metropolis and village in India are administrative rather than economic in origin.

**4.1.2** Each investment, whatever be the sector, has a definite physical manifestation and geographic location. It generates a chain of developmental impulses affecting, in several cases, the activities of other sectors and results in a related spatial pattern. For example, the impact of investment in an irrigation project, a large dam (in the agriculture sector), on other sectors can be identified at two stages—first, during the construction of the dam, and secondly, after its completion. During the first stage, the reservoir of the dam will cause displacement of villages and people. This will demand a resettlement plan— for displaced persons and a new spatial order. This work would need

coordination with the spatial planning sector (Fig. 1) which has yet to be put into practice. The second stage generates three chains of developmental impulses. The first results in generation of hydroelectric power which needs coordination with the power sector. The second may attract development of water sports and tourism requiring integration with the tourism sector. Finally, the third adds to the development of agriculture and this, on the one side, increases area under intensive cultivation which will enhance demand for more agricultural inputs like fertilisers and also agricultural implements, (e.g., tools and tractors), resulting in industrial development and, hence coordination with the industrial sector. On the other side, the agricultural development increases marketable surplus, requiring warehousing, processing, marketing and roads. This will give rise to the development of processing and marketing centres which will effect changes in the existing settlement functions, activities, hierarchy and spatial pattern. This in turn would require coordination with the spatial planning sector. Development of rural roads will require coordination and integration with the transport sector and since land-use and settlement pattern are closely related to transportation network; it will further need coordination with the spatial planning sector (Fig. 1). Similar cases of chains of developmental impulses generated by investments in one sector affecting the activities of other sectors can be identified.

**4.1.3** There are several areas in the Seventh Five Year Plan where an advanced integrated spatial planning approach is required to support investment and to monitor the action taken in both physical and monetary terms. Such areas, classified under various sectors, are as under:

- (a) The Agriculture and Irrigation Sectors include social forestry, waste-land development, agricultural marketing (22,000 new agriculture markets proposed); development of rural roads under the Command Area Development Programme,

spatial impact of fertiliser plants, and state and national land-use study (with specific reference to urban land use).

- (b) In the Industrial Sector, the basic policy thrust is on dispersal of industries and balanced regional growth by locating industries in backward areas. This requires integration with the spatial planning sector for preparation of spatial plans for backward regions, as well as provision of infrastructure to cope with the spatial impact of industrialisation.
- (c) In the Transport Sector, it has been proposed to link every village with 1500 or more population and also to prepare master plans for rural roads for each district. The master plan of rural roads cannot be prepared in isolation. Accessibility, settlement pattern and land-use are interrelated and micro-regional (district) spatial planning can provide an appropriate plan for rural road development that serves the district most efficiently. This requires co-ordination between the transport sector and the spatial planning sector.

**4.1.4** The Commission therefore, reiterates that inter-sectoral coordination and integration is inevitable in the planning process. Specifically, there is need to integrate economic and spatial planning with a view to achieving a desirable pattern of economic development and urbanisation. This demands that a regional spatial approach be an integral part of the planning process.

**4.1.5** As spatial planning at state and district levels involves identification and development of a hierarchy of urban and rural settlements where, depending upon their potentials and propensity, relevant investment in different sectors will be directed or attracted in a rational manner, such planning plays a vital role in investment decisions.

**4.1.6** Through spatial planning, an efficient and functional network of utility services like energy and water distribution systems, and communication systems, at national, state and local levels, can be identified, planned and programmed for implementation.

**4.1.7** Since spatial planning deals with a hierarchical system of settlements, it guides the identification of efficient physical linkages like roads, railways, waterways and airways.

**4.1.8** As a physical development process, spatial planning plays a significant role in identification and development of new areas, new resources and a new spatio-economic order, leading to rational use of land and other resources and improvement of living standards of the people. Spatial planning, thus, not only aims at identifying geographic locations for investment but also probes into the future impact of the investment on various constituent sub-systems of the settlement and the region of its setting.

## **4.2 Suggested Policy Options for Integrating Spatial and Economic Planning**

### **Spatial Planning Strategy Options**

**4.2.1** It has been observed that:

- (a) The strategy of balanced regional development is most attractive as it aims at equity, social justice and political harmony. However, in a developing economy, it is neither practically feasible to locate all amenities in each settlement, nor is it economical for the communities of a single settlement to sustain them. For a developing country, balanced regional development is, therefore, a long-term goal to be achieved in a phased manner. The strategy of planned economic development, however, should not be limited to a phasing of investment and production over time, but should also take into account the locational aspects of development.
- (b) The main spatial problem that the country is currently facing is excessive concentration of economic activities in a few metropolitan centres or metro-regions. In 1981, about 60 per cent of the total urban population was concentrated in 218 Class I cities and slightly less than half of this was concentrated in only 12 metropolitan centres. The number of one-million-plus cities is likely to triple by the year 2001 A.D. This trend has given rise to irrational population distribution, generating spatial imbalances. If the present trend of concentrated industrialisation and equally concentrated urban growth continues unabated, the areas subjected to this growth will develop into unmanageable metropolitan complexes. A regional approach to urban development and the future development of urban settlements (towns and cities) should therefore form an integral part of a well-thought-out regional development strategy.
- (c) The current trend or migration of people in search of gainful employment is generally towards large cities. The social overheads expenditure required to provide utilities, facilities and services to sustain the fast-growing population in large cities is exorbitant as compared to that in small and medium towns.
- (d) In India, two-thirds of the work force is dependent on agriculture. There is no likelihood of a very significant change in the near future in the number of workers engaged in agriculture. It is envisaged that, for at least the next three decades, agriculture will continue to be one of the major sectors of the Indian economy.
- (e) Either through ignorance or indifference massive and irreversible harm is being done to the environment.



- (f) Another determinant of spatial planning strategy is energy. The world is running out of the available stock of non-renewable energy sources. In India, the per capita consumption of energy, measured as coal equivalent, is just 210 kg as compared to Canada or the USA where the corresponding figures are 13,153 kg and 11,626 kg respectively. Despite such enormous disparities in energy consumption between the developed and the developing countries, it is expected that the energy needs of affluent countries like America is likely to double in the near future. In India too the demand for energy is increasing progressively and all sectors, including agriculture, industry, transport and communication, are taking rapid strides and making increased demands on non-renewable sources of energy. The railways have been widely electrified and natural gas is being increasingly used for industrial purposes. As per capita consumption of energy is already extremely low in India, it would not be practical, in the interest of providing a decent quality of life to the people, to suggest a strategy of restricting the level of energy consumption.
- (a) Selective channelisation of labour-intensive economic activities to second-order settlements (after the metropolitan cities) in the spatial hierarchy;
  - (b) selective concentration of socio-economic activities and related infrastructure in central villages and small and medium-sized towns, depending upon their potential; functional specialisation and hierarchy in the regional spatial system, with a view to equipping them to play their role in absorbing new migrants, helping reduce the cost of urbanisation and energy consumption, and maintaining a desirable rural to urban continuum;
  - (c) planned development of special regions/sub-regions like hill, disaster-prone, tribal, desert, and coastal regions, and command areas and the like;
  - (d) initiation and strengthening of the micro-regional (district) spatial planning mechanism to support and complement economic development efforts at that level and provide a conducive environment for living and working;
  - (e) strengthening of institutional and legal support;
  - (f) progressive realisation of the long-term goal of balanced spatial and economic development through spatial development strategies and urbanisation policies.

**4.2.2** The spatial planning strategy should therefore be such that:

- (a) it results in an affordable pattern of urbanisation;
- (b) it promotes agriculture and rural development and helps the rural poor;
- (c) it minimises the conflicts between spatio-economic development and damage of environment;
- (d) it sets up a regional spatial order that helps, to the extent practicable, in saving energy from non-renewable sources.

**4.2.3** Accordingly, the suggested spatial planning strategy options during the time frame of this policy would be as follows:

### **4.3. Suggested Spatial Planning System**

**4.3.1** As mentioned earlier, spatial planning has yet to get a start and become an integral part of the national economic planning process in India. As a link between national and local planning, it involves disaggregation of national and state policies and programmes to the grassroots level. It also involves aggregation of settlement and district plans and programmes at state level which, when further aggregated, will give, at any given point of time, - a national spatial pattern.

**4.3.2** The process of disaggregation and aggregation requires a systematic approach that, firstly, attempts, to integrate intersectoral policies and programmes with particular reference to spatial planning and development; secondly, identifies a national spatial system comprising macro-regions (inter-state), regions (states), sub-regions (inter-district), and micro-regions (district) and finally, depending upon the goals and objectives and development policies and priorities, it suggests, 'what' is to be done 'when', 'where', and 'how' and also 'who' should do it, depending upon the level at which a decision is being taken or a project is being formulated or implemented.

### **Types of Spatial Planning**

**4.3.3** Spatial planning can be allocative, adaptive or developmental. A plan commensurate with a specific allocation of funds is termed allocative planning and the current district planning practice in the country falls in this category.

**4.3.4** Adaptive spatial planning is 'based primarily on the recognition of the impact of the general trends of development on the spatial system'. It provides, at any given point of time, the spatial structure which matches the needs of industry for efficiency and growth and guides the process of industrial movements and migration. For example, the spatial planning of an area based upon the impact of investment in a large industrial complex would be adaptive in nature.

**4.3.5** Adaptive planning depends upon the existing trends of development and changes as its starting point. Its approach is somewhat piecemeal, split into a number of loosely integrated efforts. It is static in nature and the question of spatial development goals does not arise in this type of planning.

**4.3.6** Development spatial planning, on the other hand, is 'conceived as a response to pressures and requirements of national economic development'. It is active in nature and, at any point of

time, provides the most efficient spatial structure that promotes and sustains a national rapid economic development process.

**4.3.7** A spatial development plan will be 'developmental' in content when it identifies growth centres, considering both the physical and the economic variables, and suggests the future course of action for development of these centres and their environs to promote and sustain the regional spatio-economic pressures and requirements in a given time-frame.

**4.3.8** Considering the infancy of spatial planning and the firmly established economic planning practice in India, it appears desirable, as a short-term measure, to adopt allocative and adaptive spatial planning. However, efforts should be made, as a mid-term measure, to introduce developmental spatial planning into the system.

### **Highlights of the System**

**4.3.9** It must be further noted that there is no spatial planning system in the country that ensures the disaggregation and aggregation of policies and programmes in an integrated manner. There is, therefore, a need to develop a spatial planning system for India that is capable of generating developmental impulses to promote investments and sustain the resultant economic development. The suggested Spatial planning system (Fig. 2) highlights:

- (a) the level of decision-making and/or planning;
- (b) types of plans, their inter-relationship and hierarchy;
- (c) the process of regional spatial disaggregation of Five Year Plans into inter-regional (inter-state), regional (state), sub-regional (inter-district), micro-regional (district) and local (urban and rural settlements) plans and projects;

- (d) the process of regional spatial aggregation of local, micro-regional, sub-regional, regional and inter-regional plans into district, state and national spatial Five Year Plans respectively; and
- (e) the existing and suggested institutions responsible for decision making, planning and development.

The suggested system follows the multi-level planning approach and, therefore, functions at three levels-national, state and district. It is highlighted here that spatial planning will be most effective at the state level. Accordingly, at national level the approach to spatial planning should be limited to policy and strategy formulation, while spatial plans should be prepared and implemented at state and district level.

**4.3.10** At the national level, the central Planning Commission sets the general approach to a Five Year Plan, identifies goals, objectives, priorities and policies governing sectoral investments and also spatial development. The spatial development policies are then translated into inter-regional (inter-state) spatial development strategies. In this process the proposed National Urbanisation Council and the Central Town and Country Planning Organisation also contribute to the identification of spatial development policies and strategies.

**4.3.11** At the state level, the national economic and spatial development policies are then disaggregated. Taking into account the state perspective plan proposals and the development goals, objectives and priorities, the state Five Year Plan policies of economic and spatial development are set, which are further translated into inter-district development strategies, integrated urban area development plans and their implementation through preparation of action plans and projects. The organisations involved at this stage of the process are the state planning commission, the state ministry of urban development, the state

urbanisation council (proposed), state planning and development boards and other local bodies responsible for plan preparation and implementation at settlement level.

**4.3.12** At district level, the objective of the state Five Year Plan and the state and inter-district spatial development strategies guide the setting of goals, objectives and priorities and help in the preparation of integrated district development plans and their implementation through integrated rural settlement plans, action plans and projects. The organisations involved in the process, at district level, are the zilla parishad, the district planning and development council and the town and country planning department.

**4.3.13** The aggregation of district spatial development plans gives the state spatial development plan, and a further aggregation of the spatial development plans of all states in the country provides a national spatial development pattern. The suggested system achieves integration of spatial and economic development at state and district level through integrated inter-district, district, and urban and rural settlement plans of selected growth centres where, during the plan period, investments would be directed, depending upon their hierarchy, functional specialisation and potential. This system represents a combination of 'top-down' and 'grassroots-up' processes wherein development policies flow downwards and projects flow upwards, thus ensuring grassroots participation.

**4.3.14** With the introduction of macro-regional (inter-state), regional (state), sub-regional (inter-district), and micro-regional (district) planning at the national, state and district levels, as shown in Figure 2, the suggested spatial planning system provides the missing link in the suggested spatial planning set-up.

4.3.15 The content of the various policy documents and plans at national, state and district levels would be as described in the paragraphs that follow.

#### **Content of Various Plans at National Level**

**4.3.16 National Perspective Spatial Plan:** This plan should highlight policies regarding the main thrust areas and key aspects to be developed on a planned basis. The key aspects, among others, include exploitation of natural resources, development of macro-regions, population distribution, settlement patterns, transportation networks, inter-regional power and water supply systems, location of industries of national significance, areas of tourist interest and recreation, and the consideration of major environmental issues. Alternative scenarios may be developed with varying strategies of development.

**4.3.17 Macro-regional (Inter-state) Spatial Plan:** This should be a policy document and should also lay down the strategy of development of the key aspects similar to the one described in the previous paragraph and relevant to the macro-region (inter-state).

#### **Content of Various Plans at State Level**

**4.3.18 State Perspective Spatial Plan:** This plan should highlight policies regarding development of the main thrust areas of the state and some key aspects like development of natural resources, development of various sub-regions (inter-district), identification of settlement patterns, population-distribution policy, transportation networks, power and water supply systems - location of major industries, identification of areas of tourist interest and recreation, distribution of infrastructure and consideration of environmental issues, including conservation areas. Alternative scenarios may be developed with varying strategies of development.

**4.3.19 Sub-regional (Inter-district) Spatial Plan:** This should include evolution of a desirable land-utilisation pattern, earmarking areas for development of forestry, agriculture, mining, recreation and tourism and should provide a transportation network, an urban and rural settlement pattern to serve the needs of agricultural areas, (e.g., market centres, central service-villages, and service-towns), and industrial development, social welfare (health and education), a network of water and power distribution systems, linkages with other sub-regions and the state capital, ecological balance and environmental considerations, including prevention of erosion, provision of afforestation, improvement and development of waterfront areas, rivers and lakes and conservation of places, features or objects of historical, natural, archaeological or scientific interest and educational value.

#### **Content of the Plan at District Level**

**4.3.20 Integrated District Development Plan (IDDP):** The IDDP should cover the agro-distribution system, giving the entire network of linkages and nodal activities associated with production, collection, processing and distribution of agricultural products. It should provide for the existing and proposed

- land utilisation pattern,
- settlement pattern,
- transportation network,
- power network
- integration of rural development programmes like the Minimum Needs Programme, Integrated Rural Development Programme and the like,
- economic base of settlements (servicing, marketing, households or small-scale industries),
  - water supply and irrigation (minor projects, and
  - distribution of health and educational facilities.

The IDDP should also identify the various operators (ministries, local bodies and organisations), the action areas (the various settlements in the district), and the actions, classified by sectors, and a timeframe to be adopted by each operator. This will help various operators to formulate Five Year and Annual Plans at this level.

#### **4.4. The Suggested Regional Spatial Planning Process**

**4.4.1** The suggested regional spatial planning process (-Fig. 3) suggests formulation of two sets of plans, (a) a General Spatial Plan for a plan period of 10 - 15 years, followed by (b) and integrated Spatial Plan for each phase (of the General Spatial Plan), corresponding to the Five Year Plan periods.

##### **General Spatial Plan**

**4.4.2** The process of formulation and approval of the general spatial plan (GSP) involves four stages (Fig. 3). The first stage deals with identification of goals, objectives, policies and priorities of development related to the planning area, taking into consideration the relevant policies of the state perspective spatial plan. It also involves, with inputs from various regional spatial planning theories, techniques, models and synthesis of different surveys and studies covering the key aspects, the identification of the potentials of and constraints on development of the area. This establishes the existing conditions and future requirements for development of the area.

**4.4.3** In the next stage several alternative GSP proposals are made which are evaluated in the third stage and a preferred alternative is selected. The fourth stage deals with the legal approval of the preferred alternative.

##### **Integrated Spatial Plan**

**4.4.4** Within the framework of the GSP and with inputs from the Draft Five Year Plan also, an Integrated Spatial Plan (ISP) is formulated at stage five, as a continuous process, in phases of

five years corresponding to the Five Year Plan periods. This plan highlights socio-economic and physical requirements and provides a detailed plan of actions to be taken during the plan period. It is followed by the sector-wise project formulation (5-year and annual) setting out financial implications, physical and quantitative targets to be achieved, and specifying the implementation body. The sixth stage deals with preparation of an annual financial budget and its approval. In cases when the allocated fund is not the same as that demanded in the budget, a revision of targets may be necessary (Stage 7a).

**4.4.5** After sanction of funds, the plan is implemented in stage eight. Stage nine deals with monitoring and review, which guides the future course of action and also the formulation of the next phase of the ISP at stage five.

**4.4.6** The process is conceived as a continuous, time-oriented and dynamic system. It is a continuous process as, after every five years, an integrated spatial plan for the area has to be prepared within the framework of the general spatial plan, taking into account, the results of the review of the achievements of the current plan.

**4.4.7** The integrated spatial plan (ISP) thus becomes flexible enough to adapt itself to the transition from one economic stage of development to the next. With input from the draft Five Year Plan at stage five, the suggested process provides opportunities for interaction between spatial planning and investment.

**4.4.8** The ISP, when generally accepted by all the concerned bodies as the official blue-print for development of the planning area, will effectively serve as an integrating link between economic and spatial planning efforts.

#### **4.5 Suggested Immediate and Mid-term Actions for Integration of Investment and Spatial Planning**

### Immediate Actions

4.5.1 As an immediate action, it is recommended that:

- (a) For all major investment proposals in any sector, the project implementation body should file a Spatial Impact Statement (SIS) before the competent authority approving the project. Filing of an SIS should be compulsory under law, for which the necessary provisions should be made in the state town and country planning act.
- (b) The state town and country planning departments should initiate a study of the relevant sections of the Seventh Five Year Plan with a view to identifying (as suggested in Figure 1) areas of intersectoral coordination and integration, with particular reference to spatial planning and taking necessary actions to include the specific project(s) in their annual plan proposals.

### Mid-term. Actions

4.5.2 The proposed state urbanisation council and the state department of urban development should play a dominant role in the integration of economic and spatial planning efforts. They should identify (in the same way as suggested in paragraphs 4.1.1. & 4.1.2. and Figure 1), with the technical help of state town planning departments, the areas of major investment in their state requiring integration with spatial planning in each draft Five Year Plan and consider their impact while preparing the comprehensive Five Year Spatial Plan at stage five of the suggested spatial planning process (see paragraphs 4.4.).

## 4.6 Legal Support

### The Issues

4.6.1 Although India has had abundant experience in statutory town planning activities for almost a century under the colonial' pattern of town planning legislation, which laid more emphasis on town planning than on regional planning, recent years have witnessed an

increasing interest in and a growing national consciousness of the need for and importance of providing statutory regional planning. But the existing physical planning legislation in the states, barring only a few like Maharashtra and Tamil Nadu, does not provide for preparation and implementation of regional plans.

4.6.2 Considering the changing role of urban and regional planning in the physical development process, the Central Town and Country Planning organisation (TCPO) has recently (1985) worked out a model Regional and Town Planning and Development Law. It provides a Legal basis for preparation and also implementation of urban and regional spatial development plans and various schemes as envisaged by these plans. This Model Law does not provide for micro-regional (district) plan preparation and implementation. Considering the current emphasis on decentralised district planning and the role that spatial planning can play in bringing spatio-economic development to the district level, this oversight in the Model Law needs to be rectified. The Model Law also does not provide legislative backing to integration of investment and spatial planning and spatial impact assessment of major economic inputs. Above all, the Model Law has not yet been adopted by most state governments.

### Suggestions

4.6.3 Considering these issues, it is suggested that the state governments should take immediate action to enact/amend the existing physical planning legislation to include preparation and implementation of regional and micro-regional (district) spatial development plans and also compulsory filing of spatial impact statements. The Model Regional and Town Planning and Development Law worked out by the Central Town and Country Planning Organisation will provide useful base material for this purpose.

## 4.7 Institutional Set-Up

### The Issues

**4.7.1** The Commission notes that there are hardly any organisations or institutions responsible for regional spatial planning in the country. However, there are a number of organisations dealing with economic planning at national/state level and town planning at local (settlement) level. At the national level, the Planning Commission is the apex body for preparation of Five Year Plans. But, in spite of recognising the need for making urban development supportive of economic development, the Planning Commission does not have any mechanism or set-up for integration of investment and spatial planning. The commission has some 27 Divisions dealing with various sectors of the economy, 'Housing, Urban Development and Water Supply' being one of the smallest among them, managed by just three officers.

**4.7.2** The other national-level bodies are the central Ministry of Urban Development and the central Town and Country Planning Organisation. The importance of urban development in the ministry has been diluted by assigning to it responsibilities, among others, dealing with public works, and printing and stationery. Also this ministry does not deal with development of rural settlements as this is currently the responsibility of the Central Ministry of Agriculture, which is not normally concerned with planning and development of villages.

**4.7.3** There are other ministries like those of Industries, and Transport, which directly or indirectly contribute to urban and regional development. Each of these has its own methods and systems of taking investment decisions. There is no mechanism for coordination and consultation.

**4.7.4** The central TCPO is the technical wing of the Ministry of Urban Development and is responsible for, among other things; scrutiny and

monitoring of projects aided by the central government. The technical inputs required for inter-sectoral coordination, with particular reference to investment and its spatial impact is not forthcoming from this organisation.

**4.7.5** At the state level, there is the State Planning Board/Commission that prepares the State Five Year Plans and the Annual Plans within the framework set by the National Planning Commission. The basic structure and the problems faced by these state planning boards are more or less similar to those in the case of the National Planning Commission.

**4.7.6** The other concerned institutions, at state level, are the State Town and Country Planning Departments (TCPD) and various Boards or Regional Planning Authorities (in some states only). There are also some special-purpose agencies in some states. These include Special Area Development Authorities, Tribal Area Development Authorities, Coal Mining Area Development Authority, National Land Use Board and the like. The composition of these authorities and boards, except in case of a few states, does not involve physical planners. Moreover, there is considerable conflict among them due to the overlapping of functions of some of these organisations, (e.g., housing boards and TCPDs over residential development schemes). Also there is a general lack of coordination among them.

**4.7.7** At the district level there is no institution involved in district spatial planning. District planning work is being presently done by the District Planning and Development Council. The District Planning Team, as suggested by the National Planning Commission, does not involve physical planners.

**4.7.8** Specifically, in the context of spatial planning, there is a need, therefore, to establish a high-power organisation to formulate guidelines

and coordinate and monitor the activities of the concerned agencies and organisations at central, state and district level. Recognising this and considering other factors, the establishment of National and State Urbanisation Councils is recommended (for details see chapter on Organisational Structure for Urban Management). Following the suggested spatial planning system (sub-section 4.3.), the institutional arrangement for policy formulation (at national level) and planning and development (at state and district level) is outlined below.

#### **(A) National Level**

- Planning Commission: It is suggested that a full-time Member, Urbanisation, be appointed. The Housing and Urban Development Division of the Planning Commission should be reorganised as an Urbanisation Division, to undertake all functions related to urbanisation. It should be under the charge of the Member, Urbanisation, assisted by a physical planner as advisor. This division should have several units to deal with various aspects of urbanisation. These units should be headed by joint or deputy advisors and supported by professional staff.
- Central Ministry of Urban Development: (to be restructured; see chapter on organisational Structure for Urban Management)
- National Urbanisation Council (NUC): (proposed, see chapter on Organisational Structure for Urban Management). This body will, inter alia, with the technical help of the central TCPO, (a) formulate spatial development policies and guidelines, (b) work out a National Perspective Spatial Plan, and (c) delineate macro-regions (inter-state) and initiate action for the establishment of Macro-Regional Planning and Development Boards.

- Central Town and Country Planning Organisation (TCPO): To be reorganised under the NUC.
- Macro-regional Planning and Development Board: This Board will be responsible, among other things, for
  - (a) formulation of strategy for development of the macro-region,
  - (b) coordination of regional development planning and implementation efforts of the participating states in the macro-region.

#### **(B) State Level**

- State Planning Commission: To be restructured on lines similar to those suggested for the National Planning Commission.
- State Department of Urban Development: (To be restructured; see chapter on Urban Management).
- State urbanisation Council (SUC): (proposed, see chapter on Urban Management). This body will, among other things, formulate, with technical help from the state town and country planning department, the state perspective spatial plan. The SUC will also delineate regions (inter-district) within the state. These may be resource regions, economically backward regions, fast-growing agricultural or industrial regions, metropolitan regions, disaster-prone regions, hill regions, coastal regions, tourist regions, and the like, as the case may be.
- Town and Country Planning Department: To be reorganised under the SUC.
- Sub-regional Planning and Development Board: This board will be responsible, among other things, for formulation and implementation of strategy and plans for development of the sub-region. The board may also appoint professional consultants for preparation of sub-regional spatial plans.



**(C) District Level**

- District Planning and Development Council: This body will formulate and implement the integrated district development plan. The council may appoint professional consultants to assist in its preparation.

**4.8 Recommendations**

**4.8.1** The broad objectives of national development planning in India are to accelerate the pace of economic growth and ensure a continuous progress towards equality, social justice and economic-self-sufficiency. Efforts to achieve these objectives are being made through successive Five Year Plans.

**4.8.2** The economic development planning process is firmly established at national level in India. However, the approach to planning is sectoral, with hardly any effective inter-sectoral coordination and interaction. This is particularly true with reference to urban development. Planning is limited to economic planning at the national and state levels and physical planning at urban settlement level. There is thus a wide gap between national and local planning. What is required is to introduce regional spatial planning to bridge this gap.

**4.8.3** Although India has been engaged in far-sighted economic planning since independence, and despite the considerable achievements of the Five Year Plans, very little constructive attention has been paid to the spatial aspects of the social and economic change taking place in the country. Observing this the Commission notes that lack of spatial concern has resulted in regional spatial imbalances. The Commission further notes that each investment, whatever be the sector, has a definite physical manifestation and geographical location and generates a chain of developmental impulses affecting, in several cases, the activities of other sectors, resulting in a related spatial pattern. The Commission, therefore, recognises

the need for integration of economic and spatial planning with a view to achieving a rational spatio-economic development of the country and outlines, as detailed below, the spatial planning objective, strategies, concept, system and process to be adopted at different levels in the country.

**The Objectives**

**4.8.4** The objective of spatial planning is to generate a process of spatial development which optimises utilisation of resources, reduces regional, spatial and economic imbalances, strengthens urban and rural relationships, improves the quality of life of the majority of the people, protects the environment and maintains an ecological balance.

**The Strategy**

**4.8.5** The spatial planning strategy during the time frame of this policy shall be as under:

- (1) selective channelisation of labour-intensive economic activities to second-order settlements (after the metropolitan cities) in the spatial hierarchy;
- (2) selective concentration of socio-economic activities and related infrastructure in central villages and small and medium-sized towns, depending upon their potential, functional specialisation and hierarchy in the regional spatial system, with a view to equipping them to play a role in absorbing new migrants, help reduce the cost of urbanisation and energy consumption, and maintain a desirable rural-urban continuum;
- (3) planned development of specialised regions/sub-regions, desert regions, coastal regions, command areas and the like;
- (4) initiation and strengthening of the micro-regional (district) spatial planning mechanism to support and complement the economic development measures at that level and provide a conducive environment for living and working;
- (5) strengthening of institutional and legal support; and

- (6) progressive realisation of the long-term goal of balanced spatial and economic development through spatial development strategies and urbanisation policies.

### **The Concept**

**4.8.6** The spatial planning concept to be applied for preparation of spatial development plans at state or district level should be the 'growth centre concept' which provides a framework for identification of priority cities and lower-order growth centres (towns and central villages) at state/district level where investment will be attracted or directed, depending upon their potentials and level of infrastructure development.

### **The System**

**4.8.7** The recommended system (Figure 2) follow a multi-level planning approach and, therefore, functions at three levels-national, state and district. Accordingly, this system should be adopted for disaggregation of development policies, at national level, into integrated inter-state and state spatial development strategies and inter-district and district plans, programmes and projects. The Commission wishes to stress here that spatial planning will be most effective at state level and spatial development plans should be formulated and implemented at inter-district and district levels.

**4.8.8** This system is based upon a combination of a top-down and grassroots-up strategy, wherein policies and strategies flow downwards while plans, programmes and projects are conceived and implemented at grassroots level and can be aggregated to get spatial patterns at higher levels (state, inter-state or national) at any given time.

**4.8.9** The content of various plans at different levels should be recommended by the System (paras 4.3.16 - 4.3.20)

**4.8.10** At district level, the Integrated District Development Plan should, apart from showing various programmes and projects, also identify the various operators (ministries, local bodies and organisations), the action areas (the various settlements in the district), and the actions, classified by the sectors and a time-frame to be adopted by each operator. This will help the various operators to formulate their Five Year and Annual Plans, ensuring the desired integration of spatio-economic development efforts.

### **The Process**

**4.8.11** Following the regional spatial planning process as shown in Figure 3, two sets of spatial plans should be formulated. These are (a) a General Spatial Plan (GSP) for a period of 10 to 15 years, and (b) an Integrated Spatial Plan (ISP) within the framework of the GSP for a period of five years coinciding with the Five Year Plan period.

**4.8.12** The ISP, after approval, should serve as an official plan to be followed by all operators of development (ministries, departments, boards, authorities and local bodies) in formulating their Five Year and Annual Plans and programmes, thus ensuring the desired spatio-economic integration.

### **Immediate and Mid-term Actions**

**4.8.13** As an immediate step, the state town and country planning departments should initiate a pilot study of the relevant sections of the Seventh Five Year Plan with a view to identifying (as suggested in Figure 1) areas of inter-sectoral coordination and integration, with particular reference to spatial planning and taking necessary action to include the specific project(s) in their annual plan proposals.

**4.8.14** As a mid-term measure, the proposed State Urbanisation Council and the state Ministry of Urban Development should play a pivotal role in the integration of economic and spatial planning.

They should identify (in the same way as suggested in Section 4.1.1 & 4.1.2. and Figure 1), with the technical assistance of the state town planning departments, the areas of major investment in their state requiring integration with spatial planning in each draft Five Year Plan and consider their impact while preparing the comprehensive Five Year Plan at stage five of the suggested spatial planning process (see paras 4.4.1 & 4.4.8).

**4.8.15** The proposed National Urbanisation Council should, among other functions, with the technical assistance of the Central TCPO, (a) formulate spatial development policies and guidelines, (b) worked out a National Perspective Spatial Plan, and (c) delineate macro-regions (inter-state) and initiate action for the establishment of Macro-Regional Planning and Development Boards.

**4.8.16** The proposed State Urbanisation Council (SUC) should, among other tasks, formulate, with technical assistance from the state town and country planning department, the state perspective Spatial Plan. The SUC shall also delineate sub-regions (inter-district) within the state.

#### **Legal Support and Institutional Set-up**

**4.8.17** Observing that the existing physical planning legislation in most of the states, excepting only in a few like Maharashtra and Tamil Nadu, does not have any provision for preparation of spatial plans and organisations/institutions responsible for spatial planning and development, the Commission further recommends the various policy initiatives and interventions as detailed below, for the consideration of the government.

**4.8.18** Immediate action is necessary to make it incumbent on the implementing body, in the case of all major investment proposals in any sector, to file a Spatial Impact Statement (SIS) before the

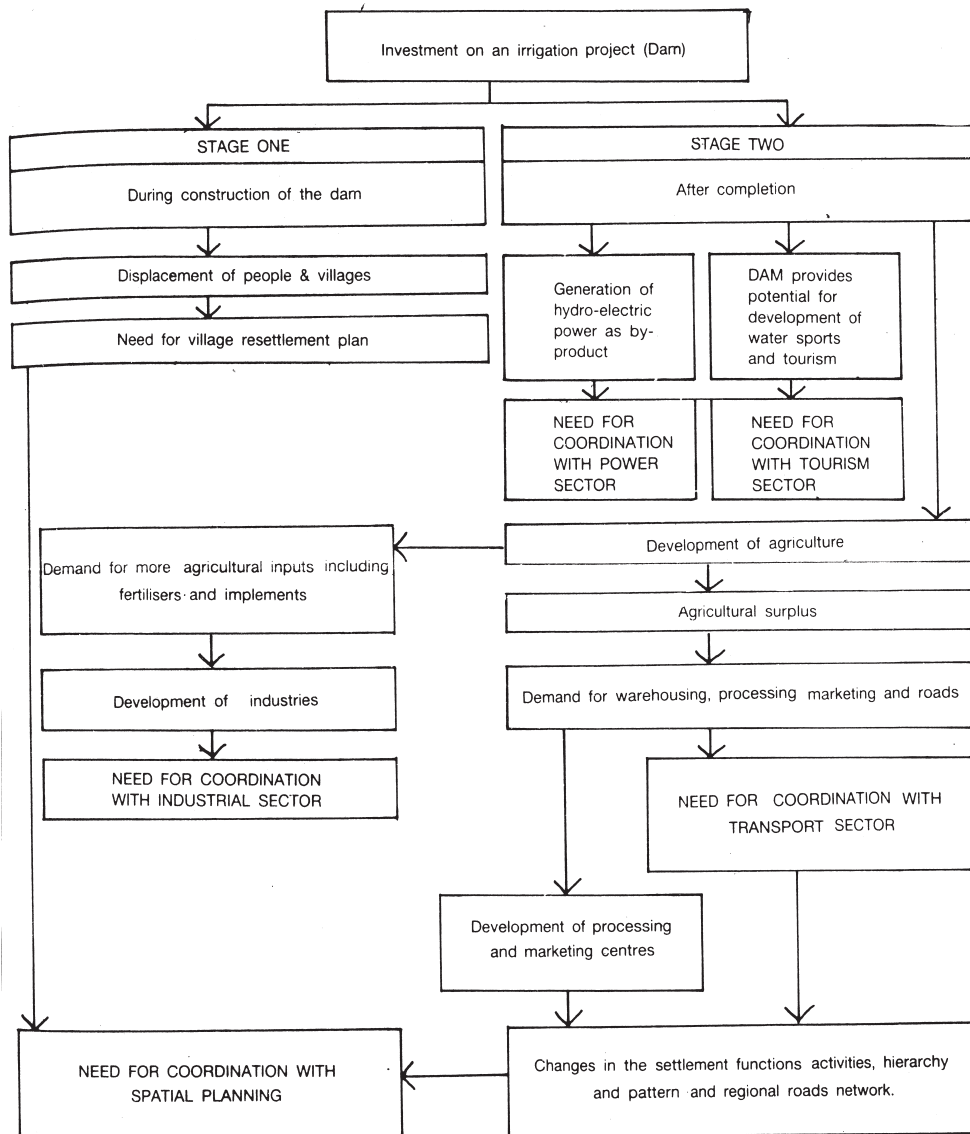
competent authority approving the project. Filing of an SIS should be backed by law, for which the necessary provisions should be made in state, town and country planning law.

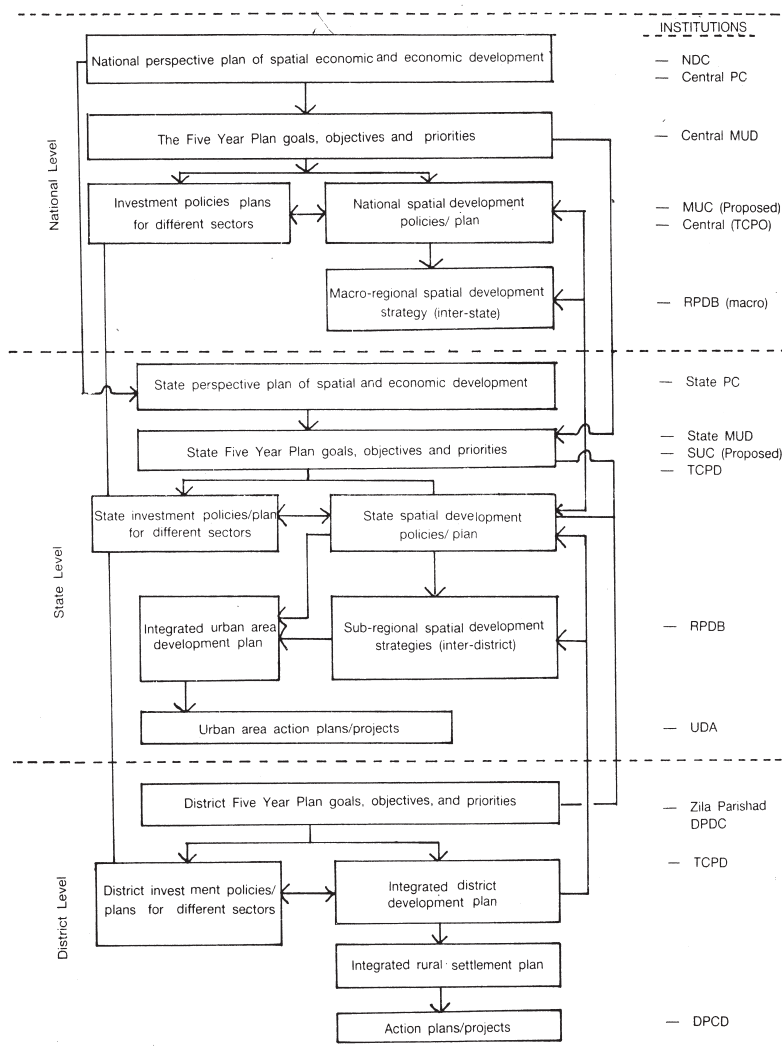
**4.8.19** Specifically in the context of spatial planning, there is a need to establish a high-power organisation to formulate guidelines and coordinate and monitor the activities of the, concerned agencies and organisations at central, state and district levels. Recognising this and considering other factors, the Commission recommends that National and State Urbanisation Councils should be established at national level and in each state respectively.

**4.8.20** The National Planning Commission should have a full-time Member, Urbanisation. The Housing and Urban Development Division of the Planning Commission should be reorganised as an Urbanisation Division which would deal with all activities related to urbanisation. It should be under the charge of the Member, Urbanisation, assisted by a physical planner as advisor. This division should have the units necessary to deal with various aspects of urbanisation.

**4.8.21** The state planning commission should also be restructured on lines similar to those recommended for the National Planning Commission.

**4.8.22** The state government should take immediate action to enact/amend the existing physical planning legislation to, include preparation and implementation of regional and micro-regional (district) spatial development plans and also the filing of Spatial Impact Statements. The Model Regional and Town Planning and Development Law prepared by the central Town & Country Planning Organisation (TCPO) provides useful base material for this purpose.

**Fig. 1. Impact of Investment in an Irrigation Project on Other Related Sectors.**

**Fig. 2. Recommended Spatial Planning System****Notes:**

NDC: National Development Council PC: Planning Commission  
MUD: Ministry of Urban Development NUC: National Urbanisation Council TCPO: Town & Country Planning Organisation  
TCPD: Town and Country Planning Department RPDB: Regional Planning and Development Board UDA: Urban Development Authority DPDC: District Planning and Development Council  
SUC: State Urbanisation Council.



### PART III

#### 5. URBAN POVERTY

##### 5.1. An Overview

**5.1.1** The most demanding of the urban challenges, unquestionably, is the challenge posed by poverty: the challenge of reducing exploitation, relieving misery and creating more humane conditions for working, living and growth for those disadvantaged people who have already made the city their home or are in the process of doing so. The task of adequately feeding, educating, housing and employing a large and rapidly growing number of undernourished, semi-literate, semi-skilled, underemployed and impoverished city dwellers living on pavements, in poorly serviced chawls, in unhygienic slums, in illegal squatters' colonies and in other forms of degraded and inadequate settlements, and struggling to make a living from low-paying and unstable occupations, is the challenge facing Indian planners.

**5.1.2** If the present trends persist in the coming decades, the urban landscape will continue to mirror, even more glaringly, the ills and contradictions of Indian society today: economic disparities, social inequalities, cultural alienation and increasing deprivation for a large number of its people. In the cities, there will be more skyscrapers and in them more spacious and luxurious apartments for a privileged few; at the same time the number of those who, squat in squalor and drink from the drains' will also increase. The poor and the unskilled from the rural areas will continue to flock to big cities in the hope of employment and a better life, only to add to the growing number of unemployed and cause further deterioration in the quality of city life.

**5.1.3** There is a considerable body of evidence to show that the growth path selected by India has not led the poorest sections of population to better living standards nor has it led to a reduction of inequalities in any visible manner. The share of

the poorest 30 per cent in the consumer expenditure has remained nearly stagnant during the period 1958-78. It is paradoxical that this should have happened despite the annual average rise of income by 3.5 per cent.

**5.1.4** The official response to the phenomenon of urban poverty—which has decisively altered the visual landscape, social fabric and overall character of Indian cities—till recently has been generally unimaginative, inadequate, half-hearted and narrowly sectoral. The urban poor are usually equated with slum dwellers. Housing is perceived to be the slum dweller's main problem. Till recently, providing pucca houses was perceived as the solution (until the money ran out and it was realised that, in the numbers game, there was no chance of winning). Recent new responses like Sites and Services, Slum Improvement, Urban Community Development Projects (UCD), Integrated Child Development Services (ICDS), Basic Services Approach, Midday Meal Scheme for the school children, and Small and Medium Towns Development Programme, reflect a relatively better assessment of the situation, a more realistic attitude to resource constraints, as broader framework, and, probably, a new awareness of social responsibility. However, most of these programmes are at their early, experimental stage; covering not even a small fraction of the people they are meant to benefit. Many are floundering in implementation, and some are already showing signs of malfunction. However, these approaches certainly merit proper trial, careful monitoring and evaluation, followed by redesign and strengthening as may be seen to be necessary nevertheless, considering the scale, complexity and gravity of the urban poverty situation and threat it poses to the social fabric and economic well being of our cities, these measures are woefully inadequate and more effective measures will have to be sought if alleviation is to be achieved within reasonable time span.

## 5.2 An Approach to Urban Poverty

**5.2.1** According to the official estimates, approximately 27.7 per cent of the urban population fall below the poverty line; in 1987-88, it meant at least 5.7 crore people. The Commission feels that it is totally unacceptable that more than one out of every four urban citizens should live below subsistence level. This is particularly disturbing when one considers that the official estimate is a very conservative one and that the urban population is growing at an alarming rate, with the urban poor constituting a high proportion of this increase.

**5.2.2** An NIUA study on 'who the poor are' found that 68 per cent of their samples were women and children. If one adds to this the aged and the disabled, the customary perception of the urban poor changes. More important, any programme recommendations for alleviating poverty must take into account the special needs and conditions of these most vulnerable groups.

**5.2.3** The picture is further complicated by the fact that a significant proportion of the urban poor are members of scheduled castes or tribes or minorities; which renders them doubly disadvantaged. Therefore, any simple prescription for alleviating poverty through programmes to increase employment and/or incomes of poor urban men alone cannot adequately deal with the complex implications of urban poverty. Also, when the general category of 'the urban poor' is disaggregated as we have done, it not only penetrates the normal stereotypes of poor urban dwellers, but also implies that any strategy to ameliorate their situation must be a multifaceted one. In addition to economic and physical poverty, such a strategy must deal with the social, psychological and emotional aspects of poverty.

**5.2.4** It needs to be appreciated that rural and urban poverty are inextricably interlinked; but this does not mean that urban poverty is merely a spill-over of rural poverty. It is an autonomous,

independent phenomenon. No matter what employment programmes are started in rural areas, they cannot meet the demand for crores of new jobs. Between 9 crores and 10 crores people will probably migrate to urban areas over the next decade two, which will have its impact on both urban employment and poverty. Therefore, rural poverty and urban poverty must be seen as addressed simultaneously, as two aspects of a single problem.

**5.2.5** While migration from rural areas makes up a large part of the increase in urban population, studies commissioned by the Commission indicate that natural increase still dominant. According to an NIUA study, per cent of the growth is due to natural increase, 40 per cent to in-migration and 19 per cent to reclassification of settlement. Thus, it is clear that government must not only attempt to retard the flow of rural migrants to metropolitan cities, but must also seriously address the problem of population increase through more effective family planning and child spacing programmes.

**5.2.6** Although, the poor suffer deprivation wherever they might be, there are certain problems that are peculiar to the urban poor. They tend to be heterogeneous, which makes their problems more difficult to tackle. Also, the population density and squalid living conditions in poor urban areas compounded by lack of basic services such as water and sanitation exacerbate their problems.

**5.2.7** Poverty cannot be characterised adequately in terms of income, expenditure or consumption patterns alone. Poverty is complex in context, texture, characteristics impact and implications. The focus should be on the human degradation resulting from poverty not only on numbers. Thus, what is required is a multi-dimensional concept inclusive of the environment, access to services and social and psychological supports. The Commission believes that poverty has



increased in the urban areas although, some official figures do not show, this. This seems especially true of access to services.

5.2.8 Urban poverty is too complex and important to be left only to those technical responsible for 'urban development'. The responsibility is global and, therefore, and macro policies and programmes must be systematically examined for their positive and negative effects on urban poverty and the urban poor.

### 5.3 Changing Dimensions of Urban Poverty

**5.3.1** Current estimates of poverty are based on the average calorie intake of households. Urban expenditure groups in which the average daily per capita calorie intake is below 2140 calories are deemed by the Planning Commission 'below poverty line'. This uni-dimensional definition is inadequate. Urbanites suffer from very serious forms of shelter and environmental deprivation, the most acute forms of which are visible in slums. The Urban Poverty Survey by the National Institute of Urban Affairs (1987) shows that in low-income neighbourhoods, about 60 per cent of the families above the poverty line (APL) were living in kutchha houses and suffering from the same forms of environmental degradation as families below poverty line (BPL) did. The household income concept of poverty thus misses the environmental and shelter characteristics of neighbourhoods which constitute the crux of physical poverty of those APL and BPL alike. The urban poverty phenomenon will therefore, have to be approached from both the 'household income' as well as the 'neighbourhood characteristics' angles.

**5.3.2** While a combination of 'household' and 'neighbourhood' approaches is necessary, the validity of the household-income approach (as a proxy for expenditure level) is undeniable for policy formulation purposes. According to the 38th NSSO round (1983-84), an expenditure level of Rs. 122 per month, per capita, was required to

reach the desired level of calorie at 1984-85 price levels. By this definition, the percentage of people in urban areas below the poverty line was approximately 27.7 per cent, as mentioned earlier. According to NSSO's 32nd round in 1972-73, this percentage was 41.2 per cent, showing a decline in percentage terms by 13.5 points within a short period of 12 years, i.e., 1972-1984. However, in terms of absolute numbers, there has been an increase in the number of people below this poverty line. As against 5.11 crores persons estimated to be below the poverty line in 1977-78, the corresponding number in 1987-88 is about 5.7 crores.

**5.3.3** However, according to the estimates of the Central Statistical Organisation, there has been only a marginal change in the urban poverty situation-the percentage of people below the poverty line having been reduced from 56 per cent in 1977-78 to 53 per cent in 1983, and being practically at the same level as it was in 1972-73. A comparison of the estimates of the NSSO and CSO are given in Table. 1.

**Table 1. Estimates of Poverty 1972-1985 by NSSO & CSO**

Year	Poverty ratio		Per capita per month poverty line income.	
	NSSO	CSO**	NSSO	CSO
1972-73	0.41	0.53	63.73	51.75
1977-78	0.38	0.55	71.30*	62.53
1979-80	0.40	0.56	88.00	81.00
1984-85	0.28	0.53	122.00	136.75

NIUA: who are the poor? What do they do? Where do they live? (1988).

\* The mid-point is for 1978. Household size is assumed to be 5 members.

\*\* Raghavendra Rao: 'Measurement of Poverty and Inequality', Central Statistical Organisation, Training Division, page 21. The poverty line figures have been obtained by adjusting the poverty line figures of Rs.25 per capita per month as per the High Power Group recommendations in 1960-61 to industrial labour consumers price index (1960=100).

**5.3.4** While the poverty line indicated in the CSO estimates is slightly higher than that mentioned in the Seventh Plan on an assumed average household size of five, the variations, in the

proportions indicated by the two organisations is enormous. This is not the place to attempt reconciliation. It is sufficient here to warn against any complacency that might be induced by adjustments at the margin of the poverty line at which level a large proportion of the urban population lives.

## 5.4 Distributional Aspects

### Household Characteristics

**5.4.1** The NIUA study found the average size of poor household to be 5.91 members, which is about 10.7 per cent higher than the average size of 5.54 used for all population studies in their sample. This was largely because of a higher proportion of juveniles in poor households (46.05 per cent as against the general average of 39.04 per cent). However, proportion of the child workers in poor households was as high as 0.16 per household or about 11 per cent of the total number of workers in these households. About 78.6 per cent of child workers were found to be working in the informal sector. The overall rate of unemployment was found to be 11.3 per cent of the labour force in poor families, which was higher than that of the whole sample (8.8 per cent).

### Regional Variations

**5.4.2** Another important feature of the urban poverty scene is the wide regional variations in performance in poverty eradication. There are States such as Kerala, Haryana and Madhya Pradesh which have shed more than 15 urban poverty points during the period 1977-83, while States such as Punjab, Uttar Pradesh, Bihar, Maharashtra, Rajasthan and West Bengal showed below average performance. It is not industrial backwardness alone which accounts for slow progress, because states such as West Bengal and Maharashtra also have shown below-average level performance. The causes of regional variations need to be studied carefully to identify the factors which enhance or impede good performance. At the same time, these regional

variations imply a need for flexibility in the approach to urban poverty. Uniform programme patterns are likely to be unworkable.

## Occupational and Income Variations

**5.4.3** A study for the Planning Commission by the National Centre for Human Settlements and Environment (NCHSE), Bhopal on formulation of poverty alleviation programmes found that eighteen occupational categories account for the bulk of the workers belonging to poor households and that about 50 occupational categories account for 90 per cent of the total number of workers. They are in transport (cycle-rickshaw, auto-rickshaw, head-loaders, light-vehicle drivers), construction (bricklayers, painters, carpenters; 'casual labourers etc.), business and manufacturing in micro units.

**5.4.4** The distribution of workers in occupational categories shows wide variations in income. Table 2 presents average monthly incomes for certain categories, of workers as reported by the NCHSE, Bhopal study.

**Table 2. Occupational Categories and Average Monthly Income of Urban Poor Workers**

Category of Workers	Average Monthly Income
Skilled: (motor driver, mechanic, repair, electrician, fitter, Plumber, bricklayer carpenter etc.)	Rs. 587
Semi Skilled:	Rs. 512
Unskilled: (loader, casual labourer, street vendor, domestic servant, sweeper etc.)	Rs. 440

**5.4.5** Such variations in household income levels below the poverty line are also reflected in a Tata Institute of Social Sciences (TISS); Bombay, study which classified poor households in six income groups ranging from Rs.50 per capita per month (Group I) to more than Rs 100 per capita per month (Group VI). Since a per capita income

per month of Rs 122 is defined as the urban poverty line, we might classify the urban poor households in three categories by level of per capita income.

1. Those having a per capita per month, income of less than As 50 at 1984-85; prices may be regarded as 'very poor'.
2. Those with per capita income per months between Rs 51 and Rs 100 as 'poor'.
3. Those with per capita per month income between Rs 100 and As 122 as 'marginally poor'.

The TISS study found the situation as shown in Table 3.

**Table 3. Classification of Urban Poor in Bombay by per Capita Income**

Per Capita Income Per Month	Percentage	
	Household	Houseless
Less than Rs. 50	3.8	14.2
Rs. 100 - 100	24.6	44.3
Rs. 100 - 200	17.1	20.6
Over Rs. 200	54.5	19.9
Mean	204.82	113.58
S.D.	134.46	76.5

Source: Tata Institute of Social Sciences: Nature of Poverty in Bombay (Muthaya and Yazur), March 1987.

## Poverty and Caste

**5.4.6** The data show that there is a much higher incidence of poverty among/scheduled castes and tribes than is warranted by their proportions in the general population of a city. The data from Hyderabad study presented in table 4 illustrate this by comparing the percentages of scheduled caste and scheduled tribes in the slum population with those in the district. As can be seen in the Table, it ranges from more than three times as much in the case of scheduled castes to over ten times as much in the case of scheduled tribes.

**Table 4. Percentage of Scheduled Caste and Scheduled Tribe Population: Hyderabad Slum and District**

Category	Percentage of district population	Percentage of slum population (N. 90255)
Scheduled Caste	10.0	35.5
Scheduled Tribe	0.6	7.0

Source: T. Rajgopalachari: 'Study of Pattern of Employment and Unemployment among SC and ST of Hyderabad'. Council for Social Development, 1985.

## Intra-family Inequities: Women and Children

**5.4.7** In a situation of deprivation, the senior male being the principal earning member, he receives preference in terms of food quantity, while the women as a housekeeper has to satisfy herself with whatever is left after the males and other seniors have been served. Even if the household head earns more than a poverty line income, the amount made available for running the household kitchen might be too small, with the consequence that women still have to live under conditions of nutritional deprivation. Exact data are not available on calorie consumption according to gender and age-groups, but the assumption of intra-family inequities in distribution is in wide evidence. This supports the case for strengthening existing nutritional and educational programmes for vulnerable groups of women and children, in addition to general poverty alleviation programmes operated on household basis. This is especially necessary in view of the fact that only 15 per cent of the children in the age group 0-6 are nutritionally normal in urban slums. There is no doubt about gender gaps in education. The female literacy rate in urban areas in 1981 was 47.8 per cent as against the male literacy rate of 65.8 per cent. Case study data show that the gap is larger in slum areas.

## Intra-city Distribution

**5.4.8** Not all of the urban poor live in slums and shanty towns and not all of those who live in slums and shanty towns are poor. The poor can often be found distributed throughout a city; living in

servants' quarters, chawls, small squatter settlements and on pavements. Very often they are found in middle class and affluent areas where they perform needed services for well-to-do people as domestic servants, drivers, malis, sweepers, dhobis, etc. On the other hand, because of the extreme shortage of housing and high rents, especially in metropolitan cities, a significant proportion of slum households consists of people whose incomes would place them above the poverty level, but who, because of their inadequate shelter, lack of basic services, and environmentally degraded surroundings, would, by many definitions and certainly by inspection, be characterised as poor. However, they have obligations, ideas about living standards and of dress and cleanliness appropriate to the lower middle classes and have often to fulfil family responsibilities beyond the members of their immediate households.

### Shelter and Poverty

**5.4.9** Table 5 drawn from the NI UA study on Urban Poverty shows the relationship between type of housing and the poor and the non-poor in low-income neighbourhoods. These were areas of poverty within a common milieu. If kutcha huts were taken to represent a condition of relatively more acute physical deprivation, the poverty percentage should have been 65.6. On the other hand, the income criteria yielded a percentage of about 50 per cent. Even among those who were poor in income terms, as many as 6.46 per cent had pucca homes, which normally would not be accompanied by the same degree of physical deprivation as that of those with kutcha dwellings. Thus the relationship between income and physical deprivation is close, but a substantial number of cases of acute physical deprivation would fall outside the income definition of poverty.

**Table 5. Relationship Between Type of Housing and Percentage of Poor and Non-Poor in Low-Income Neighbourhoods**

Type of Dwelling Units	Percentage of total	Percentage	
		Non-poor (N=448)	Poor (N=440)
(1)	(2)	(3)	(4)
Pucca	9.48	42.50	6.46
Semi-pucca	24.97	27.68	22.27
Kutcha	65.55	59.82	71.27

### 5.5 Percentage of the Poor

**5.5.1** A review of perception studies shows that a vast majority of the poor (89.3 per cent of the very poor and 64.8 per cent of the other poor in the Bombay study) feel that their situation has remained stagnant or has deteriorated over recent years. The outlook of the Bombay sample is quite pessimistic. Of the 240 respondents, 171 (71.2 per cent) felt that their poverty would continue. The principal reasons given were: low wages/incomes, lack of employment opportunities, lack of skills and education, and inflation.

**5.5.2** A review of the literature on problem-perception shows further that lack of income, irregular and poorly paid employment, poor shelter and sanitation, lack of basic physical amenities like water are foremost in the consciousness of the poor as indicators of their poverty. Health educational deprivation of the children and an ambience not conducive to congenial family relationships also receive mention. At the neighbourhood level, a Baroda study mentions alcoholism, gambling and anti-social activities also as problems perceived by respondents. However, about three-fourths of the respondents also value the presence of friendly and supportive individuals in the neighbourhood.

**5.5.3** The fact that poor households find themselves in a multi-problem situation calls for a multi-pronged service design converging at the household level. This would suggest a need for a multi-purpose worker with the knowledge and ability to facilitate assistance from various development departments and agencies and an area-level organisation for coordinating the working of various services.

## 5.6 The Twin Causes of Poverty

5.6.1 'The twin causes of poverty are Underdevelopment and inequality. It is inadmissible to ignore or under-play either factor' declares the approach paper to the Fifth Plan. Strengthening forces of growth is necessary to counter the forces of underdevelopment and release development potential. The development of resource potential can however, itself become a cause of inequality, because the community resources and incentives will have to be provided on a priority basis to the few who can organise land labour capital, and social infrastructure. Thus an increase in inequality and, therefore, its inevitability-at least during the transitional period-is postulated by some scholars. The inequality thus produced can be functional, temporary and self-terminating, or cumulative, self-perpetuating and dysfunctional, depending upon the objectives of those who are allowed to organise the resources, and the nature of the output which becomes available,

5.6.2 An increase in inequality however, does not necessarily imply an increase in poverty. Improved and wider provision of basic goods and services needed for human survival and reproduction could well go hand-in-hand with widening inequalities, though at a higher level. A society can be launched on a development path in such a manner that it first pays attention only to basic goods and services. Transitional inequality then becomes condition for removing poverty. There is evidence of such a process occurring in rural India. Punjab and Haryana, homes of the Green Revolution, have also recorded the lowest scores on rural poverty even though there has been a slight increase in a given coefficient of inequality. Periods of good production have also been periods of reduction in the percentage of rural households below the poverty line. A strategy focused on the expansion of irrigation and priority to food production has thus produced both growth and a reduction of poverty. It has also

enabled 'A the country to launch a food for work programme on a gigantic scale to augment employment for the landless.

5.6.3 Economic growth, on the other hand, can also siphon away the meagre resources which are available for production of 'need goods' by intensifying the unequal competition for scarce resources such as water and biomass in favour of 'want goods'. This would impoverish the environment for, those who are engaged in the production of 'need goods' and may reduce the supply if production resources are diverted towards luxury and comfort items. Misdirected development can become a cause of rural and urban poverty. A high growth rate in the production of cars, luxury hotels, air traffic, ostentatious buildings, etc., shows that 'development' may cause resources depletion for the goods needed by the masses. Strategies calculated to produce basic-need goods (such as housing for low and lower-middle income groups in urban areas) could produce growth, employment and social justice through their indigenous backward and forward linkages. This would have an impact on the physical forms of poverty, in contrast to investment on five star hotels, of which the impact on these forms would be negative.

5.6.4 Inequality in a society governed by tradition or unequal wealth' and political power relationships is likely to end with putting resources in the hands of those who are not necessarily competent to develop them for the good of the society and may thus cause mis-development. Changes in these relationships that ensure that the resources are managed by those who can develop them for the good of the society would thus remove the conditions of underdevelopment and subsequently, poverty. However, if, for historical reasons, some sections of the population have been deprived of the necessities of life and opportunities for participation, learning and personal development, they are likely to suffer from a permanent handicap in entitlement, while those

who have had the advantage in the past will continue to enjoy them. In the 'Indian situation, the scheduled castes, scheduled tribes and women constitute the former groups. Unless the historical trends are reversed by suitable structural changes, the disadvantaged sections will continue to live in a state of underdevelopment. The urban melting-pot has dissolved, to some extent, the ritual symbols of inequality, but economic disabilities persist and get translated into poor quality of shelter environment. A large majority of the poor live in slums and chawls and are engaged in low-paid jobs or petty non-formal enterprises. Women also continue to suffer from historical disabilities. Since the mind-body power of people is the most valuable resources of any society, their underdevelopment is bound to perpetuate poverty. Poverty is a cost which is unaffordable by a development-conscious society. The constitutional directive that the material resources of the community should be so distributed that they subserve the common good is not only an anti-poverty bulwark but also a charter of growth.

### **5.7. Manifestations of Urban Poverty**

**5.7.1** Urban poverty manifests itself in many forms. The most visible of these are:

- Proliferation of slums and bustees.
- Fast growth of an informal sector.
- Increasing casualisation and underdevelopment of labour.
- Crushing pressure on civic services.
- High rate of educational deprivation and health contingencies.
- Retarded growth of physical and mental capacities. A growing sense of hopelessness among the urban poor, resulting in rising crime rates and group violence.

#### **Growth of Slums and Bustees**

**5.7.2** The poor cannot afford to pay the growing market prices of pucca shelter or buy land at the fabulous prices charged near their work-places.

They cannot afford the cost of transporting themselves or their stock in trade over long distances. They, therefore, settle on marginal lands near their work-places, which are otherwise considered unfit for habitation by the non-poor classes. Examples are river banks, margins of nullas and drainage canals, marginal railways lands and swamps. Their constructions are of cheap scrap and salvaged material like gunny bags, tarpaulin, scrap tin sheets, wooden planks etc. The habitat is irregular as it is unplanned. Civic amenities if available are minimal. As a result, public sanitation and personal hygiene break down.

**5.7.3** The growth of slums, is, therefore, a symptom of the inability of people to procure land and shelter through market transactions, in which they find themselves out-priced since government has failed to regulate urban land resources in such a way that poor can have equitable access to them. Estimates of slum population vary but its growth is dramatically highlighted by some examples. In Calcutta roughly 35 per cent of the city's population lives in identified slums, but it is estimated that the population of all slums and squatter settlements is much higher. According to a handbook of the *National Buildings Organisation* (1982-83), 67 per cent of the households in Calcutta lived in one-room units. In Madras, about 38 per cent of the population lived in declared slums in 1971 and 54 per cent of the households lived in one-room dwellings. In Hyderabad, the slum population jumped from one lakh in 1962 to a staggering 5 lakh by 1981. In Delhi, squatters households are estimated to have grown from 12,741 in 1951 to 1.13 lakhs by 1975-76.

### **5.8 Growth of the Informal Sector**

**5.8.1** While population growth in urban areas through natural causes and migration from rural areas as well as small towns continues unabated at approximately 4 per cent annually, the capacity

of urban areas to create jobs well above the poverty line in the formal sector has been dwindling. The capital-intensity of modern urban enterprises, industrial location policy, energy crises, industrial sickness, labour unrest, restrictive legislation, frozen housing activity and the low level of investment in the development of urban infrastructure and services have colluded to keep down the growth of urban employment. A non-formal sector has been growing interstitial spaces of economic activities ignored or exploited by the formal sector. It includes waste collection and recycling, shelter development in marginal and ordinarily uninhabitable lands, cart and lorry transport, low-cost catering services, repair and maintenance services, and street vending. The size of the sector is variously estimated for different centres. According to Papola and Kashyep, (Facets of Urban Economy), 52 per cent of Ahmedabad city's labour force was engaged in the informal sector in 1984-85. An Operations Research Group (ORG) Study put the size of the informal sector at 50 per cent for Madras in 1979. Problems of definition and measurement notwithstanding, most scholars now agree that the informal sector is growing much faster than the formal sector.

**5.8.2** About two-thirds of the poor urban households are engaged in the informal sector with capital investments averaging about Rs.400 per worker as against Rs.12,000 in the organised sector, according to the ORG study (1978). They receive a net annual income of Rs.1500 per worker (at 1978 prices) as compared to Rs.8500 in the formal sector. The income-investment ratio in informal sector activities is 3.6 as against 0.71 in the formal sector, according to the same study.

### **Increasing Casualisation and Underemployment of Labour**

**5.8.3** There is also increasing casualisation of labour and persistence of underemployment in urban areas, according to Sarvekshana, April 1986, the percentage of casual labour increased

from 13.2 per cent to 14.75 per cent in the case of males and from 25.59 to 27.2 per cent in the case of females during the 1977-83 period. The percentage of unemployed, as measured by current-day status during the same period, increased from 5.35 to 5.45 per cent for males, although it decreased from 2.11 to 1.72 per cent for females. Child labour accounts for nearly fifteen lakh workers in urban areas and continues to constitute about 8 per cent of employed males and about 7 per cent of employed females. Unemployment amongst the educated, especially graduates, is very high in the age group, 15-29 years. In Madras it was found to be 20 per cent for males and 15 per cent of females (Sarvekshana, October 1986).

### **5.9 Crushing pressure on Civic Amenities**

**5.9.1** The civic authorities are finding themselves increasingly incapable of providing civic amenities to the large influx of population within their boundaries. The population, being poor, is unable to meet the cost of expanding such services which have to be supported from State grants or taxation of a narrow base of tax-payers. The per capita water consumption was reported to be between 16-23 litres per day in slum areas in Bangalore, the number of persons per tap varying between 40 to 428 in same city. According to the report of the task force of the Planning Commission on Financing of Urban Development, 31.2 per cent of the urban population was not covered by sanitation services. According to a DDA study of 28,100 squatter households (1986), a hut of 2.5 x 3 metres accommodated about 4 persons. About 50 per cent of dwellers were using open areas for defecation. Dirty water generally accumulated and stagnated by the side of drains.

### **5.10 High rate of Educational Deprivation and Health Contingencies**

**5.10.1** According to the census of India, the urban literacy rate was 57.4 per cent. However, the literacy rate of people below poverty line was

estimated to be only 28.1 per cent according to an NIUA data sheet (1986) and 26 per cent in slum areas according to a task force on Housing and Urban Development. About 91 per cent of squatters were returned as illiterate in the DDA's survey of 30,000 squatter households in Delhi (1983). In a case study by the Baroda Citizens Council, the health contingency rate in slum areas was found to be 425 per 1000 of population during the year 1987-88. Amongst children, it was 276/1000 in a non-ICDS slum as compared to 57/1000 in another low-income neighbourhood which was covered by the ICDS Scheme. According to a study on disability conducted by the same organisation, the incidence of disability was about three and a half time higher in poor habitations than for the city as a whole.

### **5.11 Retarded Growth of Physical and Mental Capacities**

**5.11.1** Even though the poor spend over 70 per cent of their income on food and food supplements, it is still inadequate to meet their nutritional needs. Signs of undernourishment -can be seen in emaciated, pot-bellied, short statured, underweight children and their emaciated mothers, grown haggard while still young.

**5.11.2** According to Seventh Five Year Plan document, less than 15 per cent of slum children could be considered as having normal nutrition status, the rest suffer from varying degrees of under nutrition. According to another study of slum children in India, S.D. Singh and K.P. Pothar (1982) found that 50 per cent of expectant mothers suffered from nutritional anemia, resulting in low weight of babies at birth.

### **5.12 Growing Sense of Hopelessness, Rising Crime Rates and Group Violence**

**5.12.1** The sense of hopelessness of the urban

population is expressing itself out of a perception of their situation as one of stagnation. According to a study by the Tata Institute of Social Sciences, 89.3 per cent of the very poor and 64.8 per cent of the poor respondents in their sample felt that their situation over the past five years has remained unchanged or has deteriorated. The failure of people's coping mechanism is partly expressed in escapist behaviour-increased consumption of liquor and hallucinatory drugs which, by several accounts, is increasing in slum areas. Precise figures for crime and group violence are not available separately for poor and non-poor neighbourhoods, but the case studies have documented that underlying flare-ups of communal violence in Ahmedabad and Baroda were the activities of anti-social gangs of the slum areas carrying on their power struggle. A similar phenomenon of the involvement of the underworld has been brought out in other case studies of group violences in the city. The frustration-aggression syndrome has been posited as a hypothesis which can be traced to conditions of severe physical and economic poverty and social deprivation, from which inhabitants in poor neighbourhoods suffer most.

### **5.13 Policies and Programmes for Urban Poverty Alleviation**

#### **Five Year Plans and Urban Poverty**

**5.13.1** Poverty removal, as a dominant objective in India's development strategy appeared initially in the Fifth Five Year Plan (1974-79). It recognised the existence of large-scale poverty in India and observed that, despite the sizeable gains of economic development and improvement in living standards over the two decades of planning, 'large numbers have remained poor'. The fifth Plan however, made no distinction between rural and urban poverty. It was the Sixth Five Year Plan (1980-85) which marked, in a sense, the commencement of a definite approach to poverty issues. It approached the problem in three stages:



(a) Identification and measurement, (b) developing realistic targets, and (c) formulation of specific programmes. Like the preceding Five Year Plan, the Sixth Plan also did not directly address urban poverty issues.

**5.13.2** The Sixth Plan, however, did provide for moving nearly 61 lakhs of the total urban poor above the poverty line, essentially Through the provision of 'Additional consumption benefits' and better and more equitable distribution of health, education, sanitation, housing and drinking water, and slum, upgrading and environmental improvement programmes.

**5.13.3** The Seventh Five Year Plan (1985-90) constitutes the first conscious attempt to address urban poverty issues directly. There are two features of the Seventh Plan approach that need to be especially highlighted. Firstly, it takes explicit note of the 'growing incidence of poverty in urban areas' and points out that the persistent migration from rural areas had led, on the one hand, to rapid growth of slums in many cities and towns, and, on the other hand to overcrowding in relatively unskilled and low-paid jobs in the informal sector. The Seventh Plan accordingly places considerable emphasis on improvement in the living conditions of slum dwellers. It further notes that, in order to be effective, the problem of urban poverty would require a major thrust towards employment generation and creation of productive jobs. This is the second feature of the Seventh Plan approach.

**5.13.4** In line with this major thrust, the Seventh Plan has proposed a strategy that includes:

Provision of gainful employment to the unemployed, particularly women and youth,  
raising the earnings of those in low-paid jobs,  
stepping up the productivity and earnings of self-employed workers, and

improving the access of the urban poor to basic amenities such as education, health care, sanitation and safe drinking water.

**5.13.5** The Commission has examined the available evidence on the impact of the various programmes—centrally sponsored, state sponsored and locally initiated. It has also reviewed some of the programmes in the field. The results are mixed but the overall conclusions are :

- The reach of the programmes is limited.
- There is a high degree of inflexibility.
- There is a lack of convergence of programmes.
- Even the main targets are often missed.
- Barring the Hyderabad Nizag UCD Projects the programmes are still working on a laboratory scale.

At the same time the Commission is aware of the highly effective and innovative programmes in some cities such as the Sites and Services and Slum Improvement projects in Madras; the Small Loan Programme and Community Health Scheme of the Calcutta Metropolitan Development Authority; the Urban Community Development Projects in Hyderabad and Visakhapatnam and the low-cost sanitation schemes in Patna and other cities.

### **Review of Current Programmes for the Urban Poor**

**5.13.6** The major programmes for amelioration of the conditions of the urban poor can be grouped as follows:

Shelter and physical environment related programmes.  
Nutrition supplement programmes, including public distribution.  
Programmes for employment generation.  
Programmes for the development of citizen participation and development of institutional capacities of service agencies.

### **Shelter-related Programme**

**5.13.7** Among the shelter related programmes, slum eradication featured as a key approach during the First and Second Plans. In view of resource limitations, resistance of local populations to shifting and maintenance failures, the approach was abandoned in favour of Slum Improvement and Sites and Services Schemes. About 15.3 lakhs slum dwellers are believed to have benefited already under the slum improvement scheme. The Seventh Plan aims at securing coverage of about 90 lakh slum dwellers during plan period at an average per capita expenditure of Rs.300 and 85 lakhs during subsequent Plans. It is expected to achieve coverage of the entire urban slum population by 1990. Considering the growth of the slum population between the first year of the Fifth Plan and the end of the Seventh Plan, the coverage may turn out to be only about seventy per cent of the total as the old slums relapse to unimproved conditions because of maintenance failures.

**5.13.8** The Economically Weaker Sections (EWS) Housing Programme has succeeded in constructing 65,432 shelter units in the public sector during the Sixth Plan period (1980-85). The goal for the Seventh Plan is a little higher. It is hoped that the LIC, through recycling of funds and fresh operations, might put together resources of about As 800 crores for HUDCO for supporting EWS and low-income-housing schemes. This may suffice for the construction of about 3.3 lakh units and about one lakh plots. The yearly rate is unlikely to exceed 50,000 EWS and Low Income Group (LIG) units and about 20,000 plots, even if the targets are fully achieved. The National Buildings Organisation has estimated that, as on March, 1981, about 2 lakh units were needed for the houseless, who should be given first priority, while about 31 lakh units were needed for those who live in kutch units. This number grew from 31 to 34 lakh units in 1987. The houseless population grew at a decennial rate of 32 per cent during 1971-81 and 58 per cent during 1961-71.

Besides, the urban poor are concentrated in bus-tees and chawls and whole families of 6-7 persons live in congested, one room tenements. The congestion is increasing owing to growing impoverishment, immigration, and population growth from within. Thus, even though the public policy response to the housing needs of the urban poor has improved it cannot meet more than 10 per cent of the backlog. Even that proportion is likely to be overtaken by the fast growth of the houseless population and the growth of sub-standard housing units.

### **Water Supply and Sanitation**

**5.13.9** The programmes of water supply and sanitation have made progress but the rate is slow and the urban population without access to potable water and sanitary latrines is increasing in number. By the end of the Seventh Plan, about 72.9 per cent of the urban population was covered by the provision of water supply while this figure was 77.8 per cent in 1981. As regards sanitation, the overall coverage was low (28.4 per cent). Although this represents a marginal improvement over the 1981 level (27 per cent), the overall number not having access increased by 3.6 crore. Besides, in the case of areas with high concentrations of urban poor, such facilities have lagged far behind the norms. Not only the percentage of persons having access to potable water supply is lower, but the per capita level of water-consumption is very uneven. In the case of toilet facilities also, the poorer households lag behind the general average due to insecurity of tenure, lack of capital, lack of housing space, low level of water availability and lack of access to trunk infrastructure.

### **Nutrition, Public Distribution: General Programmes of Child Development**

**5.13.10** Programmes of nutrition have been significantly expanded in the Seventh Plan. The special Nutrition Programmes (SNP) and Mid-day Meal (MDM) are proposed to be integrated with Integrated Child Development Scheme

(ICDS). The expected coverage of beneficiaries is likely to be 1.1 crore children and pregnant mothers under SNP and about 50 lakh children under MDM by the end of 1990.

**5.13.11** The public distribution system also aims at providing a balanced diet at reasonable prices in the endemically poverty-stricken, malnourished and undernourished parts of the country. Even this limited concept of public distribution is not realised in practice. A review of the literature shows that off take from the public distribution system is greater in urban areas than in rural areas in per capita terms. Andhra Pradesh has used its public distribution system both extensively and intensively to distribute about 5 kg of rice per capita per month to an individual family, subject to a ceiling of 25 kg, along with other essential goods such as sugar, wheat, palm oil (up to a ceiling of 2 kg), coarse cloth, kerosene, etc. A review of case studies of the public distribution system of Andhra Pradesh shows that the urban poor families meet about 40 per cent of their needs from the public distribution system.

### **Child Development**

**5.13.12** Among the general programmes of child development, the spread of free education has certainly brought benefits nearer to the urban poor. The wide gaps in literacy levels between the urban poor and the rest of the population are closing. However, owing to economic and social conditions, the school drop-out rate is higher among the urban poor than the rest of the urban population. While the literacy rate in general was 57.4 percent, it was only 28.1 per Cent amongst the urban poor. The quality of schools where poor children go is often below average, with the result that the entry rate of primary pass students to secondary school is very low.

**5.13.13** The ICDS programme is primarily operated in the rural areas, especially in tribal belts, where the incidence of malnutrition among children is very high. Assuming that 11 per cent

of the project beneficiaries (being the proportion of urban projects to the total projects) belong to urban poor households, the expected number of beneficiaries from urban poor households might be about 12 lakh children under SNP and about 5 lakh under MDM. This needs to be seen against the infant and school-going population of about 2.3 crore among the urban poor, even if the low official claim concerning the incidence of urban poverty is accepted. However, if the alternative estimates are used, the poor child population might be about twice this number. Health services have improved in pilot project areas, thanks to intensive efforts of Integrated Child Development Scheme (ICDS), Urban Basic Services (UBS) and Urban Community Development (UCD) projects,, but these have still not approached national coverage. Taking the incidence of child disability as an indicator of early health risk to which a child is exposed, a Baroda Study found nearly 43 per thousand amongst the poor population affected, against 12 per thousand in the general population.

### **Employment Generation and Employment-Oriented Training Programmes**

**5.13.14** The Tamil Nadu Slum Clearance Board runs a programme of employment training for slum dwellers. The Madhya Pradesh Government has also set up a programme called STEPUP (Special Training and Employment Programmes for Urban Poor). The CMDA operates an economic support programme for bustee dwellers which is very similar to STEPUP. Even if the beneficiaries of all these programmes are added together, the total will not exceed 3 lakh beneficiaries in a year.

### **SEPUP**

**5.13.15** Recently the Government of India have started a Self Employment Programme for the Urban Poor (SEPUP) by earmarking a sum of Rs.200 crores as credit to be distributed to poor urban entrepreneurs whose incomes do not exceed Rs. 600 per month. The maximum credit

available is Rs 5000. The list of economic activities for which loans are available contains 35 items covering activities like hawking on handcart, laundering, welding, cycle rickshaw operation, shoemaking, hairdressing, etc.

**5.13.16** Self Employment Programme for Urban Poor (SEPUP) was started only in September 1986 and was able to provide in its first twelve months of operation loan assistance to only 2.6 lakh beneficiaries. It is difficult to make statements about income gains and recovery percentages in the absence of evaluation data. A review of evaluation literature on DRI programmes which are programmes of almost similar nature, puts the population of those who received loans but in fact, did not satisfy the income criteria at around 72 per cent. The percentage of a defaulter was 47.8 per cent although the proportion of overdue amount was only 16.9 per cent. However, its income impact was favourable.

#### **CMDA's Income Support for Slum Dwellers**

**5.13.17** The CMDA claims its recovery percentage to be around 70 per cent. The income impact in the selected cases seems to be close to what was found in the review of literature. Employment training did not lead to employment in all cases. The success ratio was close to 50 per cent, with per capita training expenditure being close to Rs.1000 including stipends paid during the training period.

#### **Participatory Programmes**

**5.13.18** Urban Community Development (UCD) was started as a pilot project as early as 1959. However, only very few pilot projects survived. In 1981, the Urban Community Development, Low Cost Sanitation and Small and Medium Town Development Projects supported by UNICEF were merged into a new service called Urban Basic Services (UBS). Its aim is to promote citizen participation, strengthen the service capabilities of the local bodies in working with

people on commonly felt needs, bring about convergence of services and coordinate resource of various agencies for the purpose. Child and woman care services receive special attention with a view to improving the chances of survival of children and developing their learning potential. The UBS projects are still on pilot scale, with 200 towns and cities to be included in the Seventh Plan period. The institutional base is so weak that it is difficult even to identify the urban poor with a view to beaming the programme benefits on them, but the emphasis is upon the participatory approach more than on the programme components. A national programme cannot be mounted unless an institutional framework, broad and strong enough to bring citizens and serving agencies together to pool their resources and work in cooperation is created for the achievement of what are, essentially, common goals.

#### **Perceptions of Benefits Reaching the Poor**

**5.13.19** The NIUA study on perceptions of urban poverty found that 50.4 per cent of their sample household drawn from the urban poor in 20 cities felt, that they did not receive any benefit out of dozen programmes listed. A majority of those who reported benefits, derived them from the activity of local government-such as water connection, sanitary connection or electricity for the locality (27.5, 4.58 and 1.25 per cent, respectively). Land and shelter programme benefits were mentioned by 10 per cent. Immunisation, Balwadi, School and Community Hall which go with urban basic services activities were mentioned by 4.1, 3.3 and 3.3 per cent respectively. Of the credit support programmes (SEPUP and DRI Schemes), loans from bank was mentioned by 8.3 per cent, while about 0.8 per cent mentioned HUDCO loans. The picture painted in the report is somewhat optimistic because, in the selection of areas, almost an equal weightage was given to those which had received benefits. In actual practice, areas where benefits have not reached at all or have reached only marginally are very large. Since these are

under-represented in the sample, the true proportion of urban poor benefiting from the programme is much lower. Whatever the precise numbers, those who have not received programme benefits constitute a large majority of the urban poor. Of the reasons for programmes not reaching the poor, the most frequently mentioned six reasons as perceived by respondents are given below:

**Table 6. Reasons mentioned for Programmes not Reaching the Poor**

Reasons	Poor (N=190)	Total sample (N=335)
(1)	(23)	(3)
Corruption	31.6	43.0
Lack of proper publicity	13.2	19.1
Lack of administrative commitment, inefficiency	1.6	28.1
Poor implementation	10.5	23.0
Political interference	1.6	9.2
Lack of funds	...	7.5
Beneficiary ill-defined	6.8	5.7

Corruption occupies the top position among the reasons for programmes not reaching the poor according to the perceptions of poor and non-poor alike. Lack of publicity stands out as another reason. Poor implementation is mentioned as another important reason why benefits do not reach the poor. Lack of administrative commitment and inefficiency as a cause of blockage of programme benefits is mentioned by professionals and officials as an important reason, who also point to political interference and lack of funds. These perceptions are much less frequently mentioned by the sample of poor persons who do not have experience of the inner working of programme-implementation mechanism.

#### **5.4 New Deal for the Urban Poor: Recommendations for Action**

##### **Summary of Programmes, Costs and Benefits**

**5.14.1** Bold, intensive and coordinated efforts are needed to improve the income and consumption

levels of the bottom 30 per cent of our population, extend their access to basic environmental and social services, and ensure their better utilisation. For this purpose, a thirteen-point programme package is recommended for implementation over the next two plan periods. Besides specific programmes and their cost, the institutional set-up and administrative arrangements required to deliver the package effectively are also suggested. The package outlines intervention strategies in the (i) income and employment, (ii) basic services, (iii) shelter, (iv) public distribution, (v) social security, and (vi) NGO sectors.

#### **Programme for Enhancement of Income and Employment Opportunities**

- (1) National programme of employment training for urban poor youth.
- (2) National programme of credit support for expanding micro-enterprises and technological upgradation.
- (3) Micro-enterprise infrastructure development support (marketing and production centres).
- (4) Marketing development supports.
- (5) New programmes of public assets creation for promoting wage employment for the urban poor.

#### **Extension of Basic Services**

- (6) Universalisation of Urban Community Development (UCD) and Urban Basic Services (UBS) activities.
- (7) Educational support for extension of family planning and maternal and child health services.
- (8) Intensification of non-formal education for school drop-outs and working women.
- (9) Slum Improvement, shelter upgradation, sites and services schemes, land supply, tenurial security and facilitation through participatory approaches and NGO involvement.
- (10) Extension of public distribution system.

- (11) Extension of the family security programme.
- (12) Support for innovative programmes of voluntary agencies.
- (13) Support for training and action research in urban poverty.

**5.14.2** The programme package will require an outlay of Rs 10,750 crores over a period of five years. This would include a sum of Rs.6000 crores to be advanced as loans through re-indication of lending priorities of the financial institutions. Thus, the public exchequer has to provide a sum of only Rs.4750 crores over a period of five years or Rs.950 crores annually, out of which Rs.450 crores are to be found by ear markings from existing schemes while Rs. 500 crores are to be provided for the new schemes-principally for a public asset creation programme through wage employment for the urban poor. The nodal ministry will be directly responsible for administering a provision of Rs.2500 crores for new programmes while the other ministries will find Rs. 2250 crores by prioritising their existing schemes in favour of urban poor beneficiaries. They will administer the funding through the Urban Community Development and Urban Basic Services Departments at local level which should be regarded as a common service arm of the departments serving the urban poor.

**5.14.3** The programme would bring substantial income and employment benefits to 44 lakh families, while about 63 lakh families will receive multiple service benefits. A total of 1.07 crore families would thus benefit through the programme.

#### **National Programme of Employment Training for Urban Poor Youth**

**5.14.4** Due to grinding poverty inherited from generation to generation, urban poor youth lack educational opportunities in the formative years of their childhood. This renders them incapable of raising themselves from the status of an unskilled urban worker, often with only casual

employment and little chance of developing self-employment enterprises. Poverty stamps on them a mark of occupational immobility and permanent deprivation. One way of breaking this vicious cycle is non-formal programmes of skill development. The Tamil Nadu Slum Clearance Board operates one such programme of training for employment. Young boys and girls selected from slum areas are given a stipend to learn skills in several modern trades and callings, in various private and government training institutions. The Tamil Nadu experience shows that the cost of training urban poor youth through non-formal course work is about Rs.1000 per trainee. About 60 per cent of trainees find jobs in various firms after completing this training or engage in self-employment. In designing such programmes, care should be taken to select trades and callings which have a demand in the local market.

**5.14.5** Under the National Programme of employment Training recommended for urban poor youth, it is proposed to train about 2 lakh young persons from urban poor households annually (about twenty lakh youth over a ten-year period). This would reduce poverty by about 5.4 points, assuming that about 60 per cent of those who are trained get jobs or start their own enterprise after training. The rest would get immediate relief through stipendiary incomes and might find indirect uses for the skills learnt by them.

**5.14.6** The proposed training programmes: should embrace not only manufacturing trades but also skills needed for the tertiary sector-e.g., domestic service, creche and balwadi teaching, health visiting, nursing, vending, house-building; plumbing, electrical fitting and repairs, small savings and insurance organisation for the urban poor, repair and maintenance work, auxiliary social work and social fact-finding. Consultants and trainers should be drawn not only from formally trained professionals but also from amongst the poor themselves who have made very successful ventures out of the skills being taught.

In many cases, the government would do well to concentrate on functional objectives rather than rigidly adhere to formal qualifications, pay, space and equipment / standards. Most of the services can become affordable and generate their income momentum from the community itself, if the State concerns itself with encouraging and strengthening local initiatives, improving their quality and making them self-reliant rather than regulating them from remote centres.

### **National Programme of Credit Support for Expanding Micro-enterprises and Technological Upgradation**

**5.14.7** The coverage of the Self-Employment Programme for Urban Poor (SEPUP) needs to be broadened by setting apart about 5 per cent of total bank lending under the priority sector urban poor over a period of 5 years. The step-up could be gradual, rising, say, by one per cent every year. In the interim period, the infrastructure should be built-up. Ceiling may be increased from Rs 5000 to Rs 10,000 for fixed assets and Rs 3000 for working capital, with provision for composition of loans at household level for more than one earner, provided their earning activities are different. The interest and subsidy may be graduated so those small loans enjoy lower rates of interest and higher subsidy, while higher loans carry higher rates of interests and lower subsidy. The physical targets would require doubling, excluding loans for entrepreneurs selected for taking possession of micro-units of infrastructure offered under the Micro-infrastructure Development Programme.

**5.14.8** The credit requirement of the non-formal sector is comparatively small, the average is likely to be Rs.1000 per loan. The cross-country study by the ILO also finds the credit requirement in the range of \$200-300 in most of the cases which is a fraction of what is required for the formal sector.

**5.14.9** The goal of directing credit flows towards supporting the economic activities of the poor should be pursued with firm determination. The urban poor entrepreneurs have pointed to lack of credit as the most pressing constraint on the expansion of their business. It need hardly be pointed out that the lesson of integrating short-term credit with marketing of goods and long-term credit for upgrading production infrastructure applies with as much force here as it does in the case of rural credit.

**5.14.10** The present manner of loan distribution, through advertisements and loan melas, is extremely unsatisfactory and is likely to being disrepute to the programme as a political hand-out rather than a serious socio-economic programme, with proper appraisal, follow-up, marketing and design assistance and recycling. Abuses are likely to assume scandalous proportions and recoveries may drop to very low levels if the programme managers do not have direct contact with clients and the community work link is missing. The constitution of a Small Enterprise Development Bank, with a seed capital of about Rs.100 crores, which can be subsequently enhanced through issue of public loans, deposits, contributions, etc., is strongly endorsed.

### **Micro-Enterprise Infrastructure Development Support (Marketing & Production Centres)**

**5.14.11** It is recommended that the municipal corporations and municipal councils should be encouraged and assisted to develop about ten lakh small-enterprise marketing and production centres through credit support. Most of them should be outlet centres in business areas to support group production activities in slums and other poor areas where women are organised to produce eatables, clothes or other materials. They should preferably be controlled by the cooperatives or non-formal groups. Sites and services projects should be oriented to incorporate such

marketing and production centres. Town planning rules may need suitable modification from this point of view. Loans will be required at a higher level by entrepreneur groups/cooperatives which are given possession of these units. These can be coordinated with the expanded SEPUP programme. The Micro-Enterprise Development Bank suggested above can be authorised to grant loans to local bodies to create these facilities. The revenues of local bodies would rise while funds are recycled. Repayment should, therefore, be easy.

### **Developing Marketing Supports**

**5.14.12** Credit support alone is not enough. Goods produced by the urban poor need to be marketed at a price which can provide reasonable returns to the producers. The producers also need feedback regarding preferences, habits and tastes of consumers. In some cases, the problem may not be intractable since the growing number of poor themselves provide a market for the processing and selling activities of entrepreneurs who start new businesses with the help of loans or with their own savings. However, the market-participation of the poor must be expanded considerably if substantial income flows in their favour are to be ensured.

**5.14.13** Micro infrastructural support is essentially meant to be a device to expand the business of local producing groups. However, social entrepreneurial development for handling marketing responsibilities is essential if the intentions behind the proposal are to be adequately realised. The Khadi Gramodyog Board, Apna Bazaar, consumer co-operatives and the fair price shop system, supported by the Department of Civil Supplies, need to be involved to identify products which can sell through these outlets on reasonable terms. A provision of additional working capital needs to be made for maintaining additional inventory and organising sales efforts.

**5.14.14** There can also be informal selling arrangements. So long as they are fair and reasonable, they are perfectly in order. The producers' groups, however, will have to be organised into cooperative forms so that they can bid for bulk government orders, price preference and facilities being given to such cooperatives to produce articles of the desired standard. To impart a sense of direction and urgency, even targets can be set and monitored for a state-supported co-operative and a purchased system regarding the quantum of goods to be purchased by them from approved organisations of very small producers for eventual sale to the public.

### **New Programme of Public Assets Creation for Providing Wage Employment amongst Urban Poor**

**5.14.15** Expansion of wage employment is needed for those who do not opt for self-employment ventures. The small and medium towns which require investment in public works on a vast scale offer suitable opportunities for launching such a programme. Compared to rural works, these are likely to be more material-intensive. However, this only adds to indirect employment multiplication, if the materials (bricks, stone, lime, etc.), are produced through labour-intensive techniques and then transported by using the surplus capacity of carts, rickshaws, etc. Since there are considerable local skills in urban areas, the chain employment effect should be properly taken into account in assessing this scheme. Labour-intensive repair and maintenance of physical infrastructure and services can also be planned as part of a national programme of public asset creation for providing wage employment amongst the urban poor. Priority could also be given to construction of micro-infrastructural units discussed earlier. If properly coordinated, the rural employment programmes would also get a boost as a result of this activity. It is recommended that a beginning be made by allotting an outlay of Rs. 2000 crores for the new programme of public asset creation for promoting



wage employment amongst the urban poor over the Eighth Plan. (The NREP and RLEGP outlays are likely to exceed Rs 900 crores during the Seventh Plan.) At a rate of about Rs. 40 per man day, this would create about 10 crore man-days of work every year.

**5.14.16** While possibilities of land and water resource development, construction of roads and common amenities and development of self-help and mutual-aid housing with the help of labour-intensive techniques would favour small and medium town development projects, projects of labour intensity could be found in the larger cities also. Rationalisation of non-labour elements will be necessary to demonstrate the claims of such projects for eligibility under this programme as also to satisfy efficiency criteria.

**5.14.17** The more important effect of the public asset creation programme would be to maintain the minimum wage level as prescribed by law without relying excessively on enforcement machinery with its restrictive effects and liability to leakage. The pumping of purchasing power into the hands of the poor would stimulate demand for wage goods which would revive the sectors of the economy producing the same basic goods. A production orientation of this type is necessary for the economy. It may also lead to increase in consumption of non-caloric goods like alcohol, tobacco, or wastage of money in gambling, social customs etc. The urban asset creation programme needs to be designed as an employment programme with proper registration, skill identification, matching providing learning experience, linking etc. It is also necessary to reorient the local government administration towards employment planning and promotion of technology.

#### **Universalisation of Urban Community Development (UCD) and Urban Basic Services (UBS) Activities**

**5.14.18** The pilot project phase of the UCD/UBS

programmes have provided sufficient experience for designing and tooling participatory programmes which are vital for successfully organising development activities amongst the urban poor. The utility of the UBS/UCD institutional structures in coordinating the services and enlisting contributions from citizens in terms of money, materiel experience and loyalty has been demonstrated.

**5.14.19** Firm steps need to be taken to cover the whole of urban India with UBS/UCD-type participatory service patterns. About 600 full units are recommended to cover the whole population of the urban poor. Smaller towns may have only half or quarter units or may be clustered. One full unit for one lakh population of urban poor is estimated to cost Rs 4 lakhs a year for administration, communication and mobility supports, and higher-level supervision and coordination. An annual expenditure of Rs 24 crores will be needed once the whole of the urban India is covered. The core unit must have a division for shelter activities, economic activities, and woman and child development in addition to the common field work services. Decentralisation of powers in the technical departments carrying out significant activities (social welfare, health, primary education, public works, water and drainage, land management, etc.), and financial institutions is also very necessary if the local agencies are to succeed in coordinating the inputs of their technical departments and financial institutions with their own. The Urban Basic Services (UBS)/UCD should be visualised as a common arm of all development departments for the convergence of services at neighbourhood and city levels.

**5.14.20** Among the tasks to which the UBS/UCD will have to give maximum attention is assistance in community education for building local organisations for a variety of purposes-housing, fair-price distribution, economic activities, child nutrition and mother care, legal and labour

contracts and a number of others. It has to disseminate information on a number of subjects relevant to daily living like sources of credit and assistance programmes for basic sanitation, water and other amenities. Neighbourhood-level organisations may have to be linked with functional organisations of a higher order at city or regional level before the nursing process can be transferred from the UBS/ UCD worker to the system.

### **Augmentation of Building Funds for EWS Housing, Slum Improvement, and Sites and Services Schemes; Security of Land Tenure and Facilitation**

**5.14.21** The present rate of fund mobilisation for the economically weaker sections (EWS) shelter support will have to be stepped up nearly three and half times to reach a level of about Rs 700 crores a year, at which level it will have to be maintained over a period of 10 years. The present contribution of social housing in meeting the needs of weaker sections is a mere token and was able to contribute only 6.54 per cent of the stock according to an NBO report to the NCU on housing needs. To make a real dent on the problem, a plan for upgrading about 50 lakh EWS units over a 10 year period with the necessary environmental services should be formulated and implemented steadily and continuously.

**5.14.22** Modifications in sites and services schemes are needed to ensure that they do not become middle-class camouflage to cover appropriation of scarce land resources in their favour at. It will need suitable orientation and structures to ensure that it will be easy for a low-income householder to obtain a loan for extension, repair, amenity installation or construction of subsidised rates in the name of the poor. A housing bank is being set up with a seed capital of Rs.100 crores a low-cost, functional and appropriate shelter.

**5.14.23** Tenurial security is fundamental to any improvement process based on the participation of the occupant. Threats of eviction operate against efforts for durable improvement. Provision of homestead land to those families which do not have such land elsewhere and have been living in the city for more than five years would itself be a fairly radical measure, but it has to be accompanied by provision for basic infrastructure development and selected housing loans preferably to groups. Unless newly allocated sites are developed for use, there is a likelihood of land parcels passing into better off hands.

**5.14.24** The Commission in its interim report, has already made recommendations regarding reorientation of the application of urban land ceiling laws. If these are implemented, it will not only increase availability of housing stock for the poor with the help of a Shelter Fund, but also generate a significant amount of employment.

### **Extension of the Public Distribution System**

**5.14.25** The public distribution system has been geared to supplying limited quantities of certain essential goods like cereals, edible oils, pulses and kerosene at fair prices to card holders. Prices of commodities at fair price shops are generally lower than market prices. Except for Andhra Pradesh, where public distribution has been extensively used to implement the government commitment to supplying rice at a little over As 2 per kilo along with other controlled commodities, the states are maintaining the system only as a token. The public distribution subsidy in Andhra, however, has already reached Rs. 180 crores. Critics argue that this curtails resources for growth-oriented investment and this will adversely affect the chances of income and employment growth in the future.

**5.14.26** It is possible to reduce subsidies considerably by more judicious administration of public distribution and decentralisation of the organisation. It has been estimated that, if public

distribution card holders were confined to those whose incomes are below the poverty line, it should be possible to meet about 80 per cent of the needs of the poor for rice, which is their staple food, instead of the present 40 per cent. Those having an income above Rs 1500 per month would gain only marginally through their purchases in fair-price shops at prices well below the market level.

**5.14.27** Revalidation of cards every year may be cumbersome but would be economical because the rise of families above the poverty line would be reflected in the turnover and ghost holder ship would be more often detected. There is also scope for economy in movement and storage of goods.

**5.14.28** Even if the economy and efficiency measures succeed, the need for food subsidy for the urban poor will persist. The fair-price shop system should be reorganised so that control passes to consumer cooperatives for local sales. Consumer cooperatives should provide for strong representation for women at all levels.

#### **Extension of Family Security Programme**

**5.14.29** While employment programmes would cover able-bodied persons, the aged, disabled and woman-managed households would require social security cover as they are unable to participate in the work activities of employment programmes. The eligible population has to be identified and educated about the benefits available to them. Subsidised group-insurance of self-employed workers and wage-earners in non-formal sectors may also provide contingency cover that would save them from the clutches of heavy indebtedness. Consumption credit from banks, which has been accepted in principle but has mostly failed to provide relief from the debt burdens into which vulnerable households are thrown by contingencies of health and other social urgencies, needs to be provided in actual practice.

**5.14.30** Utilisation of debt relief legislation requires education and organisation. The present burdens of private debt servicing are enormous because of high interest rates. A study of Hyderabad slums showed that 58.7 per cent of the scheduled caste families were in debt, the average debt per family being Rs. 2181 as of the debtors, 21.5 per cent borrowed from money-lenders at interest rates varying between 24 and 120 per cent per annum. Marriage and other ceremonies accounted for 30 per cent of the indebtedness. Cooperative savings and lending and chit fund activities might help, but social reform and expenditure control is a must. These can be stimulated if social organisers can motivate, and educate prospective members in groups and help organise savings, lending and recovery operations. The banks can also channelise their consumption credit quota through the activities of such recognised groups. For consumer credit, community cooperative marketing outlets, which can be recognised by banks, for channelising consumer credit resources at their disposal, are suggested.

#### **Educational Supports for Extension of Family Planning and Maternal and Child Care Services**

**5.14.31** The NIUA study showed that children up to 14 years of age constitute about 46 per cent of the total membership of families of the urban poor, while the proportion for their general sample was 39 per cent. The high birth rate among the poor is associated with a high infant mortality rate which adds to the strain on the limited physical and monetary resources of poor families. While the family welfare programme has increased the consciousness of people about the importance of family planning, there is a major implementation gap especially in areas of poverty concentration in urban communities, where health workers and the printed word do not reach. It is necessary to rectify this situation and ensure

that national norms in this regard are inculcated early in poor areas and poor households start getting relief from unwanted numbers.

**5.14.32** Special efforts in this direction would include strengthening of the mother and child care component of UBS/UCD for which a universal coverage of areas of urban poverty concentration is recommended. The integrated basic health service of the CMDA has shown good results in Calcutta bustees. A similar pattern, with necessary modifications, can be adopted in other cities in conjunction with extension of other basic services like water supply, latrine connections, electricity supply, and other shelter related basic services. Non-formal educational programmes on mother and child care will have to be given extensive coverage.

**5.14.33** It is also suggested that all concessional loan deeds should contain a clause to the effect that the family will cooperate in the adoption of family planning practices, in the non-formal education of children and in reduction of alcohol consumption. Incentives, in the form of additional concessions, if they cooperate, can be provided to the beneficiaries.

#### **Intensification of Non-formal Education for School Drop-outs and Working Women**

**5.14.34** According to the recent studies on urban poverty, reviewed by the Centre for Environmental Planning and Technology (CEPT), Ahmedabad, child workers constitute about 11 per cent of the total workers in urban poor families. They contribute about 19 per cent of the income of their families. Although the Constitution prescribes compulsory education of children up to age 14, the data show that the schooling rate of children in urban poor families is much lower than the general rate. The drop-out rate exceeds 65 per cent in most of the slums, studies revealed. The participation of children in labour cuts down employment for adults and depresses wage rates. Thus, from the employment-promotion point of

view also, child-schooling is an important supporting step. Missing the opportunity to learn the three R's, and practical skills will be a permanent handicap in achieving income growth.

**5.14.35** The need of poor families for additional income and for facilities for placing infants under care while adult women go out to work is likely to remain pressing for years to come. School timings and curricular requirements have to be flexible and much less formal than at present if urban poor children are to succeed in getting enrolment. Besides, some income supplementation in the form of food Supplements, means-and-merit scholarships, or income from practical gainful activity in school premises, may induce parents to send their children to school. The non-formal education stream would create part-time job-opportunities for educated men and women who should preferably be drawn from poor families in the same area and then trained. An initial target of enrolling about 20 lakh children (especially working children) in the non-formal stream is recommended. This would create about 50,000 part-time jobs for educated youth.

**5.14.36** Studies have shown that the average per day earnings of working women in urban poor households are substantially lower than those of male adults. This is caused in good part by denial of opportunities to girls to learn skills, except in domestic work and family callings, leading to restricted choice of work opportunities when they grow up. A skill development programme is therefore necessary, along with the development of 3-R's skills to improve the earning capacity of working women from poor families.

#### **Support for Innovative Programme of Voluntary Agencies**

**5.14.37** The wide variety of roles that the non-governmental; voluntary agencies play in various urban situations is often not appreciated by governments and their agencies. Assisting the weaker sections in obtaining services as well as

the state in effectively delivering them; providing professional services in research, project formulation and implementation; monitoring effects of developmental actions; highlighting their contradictions; generating alternatives; advocating causes; protecting and upholding values; organising people to actualise their internal, dormant potentials and strengths and to assert their rights; strengthening democratic values and institutions; and facilitating participatory processes through education and intermediation, are some of the roles that voluntary agencies perform at the community city, state and the national levels. The watchdog role, the corrective role, the intermediary role, the innovative role and the service-provider role are predominant in the list of priorities of voluntary agencies whose number and potential in urban areas is no longer insignificant. Organising slum dwellers; improving their shelter and services as well as their living and working environment; development of alternative technology for low-cost sanitation and delivery of health services; care of disadvantaged children; income-support activities; advocacy action for rights of the labour force in the informal sector; and support to poor women's struggle for equal status, opportunities and wages, are some of the NGO activities for the urban poor.

**5.14.38** In the Seventh Five Year Plan emphasis was laid on the role of voluntary agencies in accelerating the process of social and economic development and arrangements were suggested for their active involvement in various poverty-alleviation and other development projects and programmes. To help promote and coordinate the work of these agencies, a special organisation called Council for Advancement of People's Action and Rural Technology (CAPART), has also been created. However, the Seventh Plan document refers to voluntary agencies only in the rural sector. The existence and role of such bodies in the urban areas is not mentioned and therefore not recognised.

**5.14.39** In consideration of the roles that they already play and the need for their involvement in urban poverty alleviation efforts, both independently and with the government, it is recommended that the government recognise the voluntary agencies in the urban areas and create facilities and support arrangements on the CAPART model for urban projects and works of non-government agencies. This agency should facilitate and finance, as CAPART now does for rural NGO's study, research, advocacy action, demonstration projects and other innovative and relevant efforts of urban NGO's.

#### **Support for Training and Action Research in Urban Poverty**

**5.14.40** As the programme gets under way, a number of problems will be thrown up, finding solution for which will require competent study and research. It would be too facile to assume that busy administrators and policy planners would be able to acquire and apply specialised skills and devote time to such studies and research. Besides, technical backup would be needed for perspective planning work, evaluation and feedback, and designing and conducting training and orientation programmes. The National Institute of Urban Affairs is already doing pioneering work in this direction. Its efforts should be strengthened. However, the study and research agenda for urban poverty alleviation efforts will be quite complex and extensive, and will need the establishment of additional research institutions which would cooperate with like-minded agencies prepared to make contributions to and support initiatives in the area of poverty eradication.

#### **Costs**

**5.14.41** A summary of the cost of the recommended programmes is tabulated on the following pages. The cost estimates have been worked out for five years. Estimates for the next five years may be worked out in the light of the experience of programme implementation over the first five years.

**Table 7. Summary of Additional Investments, Earmarking and Prioritisation Required to Implement the New Deal for Urban Poor Programme**

The requirements of investment, earmarkings and prioritisation are summarised below. They are tentative and may be revised in the light of actual experiences after the programme is launched.

Programme	Additional annual provision needed for Nodal Ministry (in crores of Rs.)	Prioritisation for co-ordinate financing institutions (Rs. crores)	Outlay earmarked for sister ministries (annual in crores of Rs.)
(1)	(2)	(3)	(4)
<b>A</b>			
1. National programme of employment training for urban poor youth			20.0*
2. National programme of credit support for expanding micro-enterprises and technological upgradation			
3. Micro-enterprise infrastructure development supports (creating micro-business and micro-production infrastructure)	20	500+	100.0**
4. Market development supports. (creating marketing support, interest subsidy and limited risk guarantee may be administered by nodal ministry)			
<b>B. Wage Employment Programme:</b>			
5. New programme of public asset creation for promoting wage employment of urban poor (10 crore person-days @ Rs 40 per person-day)	400	-	-
<b>Extension of Basic Services:</b>			
6. Universalisation of Urban Basic Services/UCD Units @ Rs 4 lakhs per unit. Smaller towns may have half or quarter units. (Very small towns may be grouped for peripatetic services)	24	-	20***
7. Educational supports for extension of family planning/and maternal and child health services			
8. Intensification of non-formal educational services: Rs 200 per household for 10 lakh households with a possibility of raising part of the cost through fees			20***
<b>Strengthening Existing Programmes of the UD Ministry:</b>			
9. Slum improvement, Shelter Upgradation, Sites and Services Schemes, Land Supply, Tenurial Security and Facilitation through participatory approaches and NGO involvement	30	700++	-
10. Extension of Public distribution system	-	-	200****
11. Extension of family security programme for vulnerable groups, e.g., aged, handicapped, widows, unprotected women and working children, alongwith cost of pilot projects to learn the rehabilitation methodology (about 0.6 million population amongst the urban poor @ As 1500 per capita)	-	-	90*****
12. Support for innovative programmes for voluntary groups; training and research activities and nucleus fund for providing unspecified bridge inputs	26	-	-
13. Support for training and action research in urban poverty			
Total	500	1200	450
For 5 years (Rs. 10750 crores)	x 5	x 5	x 5
	2500	6000	2250

## Notes:

- + About Rs.500 crores may be annually channelised by commercial banks and urban Cooperative banks with refinance from the proposed Micro-enterprise Development Bank.
- ++ Banks, HUDCO, HDFC may be asked to prioritise their funds in favour of existing shelter schemes. About Rs.700 crores annually may be expected to be prioritized
- \* Ministry of Human Resource Development to earmark and pass on to the nodal ministry for implementation through Urban Basic Services and Urban Community Development Departments at local levels.
- \*\* Seed capital to be provided by the Ministry of Finance for the Micro-enterprise Development Bank.
- \*\*\* Ministry of Health and Ministry of Human Resource Development would coordinate MCH and adult education programmes and prioritise a provision of Rs 40 crores to be applied through the Urban Basic Services and Urban Community development Departments at local levels.
- \*\*\*\* Ministry of Civil Supplies may earmark this amount by rationalising food subsidies, elsewhere in cooperation with Ministry of Food and Agriculture.
- \*\*\*\*\* Ministry of Social Welfare may set up a matching scheme with state governments to provide full coverage to the families belonging to vulnerable sections of population.

### Expected Impact of the Recommended Programme Package

**5.14.42** The recommended programme has been drawn up with a view to approaching closely the national goal of reducing poverty from 28 per cent

in 1984-85 to about 10 per cent in 1995. If fully implemented, the programme benefits could reach about 1.01 crore urban poor families as indicated below.

Programme		Number of beneficiary families in 5 years (in lakhs)	
1.Income & Employment Enhancement Programme:		Direct employment benefits*	Service benefits*
A.	Non-wage Employment Programmes		
1.0	Employment training for urban poor youth	10.0	-
	Credit Support		
2.0	Existing micro-enterprise upgradation	20.0	-
3.0	Infrastructure development for micro-production units		
4.0	Market development support		
B.	Wage Employment Programme		
5.0	Urban wage employment & public assets creation (average @ Rs. 100 days of extra work per family)	10.0	-
	Expansion of Urban Basic Services		
6.0	Extending coverage of UBS/UCD	0.1	-
7.0	Family Planning, Health, Child and Women Development extension support	0.1	10.0
8.0	Intensification of non-formal educational services (improving utilisation of existing facilities)	0.5	15.0
9.0	Strengthening existing habitat upgradation programmes	-	25.0
10.0	Extension of public distribution system	-	75.0
11.0	Extension of family security programme for vulnerable sections	3.0	-
12.0	Support for innovative programmes of voluntary groups	0.2	0.9
13.0	Support for training and action research	-	0.1
		44.0	126.0

\* These beneficiaries (estimated to be 44 lakhs) are likely to experience substantial income/employment gains. An income/employment gain is substantial when it exceeds 15 per cent of the current level of income and employment of the participant. The beneficiaries receiving service benefits might enjoy multiple benefits as a result of convergence of various service benefits at family level. Assuming that a family may enjoy two service benefits on average, the number of families receiving multiple benefits might be 6 lakhs.

**5.14.43** The programme will thus have a substantial impact on 44 lakh families in terms of income and employment generation. At the same time there would be a very substantial improvement in access to and utilisation of health, education and public distribution services, involving about 1.26 crore families in terms of individual service items. Since the service benefits of various programmes are likely to converge at family level, the multiple benefits would be received by a smaller number of families, say 61 lakhs.

**5.14.44** Considering the existing number of below-poverty-line households in urban areas (about 1.10 crores) and subsequent growth rate (about 2 per cent annually), the programme should enable the country to reduce the poverty from 28 per cent in 1984-85, to the projected level of 10 per cent at the end of five years of effective implementation of the programme. The goal is comparable to rural poverty alleviation targets over five years (about 1.5 crores households under IRDP and about 1.9 crore households under NREP/ RLEGP, with an average wage-employment rate of 100 days per participating household). The outlay proposed here is, however, likely to be more cost-effective for the simple reason that, while access to social services and their utilisation is sought to be improved for very nearly a majority of urban poor families under the proposed programme, there is hardly anything of comparable significance under the rural IRDP.

#### **Interfaces between Proposed Package and the Rest of the Economy**

**5.14.45** It is difficult to visualise clearly the impact of the programme on the large and varied interfaces with non-poor sections of the population. Obviously, additional money will have to be found through taxation and borrowing, a major part of which is likely to come from the better-off sections. A good part of the demand for commodities and services produced by the urban poor through infrastructure, marketing and

credit-support programme has to come from the non-poor. The inputs needed by the enterprises of the poor to produce and market commodities and services depend, in good part, on deliveries from the non-poor sector. Selective expansion of the non-poor sector is thus an important condition for providing the needed input deliveries and to have output from the production activities of the low-income sector accepted.

**5.14.46** Since development of economic infrastructure is to be given priority (marketing areas for example) under urban wage employment programmes, there would be creation of significant potential of fiscal resources to be tapped by local authorities not only to maintain the assets but also to find some resources for further development.

**5.14.47** The programme proposed, if imaginatively implemented, would serve as a tonic for the expansion and intensive use of existing production capacities, especially for the light capital goods industry which can then lead to better utilisation of built-in-capacities in the heavy capital goods industry in the public sector which have drawn very heavy investments but is running in the red, partly because of the under-developed infrastructure base of a light capital goods industry.

#### **5.15 Recommendations for Institutional Changes**

##### **Institutions for Planning and Administrative Support**

**5.15.1** Urban poverty removal is going to be a long-term task. Long-term perspective planning, sectoral and spatial coordination and cumulation through continuity of policies over successive phases will be necessary to make a real impact on the poverty situation. Alleviation of poverty is not the function of a single department. It has to become an orientation for all development departments so that each project which is



accepted, and every outlay which is provided is examined in the light of what it means for both the rural and the urban poor-how does it help or hurt them, how will its benefits reach them without too much evaporation along the way. The role of the nodal organ is to provide a common framework for the realisation of all sectoral initiatives.

**5.15.2** Structural change will have to start with the Planning Commission itself. Unless a single frame is provided for rural and urban poverty policies, unless projects are assessed from the standpoint of their positive and negative implications for both rural and urban poor, and the anti-poverty linkages of each project are strengthened, effectively communicated, and promptly and faithfully monitored, planning for poverty alleviation will lack the coherence and continuity which is necessary for a decisive victory in the battle against poverty. Reviews of Plan performance show a wide chasm between radical processions and designing practical tools for implementation of anti-poverty programmes. The lure of a mathematisation of growth issues has concealed the quiet brushing aside of issues of institutional and behavioural metamorphosis. Institutional issues, in the context of the historically endowed setting, must now be brought into the realm of planning concerns.

**5.15.3** At the implementation level, the nodal ministry is likely to be the Ministry of Urban Development. While this ministry can provide coordination of habitat inputs to support the anti-poverty programme, the inputs suggested in the report have to come from many departments and many agencies. The only poverty alleviation services which the Urban Development ministry was helping state and local governments to establish and monitor were UBS and UCD. They received scant attention because of their miniscule size. A national programme with responsibility for coordinating programme outlays amounting to hundreds of crores every year

cannot be accomplished without a strong structure. The minimum which would be necessary is a separate department of Urban Basic Services and UCD within the ministry, with an Additional or full secretary at its head. Not only are the tasks to be tackled variegated and challenging, requiring induction of new forms of socio-economic expertise at the central level, but the sheer financial magnitude of the National Urban Works Programme and National Agency for UBS/UCD and citizen participation would also require the support of a full-fledged department.

**5.15.4** At state level, it might be necessary to designate a senior commissioner to coordinate services for alleviation of rural and urban poverty. The Urban Development Department will have to be revamped at a Department of Urban Basic Services and UCD. Housing and local government may continue to be its wings, but a separate division of UBS and UCD is necessary.

**5.15.5** At local government level, the Department of Urban Basic Services and Citizen. Participation may be placed under the charge of any Additional Commissioner. In middle-sized towns, a project officer, co-ranking with executive officer, may be needed. In smaller towns, the differentiation is not necessary. An orientation, however, will be needed.

**5.15.6** The Commission considered the alternative models of housing poverty alleviation programmes represented by CMDA, the Slum Clearance Board, Tamil Nadu, the Citizens Council, Baroda, and the Urban Community Development Department, Hyderabad. These are valuable and innovative attempts and deserve encouragement. In fact, the policy should tend more and more towards sharing of responsibilities and resources with genuine voluntary people's organisations. However, the present state of development would not permit total transfer of poverty alleviation programme implementation

responsibilities to bodies other than local-self-governments which have a historical and statutory basis. Wherever competent organisations like the CMDA, TNSCB or BCC exist or come into being, there should be no bar to working out arrangements with them to share responsibilities. In the meantime, the statute should be modified to enable association of nonelected representative from professional bodies, industry, trade unions, other voluntary bodies, health associations, universities, etc., with the UBS and UCD committees of the local bodies. If the services of outstanding citizens are available to the UBS committee, there should be no bar to their being invited to meetings of the local government committees. The normal method of the committee working would be decided by consensus.

**5.15.7** It is very necessary to ensure that UBS and UCD working is not vitiated by partisan political storms in the local body. Its nonpartisan character could be ensured by nomination to it of representatives of trade and industry, trade unions, university and other educational institutions, health institutions, social services organisation, and active members of urban neighbourhood committees. In addition to elected members from the local body, the state can earmark funds for UBS and UCD so that they are not without the consensus vote of the committee or without the state government's own permission. In course of time, urban regional authorities may also evolve into planning as well as development organisations, while the local body would essentially look after infrastructure, maintenance and some revenue and regulative functions. Till all urban India is covered by regional planning and development authorities the local body would provide the only institutional base to house the new and old poverty alleviation programmes.

### **Recommendations Concerning Institutional Changes**

**5.15.8** Insufficient attention has been given to the legislative and institutional factors which have

retarded the pace of development and affected the poor negatively. Minimum wages for unorganised workers have not been revised for years even though inflation has been eating away the real incomes of the poor. Except in pilot-project areas, the task of promoting local leadership and non-governmental institutions and devolving responsibilities on them has lagged. The new programmes, therefore, should not merely be token ones, but should be conceived on a universal scale, with a definite resolve to reduce poverty to 10 per cent of the total population by 1995.

### **Legislative Changes**

**5.15.9** Labour legislation will have to be extended to provide for coverage for contract work assigned to household production units. Inspection machinery will have to be strengthened to ensure that the norms of payment and welfare responsibilities are observed by the contractors and work allottees alike. Child labour law and equality of payment to male and female workers for the same kind of work require better enforcement.

**5.15.10** Recognition and consolidation of Tenurial rights for housing and economic activities is a very important matter on the legislative and institutional agenda. The local body will have to update its land records. Besides, the various departments of the local body, housing boards and funding agencies will have to cooperate to ensure that the Tenurial rights are actualised for the construction of shelters, shops and workshops.

**5.15.11** Legislative changes providing legitimation for changes in bye-laws for town planning and other municipal functions would be necessary to create a climate of facilitation for non-formal sector activities which at present have to be carried on under a cover of graft and political patronage to keep off the coercive arm of government. Micro-market planning, licensing vendors for selling in part-time markets, simplifying

procedures for granting titles for lands, simplifying approval process for minor additions, alterations and constructions, education and involvement of community leadership in the basic provisions of municipal laws and administrative processes are some of the steps that must be taken. This would constitute a fairly challenging agenda for institutional development of urban local bodies for the next five years. The regulative, amenity-oriented and revenue approach of the local bodies has to be transformed into a human-centred, facilitative and cooperative one so as to ensure the fulfilment of the Directive Principles of the State Policy which lay down, inter alia, that the state shall, within the limits of economic capacity and development, make effective provisions for securing the right to work, to education and to public assistance in the case of unemployment, old age, sickness and disablement and in other cases of undeserved want (Art. 41). The local self-government functions and processes, its structure of administrative responsibility, technical back-up and financial allocation would all require redefinition by suitable legislative changes and institutional reorganisation, so as to make them effective instruments of the new thrust of state policy.

### **Comprehensive Coverage and Upgradation of Minimum-wage Laws**

**5.15.12** The most important institutional response required to alleviate urban poverty is to make minimum-wage laws more comprehensive and update the ones that are on the statute book. The minimum-wage laws should cover units employing three or more workers, whether offering time wages or piece-work wages, and lay down minimum norms of payment for definable units of service activities in the unorganised sector. This should be presented with the help of the associations of workers. These steps will prevent mutually destructive competition pushing down the wages to unhealthy depths, where even survival would be jeopardised. Needless to say minimum wages should not be less than 3.5

units of the minimum cost of living index. A continuous wage board and supervision machinery for unorganised trades and callings is necessary in each state to monitor the implementation of minimum-wage norms, changes in the cost of living index and declare minimum wage rates every six months.

### **Need for Central Initiative**

**5.15.13** Central initiative is necessary to create a proper legislative and institutional environment to support the urban poor. The influence zone of national and regional cities cuts across state boundaries. Given constitutional rights of free movement, right to own property, carry on trade and commercial activity, and profess ideas and a faith of one's choice, the state cannot follow a closed-island policy to control the flow of migrants, capital, trade or ideas. Even though the states have subject-matter jurisdiction for the constitution and control of local bodies, and rights of taxing sale and entry of goods, uncoordinated policies can eventually lead to a zero-sum game for all. A comprehensive forward looking framework is necessary to coordinate efforts and give correct orientation to the policies of states and local bodies.

**5.15.14** Central legislation, even if constitutionally permissible, might make the frame too rigid. A parliamentary resolution on policies regarding urban poverty and strengthening of local bodies may set the tone. It needs to be followed up by inner-party discussion and initiatives in the respective states and discussion and consensus in regional councils, the National Development Council, the annual mayors' conferences, etc., to bring about interparty consensus. Central incentives in the form of sharing expenditure or in other forms can be attached to schemes to strengthen institutional machinery. With a view to giving clear signals to the states and local bodies to raise their stakes for the cause of the uplift of the urban poor, the centre may suggest creation of a separate accounts for designated purposes to which it may

contribute, provided the states and local bodies also contribute jointly or individually in a specified proportion.

### Organisation of the Urban Poor

**5.15.15** While organised labour, through collective action, has been able to win many concessions from the employers in regard to increased wages, shorter hours of work, compensation for work injuries, protection against arbitrary action, and social security, unorganised labour, especially women and children, in the informal sector of the economy has remained unprotected and suffers from job uncertainty, low wages, almost total lack of social security, prolonged working hours, and unhealthy working conditions, despite legislation regulating some of the gross abuses. It is necessary to organise this labour to ensure that legislative entitlements in their favour are fully utilised. Trade unions should be encouraged to play an appropriate role here. However, the organisation of the urban poor in various cooperatives and groups should be taken up as a high priority task by urban community development service. This would enable small producers to reap the benefits of economies of scale and access to government contracts. It will also provide them with an opportunity to gain experience of managing enterprises of increasing complexity. It would strengthen the bargaining power of unorganised labour *vis-à-vis*, their employers.

### Improving the Capacity of Local Organs

**5.15.16** The various elements of the programmes could converge through appropriate mechanisms of coordination, e.g., committee work, strengthening of local bodies by adding new structures and orienting existing service structures to the new goals. The functions of local bodies must be expanded to include:

- (a) Vocational and adult education programmes for developing productivity, along with the current responsibility for primary education.

- (b) Public distribution of food, ICDS, MDM etc. as nutrition components to constitute a composite health and nutrition service.
- (c) Administration of social security for vulnerable sections of the population.
- (d) Setting up a micro-business infrastructure development and facilitation cell which should also look after rationalising regulatory requirements to facilitate micro-business activities.
- (e) Establishing a credit support service for the urban poor for identifying eligible beneficiaries, administering a risk-guarantee and subsidy fund, if any; monitoring, counseling, and linking with funding and marketing support agencies:
- (f) Identifying major service gaps in health, education and shelter infrastructure and playing an advocacy role with the concerned departments to bridge up the gaps.
- (g) Operating urban community development and basic service programmes.
- (h) Administering urban asset creation programmes for promoting wage employment amongst the urban poor; identifying and planning projects which would contribute to the meeting of basic needs of the population with relatively labour-intensive techniques, listing households which are eligible for participation in the Urban Wage Employment and Public Asset Creation Programme, and linking and balancing supplies and demand for wage employment among the urban poor.
- (i) Social education and social organisational programmes to make use of technical and institutional information.
- (j) Setting up a cell for cadastering common land property and taking responsibility for its planning and development with due regard to priorities for the urban poor, facilitating land releases so that other programmes for the urban poor are not handicapped on account of bottlenecks in land availability.

- (k) Providing services to channelise the scarce material inputs to stimulate production activities for the urban poor. Also providing link services for output-market support.

The execution of these functions will require the creation of a very strong institutional presence and attention at top executive level. Since urban poverty alleviation is a fairly long-term programme, grounding it on a sound institutional base is a sine qua non for its cumulative success.

### Priorities

**5.15.17** The time-phasing and proportions of different programme items would depend on the local situation, which should be carefully studied with reference to incidence of poverty, development of services, preparedness of voluntary bodies and leadership, and, more important, opportunities for business expansion in which the urban poor can participate and claim a fair share. While several items of the programmes would cry out for funds and allocations-especially programmes related to expansion of physical amenities, it is necessary to give priority to employment and income generation objectives in allocating outlay and fixing goals. While habitat-related programmes have been on the ground for a long time, the income-generation programmes for urban poor are very new. Unless key priority is attached to them, the tendency might be to absorb the limited resources for programmes of physical construction which have dominated the urban development scene so far.

### Sub-plan Structuring

**5.15.18** While the community development approach has, been recommended for eliciting maximum participation by the community in poverty alleviation programmes, the problem of raising outlays on them and ensuring that these are not diverted will have to be solved. UCD action being mostly local, it is not expected to influence these vital decisions. As already argued, multi-sectoral linkages constitute an important

characteristic of programme implementation. It might be desirable to constitute a sub-plan of the package so that various sectoral elements are brought together under one sub-plan umbrella which will govern correlation among them in pursuit of broader objectives and to prevent diversion under powerful pressures from vested interests. The central government could indicate its overall contribution while the essential task of identifying, earmarking and coordinating relevant sectoral inputs would be undertaken by the state plan in the process of sub-plan development. Institutional infrastructure at local level, including that needed to unite people's experiences and resources with government resources and technical guidance in pursuit of common objectives, will require central assistance for sometime to come; till the state and local bodies generate enough resources of their own to maintain the on-going programmes.

### Role of the Central Nodal Ministry

**5.15.19** The nodal ministry will be responsible for urban poverty alleviation programmes and will be mainly responsible for administering the National Programme for Wage Employment for the Urban Poor, setting up and coordinating the National Agency for Urban Basic Services and Citizen Participation and the interest subsidy schemes for shelter upgradation programmes and micro-enterprises development. As the nodal ministry, it will monitor and coordinate (through inter-departmental committees of secretaries, preferably) the entire urban poverty alleviation effort. Its partners will be the Ministry of Labour, Ministry of Commerce and Industry, Ministry of Health, Ministry of Human Resources Development, Ministry of Civil Supplies and Ministry of Social Welfare. The coordinate financial institution must direct their loan operations towards the needs of the urban poor. The size of the nodal ministry's outlay comes to Rs. 500 crores  $\times 5 =$  Rs 2500 crores. The other ministries have to provide by reorienting their schemes an amount equal to Rs. 450 crores  $\times 5 =$  2250 crores

from their own allocations. The financial institutions will mainly provide the loan finance which, over a five-year period, comes to Rs. 1200 crores  $\times 5 =$  Rs. 6000 crores. It is not the past practice to include loan amounts advanced by financial institutions as part of plan outlay. The departmental outlays add up to Rs. 4750 crores for five years. Assuming that the annual plan outlays will average not less than Rs. 47,500 crores during the Eighth Plan, the readjustment would come to about 2 per cent of the total outlay, which is marginal but yet can make possible a substantial step in the direction of urban poverty alleviation.

**5.15.20** It would be a mistake to take a narrow, sectoral view of urban poverty and assume that the recommended investment can by itself solve urban poverty problems. The force of historical inequalities, the relations between modernised, and traditional sectors, the structure of social inequalities and political participation, technical structure and social control of productive enterprises and orientation, the structure and distribution of social services - all will have to be reconstructed thoroughly to bring the bulk of those who are poor and marginal today into the mainstream of economic and cultural life in India.

#### LAND AS A RESOURCE

### 6.1 Man and Land

**6.1.1** Land is the medium on which the entire superstructure of a human settlement is created. On land, man builds his houses, constructs his factories, shops, schools and hospitals. From land he extracts metals and minerals and on it he grows his grain, fruit and flowers. The relationship between man and land, therefore, is organic and symbiotic. Where land is managed with foresight, sympathy and understanding, an environment is built up in which the whole ecological system tends towards equilibrium. Where, however, land is mismanaged and exploited rather than used, the result is blight. By and large, the way man has

managed land, especially in India, there has been environmental degradation, and nowhere more so than in our cities. From the even-tenured, finely balanced towns of the not too distant past - say, the Bombay of just thirty years ago - our urban settlement system has switched over to a lunatic orchestration of noise, pollution, overcrowding and filth. Behind much of the urban chaos lies the total mismanagement of land as the principal resource for urbanisation.

### 6.2 Land Management, Rural and Urban

**6.2.1** The management of this critical resource is qualitatively different in the urban and the rural context. Rural land is a factor of production, the major input for the main rural economic activity, agriculture. Urban land, on the other hand, by and large, is the base on which things are built. Rural land is predominantly under a repetitive cycle of sowing, tending and harvesting, whereas urban land is converted or diverted to a built environment on a one-time permanent basis. Because it is constantly reused, rural land is generally better managed than urban land which is often utilised for an expedient profit, without thought of long-term consequences. This is perhaps why our exercises in land planning tend to be restricted to urban areas in the form of master plans, there being an underlying assumption that rural land will be properly managed in any case.

**6.2.2** In large measure, it is our attempt to plan land-use divorced of a wider understanding of human behaviour under the stress of city dynamics, which has contributed to the present urban chaos. While land-use planning alone cannot sort out the urban mess, the management of land can certainly be improved so that land is viewed in its correct perspective, as a resource, and its use planned with optimisation, under changing circumstances as the objective. To illustrate the point: a farmer decides whether to plough his land or leave it fallow, whether to use it for rabi or kharif cultivation and the crops to be sown on it,

depending on weather and market conditions and the availability of seed. His system of land-use is thus flexible. The urban planner, however, tends to assign one particular use to land, into which the bureaucrat locks it, regardless of changing conditions. It is precisely this rigidity which must be eliminated.

### **6.3 Urban Land Records**

**6.3.1** Paradoxically, the use, ownership and transfer of land is well documented in village India, where land is fairly well managed, because the man-land symbiosis is still largely undisturbed. The land records system ensures, an annual review and revision of the land-use situation and the data base is thus kept up-to-date. Where, however, land is badly mismanaged as in our towns and cities, and just where planning is a matter of vital importance, there are virtually no land records. There are city surveys, but they are outdated, inadequately informed and quite worthless as a planning tool. For example, this Commission tried to ascertain how much land under actual cultivation has been acquired for of privately converted to urban, non-agricultural use in the last 20 years. No records are available. Neither the Ministry of Urban Development, nor the State Governments, nor the Survey of India, nor the National Remote Sensing Agency could give this information. City by city, it is possible to longitudinally compare the physical spread, but it is not possible to obtain data about how much of this has occurred by conversion of agricultural land, or the quality of the land thus converted. In other words, a broad analysis of the cost of city spread in terms of diverting land from cyclical use to a built environment is not possible because there is no record of the potential of the land thus converted and its productivity and value under agricultural use. Even in the context of intra-city planning, the lack of such data effectively blocks any attempt to assign uses so that land best suited to growing things is retained under vegetation, whilst marginal land is built upon. In city after

city, with Delhi as a good example, barren land is converted into gardens at immense cost, whilst fertile land is smothered under concrete and asphalt.

**6.3.2** In fact, the lack of data is even more serious when land prices are considered. It is undeniable that land prices have escalated exponentially over the last few years, with land being priced out of the reach of the average citizen. Actually there is no correct and credible record of land prices because the source from which prices are obtained is either allotment or auction by development agencies or the registered price given in sale deeds. The former present a distorted picture because the price is either artificially pegged low to subsidise the weaker sections, or reflects a strong element of scarcity value because land is put on the market in very small parcels. So far as the latter is concerned, it is a well-known fact, of which the Commission takes notice, that the registered price represents only 50 to 60 per cent of the actual price paid. As a means of evading tax and fees and for conversion of black money into white, there is gross undervaluation of land for the purpose of, registration. Therefore, even the price as registered does not reflect the true value of land and the Commission, without-accepting common knowledge or even conjecture as the true value, cannot really state how land prices have behaved. The fact, nevertheless, remains that land costs have increased out of all proportion to commodity prices, that there is gross undervaluation and massive tax evasion, and that the land market, perhaps more than any other, gives evidence of grave distortion in urban India.

### **6.4 The Land Market**

**6.4.1** The distortions of the land market have had some very injurious effects on the urban fabric. As land values rise there is likely to be diversion of funds, especially unaccounted for funds, into purchasing and hoarding real estate. The fact that

land is paid for substantially under the counter suggests that hidden funds have invaded this sector. Because land is so costly, there is the pressure of developers to force through changes in use, floor area ratio (FAR) density, etc., so that their profits can be maximised. Means which are not short of outright criminality, including bribery, are commonly used to bring about these changes. Speculation, the use of black market funds, offering of bribes to obtain favourable planning clearances, are all evidence of the increasing criminalisation of the urban land scene which, in turn, gives rise to a class of land dealers who are themselves criminals. The sociological impact of such wide-ranging criminalisation has never been properly assessed.

### **Encroachment**

**6.4.2** As an offshoot of the development of a land market which is highly distorted, there is the ever-increasing encroachment on public land and the mushrooming of unserviced, unplanned, unauthorised colonies. Denied legal access to land, faced with a situation in which land is priced out of their reach, the poor encroach and the middle-class resort to unauthorised colonies. This picture is universal to all urban centres of any reasonable size in India. Even where a master plan exists and there is a policy to allot land to the poor, so little effort has actually been made in this behalf that the poor continue to encroach and the middle class to build unauthorisedly. So widespread is the problem that in Delhi, from time to time, unauthorised colonies are regularised; in Madhya Pradesh, the government decided to regularise all encroachments in 1984, about two million of them, on an as-is where-is basis; and in Patna the situation is accepted as a normal way of life. So long as government fails to ensure easy and affordable access to land and so long as the policy is to regularise that which is illegal, every city planning effort will fail. The message to the citizen is loud and clear: criminality pays because the legal option does not exist. It is in the large-scale criminalisation of the average town dweller

in the matter of land that we have a major urban crisis and a situation which bids fair to neutralise all attempts at rational city planning and management.

## **6.5 Land-use Planning**

**6.5.1** We shall return to the urban land market and its operations at a later stage. The nature of the land market would really depend upon the land policy adopted at national and state level. The Commission must note with regret that, at present, there is no urban land policy. Reverting to the example of rural land, the system of survey and settlement every 30 years throughout India, except in those areas covered by the permanent settlement of Lord Cornwallis, ensured that there was proper soil classification and assessment of land productivity and value, a review of cropping patterns and the preparation of a record of rights. For every village there is a field book, and one or more survey maps, which record every single field and its boundaries. Based on soil classification and productivity, it is possible to prepare a village management plan in terms of areas reserved for construction, grazing, wood lots, threshing floors, cattle resting areas, etc. Such a plan, in fact, exists as a part of the village land records, with care being taken that it is only waste lands which are used for non-agricultural purposes. On a wider canvas, a state agriculture department is able, to prepare plans which encourage a particular type of cultivation practice for a particular class of land. Even in terms of extension of irrigation facilities, the village survey permits the best system to be developed. Unfortunately, when we move away from agriculture, there is no land planning, either at a regional or city level, in which the land most appropriate for a specific purpose is assigned that use.

### **Settlements Survey of India**

**6.5.2** If there were scientific regional planning, many of the problems arising out of the wrong



location of non-agricultural activities could have been avoided. The justification for proper land planning in the context of settlements is as self-evident as it is in the matter of agricultural planning. However, in order to undertake it, it would be necessary to prepare land records which are at least as good as those available in rural India. The Commission, therefore, recommends that, at the national level, there should be a Settlements Survey of India (SSI), separate from the present Survey of India, whose job would be to make scientific surveys of land, and to classify and suggest the most appropriate uses for different types of land. As an input into locational planning, as also the physical planning of a region or a city, the data generated by the proposed Settlements Survey of India would be invaluable. In support of this organisation, at the state level there should be a separate Directorate of Urban Land Records, whose job would be to carry out detailed city surveys and prepare field books, maps, etc. The data generated by the Directorate would be one of the principal inputs into regional and city land-use planning.

**6.5.3** The Settlements Survey of India would initially have to undertake identification of the region into which each urban settlement has an out-reach. Such out-reach will have to be defined and a methodology evolved for identifying the area of influence of a city. This, in itself, is a major exercise. Using modern survey and mapping techniques, including very-high-resolution aerial photography, which produces fully controlled mosaics, the city-region and, in very much greater detail, each city or town will have to be surveyed. This would result in the preparation of base maps which would have great relevance because aerial photography and mapping would be almost simultaneous. The same technique would be used for periodic revision of maps. The cartographic data would be made available to the relevant Directorate of Urban Land Records, which would prepare registers of land-use in which ownership, occupation and use of each plot would be

recorded. This ground survey would complement the cartographic data. The land records of urban settlements would thus consist of two parts, the maps and the narrative register. The maps would also be useful in the identification of existing infrastructure and the planning of improvements and additions.

**6.5.4** On a wider, city or region scale, the maps produced would not only depict the existing use, but would also indicate encroachments by incompatible uses into areas which have an identifiable dominant use. For example, if there is encroachment through building on rich agricultural lands, whilst available waste lands are left intact, this would clearly show up in the maps. This is of vital importance because, with adequate cartographic data about land, its uses and the suitability of particular land areas for particular uses, scientific location and land-use planning would become much easier.

**6.5.5** There would have to be a great deal of coordination between the Survey of India, the National Remote Sensing Agency and the proposed Settlements Survey of India. The data generated by the SSI would have to fit into the overall data base prepared by the Survey of India and, for this purpose, a common methodology for survey and mapping would have to be worked out. Adequate integration of survey techniques would have far-reaching consequences on the entire system of land-use planning, including the alignment of communication arteries, power lines, location of new economic activity, location of new towns and planning the extension of existing urban settlements. Land-use planning which is compatible with environmental needs and which aims at optimising land utilisation would become distinctly feasible if the data base is complete.

#### **Planning vs. Zoning in Backward Area Development**

**6.5.6** Once the data relating to land is available,

planning for land as a resource would replace planning of land as an exercise in zoning. The existing town planning practices are largely aimed at controlling land-use patterns rather than optimising land-use in terms of economic returns, employment generation, provision of shelter and the raising of additional resources for city development. In other words, under zoning, land is not used as an economic weapon for the furtherance of development. Other policy options are used for this purpose. For example, concessions, fiscal, financial and physical, are offered or withdrawn, as the case may be, as an incentive or disincentive to location of a particular type of activity in a chosen locale. The backward areas concessions and the no-industry district concessions are good examples of how incentives are offered to attract industry to backward areas. However, because within the backward area there is no proper land-use planning, industrial activity tends to centre on those places within the designated backward areas which are closest to a developed region, thus defeating the very purpose for which concessions are offered. Generally speaking, such locations have the best land, from the point of view of agriculture, in the backward districts, and when these are diverted to non-agricultural use, they draw fertile land out of the cultivation cycle. If the backward areas concessions had been closely linked with a physical planning exercise relating to land, in which those sites least suited for alternative use had been earmarked for the location of industry, not only would the fertile land have been saved, but industry itself could be made to locate in precisely those areas within the backward region which most need this activity. Moreover, the present practice of acquiring and allotting huge chunks of fertile land for non-agricultural uses would cease, because it makes sound economic sense that productive land should not be acquired and, therefore, there would be a genuine search for wastelands which have little opportunity cost.

**6.5.7** A few examples of how the backward areas concessions have worked out would illustrate the point. Medak district in Andhra Pradesh has been declared backward. It adjoins Hyderabad district, in which is located the capital, Hyderabad. The areas immediately adjacent to the city have, therefore, developed into the major industrial townships of Ramchandrapuram and Pattancheru. In fact, the Government of India have themselves been guilty of misusing the backward area concessions for locating the massive Bharat Heavy Electronics Ltd. (BHEL) plant at Ramchandrapuram. Dharampuri in Tamil Nadu has been declared a backward district with the result that the border town of Hosur, which is adjacent to Bangalore, has been developed as a major industrial township almost as an extension of Bangalore. Dewas and Dhar have been declared backward districts, and Dewas proper and Pithampur, both within the out-reach of Indore, have been developed as major industrial centres. Mehasana district has been declared backward in Gujarat, with the result that Kalol on the outskirts of Ahmedabad is being developed as an industrial township. These and many other locations adjacent to large cities make a mockery of the policy aimed at decentralisation of activity, and, at the same time, divert valuable agricultural land to non-agricultural use. Taking the example of Gujarat, had an area of about 90 kilometres radius around Ahmedabad not been treated as backward and, instead, the location of industrial townships been shifted that distance westward, it would have been only unculturable land which would have come under urban use, the low cost of which, combined with concessions, could have induced industrialists to opt for this alternative location. Instead, by making cheap land available in the vicinity of Ahmedabad, the state government has used the economic weapon of land to further congest the city, increase pressure on its social infrastructure, and pass on the benefit to the entrepreneurs, in addition to whatever economies of cluster they would enjoy around a large city.

**6.5.8** In the context of economic activity, land is a resource, in fact the single most important economic resource. Once the physical planner views land as an economic resource, his planning outlook will change in terms of determination of location of economic activity. This, in turn, will completely alter the whole locational and distribution patterns of non-agricultural economic activity, such as industry and commerce. A physical planner with this new orientation must be a part of the district planning team which determines the location of economic activity. The Commission, therefore, recommends that the physical planner be made an integral part of the team which plans location of economic activity, with such location being determined on economic considerations relating to land fertility, productivity, alternative use, etc.

### **Town Planning Consideration**

**6.5.9** Moving from the region to the scale of a town or city, what are the land planning considerations which currently prevail? The Master Plan for Delhi (Chapter I, Part 2) lays down the following definition of a land-use plan:

The land-use plan is, in essence, the translation into physical form of the planning policies and principles.

A more precise and exact definition would be difficult to find. There is, however, a prerequisite to every land-use plan, viz., there must be certain accepted planning policies and principles. Do such policies and principles exist? In January 1988, E.F.N. Rebeiro, Chief Town Planner to the Government of India, had this to say on the subject:

By the 20th century, land use, street patterns, sub-divisions, lung space and utility standards were part of an emerging complex regulatory process. (Streamlining of Development Control Measures in a Metropolitan Area-Case Study Delhi).

Despite the so-called major policy decisions enshrined in the Master Plan of Delhi, the plan remains largely regulatory as is evidenced by its mode of expression in the following, sentence:

Harmonious growth and orderly functioning are the first steps in evolving an attractive city.

The word used is attractive, not efficient. The end-result is there for all to see. Delhi is very attractive in part, very ugly on the whole, and certainly not efficient. In other words, the land-use plan is not a translation of policies and principles, largely because they either did not exist or were not clearly articulated. The only consolation for Delhi, if any, is that land, use planning is much worse in most other Indian cities and Delhi, perhaps, shines by contrast. This is cold comfort.

### **Land-use Planning Policies and Objectives**

**6.5.10** If land is an economic resource and planning its use can lead to certain desirable city development models, what should be the objectives of land-use planning, and what should be the planning policies guiding it? First and foremost, it must be stressed that an urban settlement is a collection of people who have come together to earn a living. Employment, therefore, is a major city function. Land must be provided for this purpose. Secondly, people have to live somewhere, which means land must be provided for shelter. Education, health, recreation and other similar activities, which together constitute the social infrastructure, are also essential ingredients of living, and, therefore, land has to be provided for these purposes. Then there must be space for movement and for laying the life-lines of the city-water and sewage lines, power cables and telecommunication generation centres and lines, etc. To encourage these activities is the goal of city planning and land-use planning has to subserve this goal. Therefore, before a plan is made for the use of urban land, there must be a very clear idea of how the city, will earn its livelihood, where its people will live, and the extent to which they will have access to social

infrastructure. Our planning process is weak in determining all these factors and, therefore, our land-use planning tends to be an exercise in matching demography to land availability. Even in the plan for Delhi 2001, the operational part of the plan is that, by 2001, Delhi will have a population of 12.2 million, to accommodate whom another 24,000 hectares of land will have to be acquired.. The whole planning exercise relating to land, therefore, boils down to relating land needs to the projected population. The detailing of land allocation is subordinated to the compulsions of demographic projections. This is not land-use planning which uses land as an economic resource.

## 6.6 Land Prices

**6.6.1** Even assuming that optimisation of the land-man ratio is what land-use planning is about, such a plan should permit both easy access to land and its availability at prices, which the average citizen can afford. In fact, it is not only the average citizen who should have access to land at affordable cost, but also the citizen at the lowest common denominator of economic status.

**6.6.2** A recent study on urban land prices in India by the Town and Country Planning Organisation has shown that, in 1983, in some selected towns, the range of land prices is as presented in table 1. Unfortunately, the reporting of prices, especially at the lower end of the scale, does not ring true and the study itself does not explain the methodology of data collection and, in fact, admits to many shortcomings, including under-reporting and undervaluation. It is inconceivable that in Madras land was available at Rs. 4 per sq. metre. One has, therefore, to view this study with caution. Nevertheless, it does indicate that there is an enormous difference between land prices in the larger metropolitan centres and other cities and towns in India. This differential is itself a pointer to the relatively easy availability of land in cities

other than Bombay, Delhi Bangalore, Pune, etc., which would have a major bearing on future land-use policy.

**6.6.3** In the same study, inter-city variations in land prices of residential land have also been looked at. For example, in Bombay, between 1980 and 1983 there has been a 50 per cent annual increase in land prices. In Calcutta, the annual increase has been 308 Per cent, in Delhi 95.1 per cent, in Madras 30 Per cent, Bhopal 52.4 per cent, Pune 166.7 per cent, Trivandrum 155 per cent, Ahmedabad 100 per cent, Patna, 33 per cent, and, surprisingly, in Hyderabad only 6.2 percent, in Lucknow, nil, and in Panjim an actual drop by 16.7 per cent. Once again, the table giving the comparative prices leads to some confusion, especially because the years of comparison are not all common. Nevertheless, they do indicate the way in which prices have been escalating. Surprisingly, the price escalation has tended to be the least in Hyderabad and Ahmedabad. While the study does not give any plausible or definite reasons for this phenomenon, it may be mentioned that there is relatively more land space available in Hyderabad-Secunderabad, whereas in Ahmedabad peripheral development, through town planning schemes, seems to have kept up a ready supply of land. In Gujarat, this process may have been helped by the fact that 62 per cent of all land exempt from the operation of the Urban Land (Ceiling and Regulation) Act is located in this state.

Table 1. Urban Land Prices

City	Minimum Price Rupees per sq metre	Maximum Price
Bombay	150	15000
Delhi	198	4500
Calcutta	179	2243
Bangalore	239	1076
Ahmedabad	12	800
Pune	30	1800
Hyderabad	18	238
Madras	4	1345
Patna	80	100

### **Slums and Squatter Colonies**

**6.6.4** A major manifestation of lack of legal access to land at affordable cost is the proliferation of slums and unauthorised colonies. Anything between 30 to 45 per cent of all our major urban centres consists of squatter colonies and slums, in which land is unauthorisedly occupied for the construction of shelter. In addition, in cities such as Delhi, a great deal of housing construction has tended to centre in unauthorised colonies. It is estimated that approximately 650 unauthorised colonies in Delhi occupy 4000 hectares of land and have a population of about a million. The planning process did not provide for the planned development, by land-owners, of parcels of land, much of which was reserved for acquisition or for retention as green-field areas. Because the acquisition procedure was not completed in time and the demand for housing unassuaged, people built without permission and with no perceptible planning. The regulatory approach to land development, which restricted rather than permitted, could have led to no other result. What has been lost sight of in the process, however, is the immense economic loss to the city by conversion of land to a built environment in an unplanned manner. Squatting and unauthorised construction eat up all the land necessary for social purposes, with the result that even the minimum of space for educational institutions, hospitals, playgrounds, etc., is not available. Large numbers of people are either denied these facilities or have to travel to distant places to avail of them. Access to these colonies is also unplanned, with the result that the entire road system becomes skewed and, with it, the transportation system. While very high densities are achieved in squatter and unauthorised colonies, the absence of social infrastructure in fact leads to wasteful land use, which has an economic dimension. Because many such colonies tend to come up around existing work-places, the intra-city distribution of work-sites itself is disturbed, with the result that the entire policy relating to location of economic activity in more than one

city node is negated. To the extent that this results in concentration of activity and population in more areas, the price of land itself tends to become higher as one moves towards the city centre and drops towards the periphery. On the other hand, if the city became truly polycentric, there should be a flattening of the land price curve, with greater equality between central and peripheral area land values. Quite apart from the desirability of polycentricism from a planning point of view, even in economic terms a city in which activity is well distributed spatially is better placed to serve the poor than a strongly monocentric city. Once again, because land is the medium on which activity occurs, if it is used as an economic weapon, activity can be distributed equitably throughout a city. Exclusive zoning would tend to accentuate inequalities, whereas activity planning, which uses land as the means of decentralising economic activity, would lead to greater equality.

### **6.7 Land Policy**

**6.7.1** If land is both a resource and an instrument for planning city development, what should be the policy regarding land? It is in the Third Five Year Plan (chapter 33, paras 27-9) that, for the first time, mention was made, of a land policy in the context of controlling urban land values. The specific measures suggested were the freezing of land values and large-scale acquisition of land by public authorities, with a view to subsequent allotment on lease. A ceiling on the size of individual holdings was also suggested. In popular parlance, this is spoken of as creating an urban land bank or socialisation of urban land. Whereas in Delhi, large-scale acquisition of land preceded even the Third Five Year Plan, in other cities and towns, acquisition as a means of passing land into State ownership was undertaken from the Third Plan onwards. Once again, because the real purpose of such acquisition was never clearly spelt out or understood, the exercise became one of dealing in real estate, rather than in treating

land holistically, as a resource, and planning its optimum utilisation. The somewhat half-hearted attempts to freeze land-use and prices, prevent the private development of land, acquire land and have it redistributed through development authorities, did create obstructions in the operation of the land market, but it neither created a viable land bank, nor did it have any appreciable beneficial effect on land prices. What it did was to push the entire urban land market underground, with clandestine transactions replacing a properly regulated urban land market. As in the case of Delhi, it further encouraged violation of the law by construction of unauthorised colonies, because development through private initiative was virtually banned. Any land-use planning policy based on an urban land market which is partially unregulated, partially illegal and partially inefficiently administered by the State was bound to fail. It is for this reason that the statement made in the Master Plan of Delhi that land-use planning is a translation into physical form of planning policies failed to produce a viable land-use plan; the planning policies themselves being half-baked, in-adequate and incapable to implementation without amplification, this outcome was inescapable.

**6.7.2** First and foremost, therefore, any policies relating to land must commence with a statement of objectives and goals. Obviously the dominant functions of the city must be identified and the land space for the performance of these functions made available. This, in turn, entails land policies which bring land on to the market in sufficient quantity to meet demand. If the State really brings about socialisation of land, as is the case in the Soviet Union and China, then it is through release of State land that the demand can be met. If, on the other hand, the State does not have the capability to take overall land, then its planning policies must be such that the land in private ownership is made easily available for urban use. Such land must also be available at prices which all types of citizens can afford. Theoretically, a

free market, in which demand generates adequate supply, would keep prices under control and there would be sufficient variations in price to permit even the poor to buy or rent land or a house. However, the limited elasticity of land supply because of physical limitations must be recognised and, therefore, there would be justification for State intervention at the lowest rung of the economic ladder. In other words, to the extent that the poor have to be given land, the State would have to be prepared to intervene, either indirectly through fiscal policies which encourage greater land supply to the poor, or by direct acquisition and allotment. Lastly, in order to achieve the planning objective of equitable distribution of activity throughout the city, land-use planning should encourage specific activities at predetermined locations, whilst discouraging them at others. If these broad policy objectives underlie our land policy, rational land-use can emerge.

## **6.8 Land for Shelter**

**6.8.1** Land-use planning for shelter is the subject of another chapter of this report and one need not elaborate here on the principles or mechanics of such planning. However, the easy availability of land and control on prices is pivotal to the supply of land as a resource. There are many ways in which the problem can be tackled. To the extent that demand is kept under control, the pressure on land gets reduced. At present we do not have any policy which looks at demand. It has already been noted that there are vast variations in land prices among different urban centres, sometimes even among urban centres having practically the same range of activity and densities of population. To the extent that demographic growth can be diversified and directed towards those urban centres where land availability is relatively easier and prices still manageable, there would be a reduction in demand for land in cities where land availability is severely limited. The Commission has taken note of suggestion made by one of its working groups that even in the case of Bombay,

if access to the mainland is improved, about 5000 hectares of land would be immediately available for addition to the urbanisable limits. The cost of a new bridge from Bombay to Nhava-Sheva is estimated at over Rs. 100 crores. This expenditure, as it opens up a large chunk of land for urban use, would be more than paid for by the proceeds from the sale of land. Similar exercises need to be done for all the cities where land availability is so limited that the demand side of the market is pushing prices sky-high.

**6.8.2** On the supply side there should be a serious effort to identify lands within an urban settlement which are inefficiently used or are locked in uses which prevent their recycling. Even within the given density specifications and FARs, a great deal of land is underutilised. This is improper use of a scarce commodity. The effort should therefore be to force landowners to fully utilise that portion of the land which is at present underutilised. Simultaneously, an exercise needs to be done to review the prescribed density patterns and FARs for different city areas, so that zones which have been developed at very low densities are re-developed up to optimum density levels. This by itself would result in better utilisation of land and reduce the pressure on green-field areas.

**6.8.3** The Indian land market is restrictive and, therefore, does not easily allow recycling of land under inefficient use. In most of our older urban centres, a great deal of land is under industry or other non-residential uses, in which the main economic activity is now obsolete or loss-making. To the extent that recycling of such land is restricted, the city is wasting valuable resources. There is need to look at both the activities and the use of land on which it is located and to encourage the phasing out of the obsolete and its replacement by more efficient economic activity and the utilisation of land, in an optimal fashion. If recycling of land is done, very large resources are likely to be released for city development.

**6.8.4** As has been stated earlier, non-availability of land has led to illegal conversion through the medium of unauthorised colonies. In Gujarat and Maharashtra, the development of peripheral lands in a planned manner is encouraged through town-planning schemes, which are virtually schemes for urban land consolidation. The owners of private, land on city peripheries are permitted to approach the Town Planning Department, which draws up a layout of the total land. Individual plots are then valued and the holdings readjusted according to the new layout. There is a pro rata surrender of land required for public use and there may be readjustment of plots to accommodate services, roads, etc., with the readjustment of plots being done with a view to maintaining parity in value. This is a system which has not been tried in most other states, with the result that all peripheral development tends to be haphazard. This substitute for large-scale acquisition has not really worked, with the result that there is neither planned development by a public agency nor planned development by private effort. To the extent that the master plan itself permits private initiative through proper layouts, land readjustment, etc., the supply of land will increase.

## **6.9 Vacant and Locked Land**

**6.9.1** In a fast-expanding city environment, it is criminal to allow lands to remain vacant. The approach has been to impose a ceiling on holdings and to take over vacant lands. The exercise has been a crashing failure, both because there is lack of political will to acquire vacant holdings and because the law itself is defective and most owners of vacant land have been able to retain control. What is more, in order to defeat the purpose of the act, a great deal of vacant land has been brought under haphazard construction, thus negating planning efforts. Obviously, an alternative policy is needed to ensure that available urban land does not remain vacant and is utilised for city development. For this purpose, effective

incentives and disincentives are necessary. What should be the mechanism applied for achieving an improvement in the supply of land? From a planning point of view, all development plans need to be reviewed throughout the country so that the present categorisation of conforming and nonconforming land-use is replaced by a new concept of a compatible, incompatible and inefficient land-use. All incompatible use would ipso facto be inefficient, because such use is either wasteful or has a high social cost. Incompatible land-use, therefore, has to be phased out, not only on the ground of its not conforming to permissible uses, but also because it is inefficient and wasteful. However, all compatible use is not necessarily efficient either, because the activity located on it may be of a low order of efficiency or because the land is not fully utilised. Even within compatible uses, therefore, there should be an identification of inefficient uses and specific directions on improving the use of land. To the extent that there is constant monitoring of land-use with a view to weeding out, inefficiencies, the supply of land improves. Because governments are very often the most prodigious and profligate users of land, it is the inefficient uses of government land which would first have to come under review.

**6.9.2** The next step would be to look at lands which are locked into a use by an activity which is now uneconomic and obsolete. Many of our old industrial towns have large chunks of land under industry which is no longer profitable but which, for political reasons cannot be closed down or shifted. Examples are the Delhi Cloth Mills and the Birla Mills, which are adjacent to each other in one of the most crowded localities of Delhi and occupy over 100 hectares of land. The mills are running at a loss, but they nevertheless attract unskilled workers, create traffic congestion and pollute the environment. If they could be moved out and the land released for other city needs, the core area of Delhi could be, substantially redeveloped. The cost of redevelopment and shifting

the mills could be recovered from sale of part of the land. Similarly, in the Tanagra area of Calcutta, about 400 hectares of land are occupied by khatahs cattle-sheds, closed mills, etc. If this land could be redeveloped, a very crowded area of Calcutta would be opened up, land would be available for social purposes and substantial resources would flow to the city for development.

**6.9.3** What holds up the recycling of land in these cases is the vested interests of local politicians, who do not want the voters in slum areas serving such obsolete activity to shift; as also the laws regulating industry which prevent loss-making units from closing down and the laws relating to ceiling on holding which do not permit land-owners to profitably use their own land. Added to this are planning restrictions on land-use. It is high time the cities are told that, if the politicians who run them do not support policies which release available resources for city use, no assistance from any source would be available to meet the most urgent needs of these cities. The narrow interests of a ward councilor cannot be permitted to override the larger interests of a city. There must also be an immediate review of all laws and instructions relating to industrial regulations, with the laws being amended to force loss-making units to either close or move to other areas. Instead of keeping alive such industrial units as are eating up available resources, they must be encouraged to close. If this policy is coupled with a positive policy of encouraging those industries which have a potential for profit, the closure of obsolete units would not adversely affect the city economy. If the new industries are designed to perform service functions or to produce those goods which require higher technical skills available only in large cities, they would also change the economic profile of labour. This would be an added benefit. The elimination of activities which contribute very little to the wealth of the city would also release substantial parcels of land for lung space, movement space, social



housing and social infrastructure. The Commission recommends the immediate adoption of policies which will lead to the release of land under inefficient use and encourages its recycling.

## 6.10 Land Acquisition

**6.10.1** There are three ways in which the stock of land with the state can be increased. The first is the acquisition of land by the State for its own purpose, for providing the city infrastructure and for allotment to the needy. Anything between 30 to 50 per cent of urban dwellers live below the poverty line, depending on how poverty is defined. A substantial number of city dwellers would, therefore, have to be provided with land for shelter at very low cost, sometimes even below the break-even price. This can only be done by the State and, therefore, the Commission does not envisage, in the near future, the withdrawal of State agencies from the urban land scene. The affordable land cost for those living below the poverty line is such that no private landowner, however philanthropic, can sell land at prices affordable at the poor. While strongly condemning squatting, or even allotment of land free of cost, the Commission recognises the needs for State subsidies for the poor. If land at subsidised cost is released in a market where scarcity conditions prevail, there is a strong possibility that the beneficiaries will dispose of the land and once again present themselves as applicants. Therefore, land for the poor at subsidised cost has to be made available in a situation in which other sections of society are also given access to land at affordable costs. If this precondition is fulfilled then land for the poor is likely to be used by them for their own shelter and will not be sold.

**6.10.2** The Commission feels that acquisition of land by the State for allocation to the economically handicapped will continue to be a fact of life in India for years to come. The present procedure for land acquisition is cumbersome and there are long delays. The Commission recommends that

the Land Acquisition Act, 1894, as amended by Act 68 of 1984, be further amended on the following lines:

- (a) When a scheme for acquisition is prepared, there must be detailed planning on how the land is to be utilised subsequent to acquisition. The scheme for utilising land must form part of the notification of intention to acquire.
- (b) When preparing the scheme, an estimation of cost of acquisition should be made. The tentative cost should also be mentioned in the notification of intention to acquire.
- (c) Instead of the present notifications under Sections 4 and 6, there should only be one notification containing all the details. After hearing objections, the Land Acquisition Officer should finalise the acquisition by a single order. This, however, would not be the award for the purpose of compensation. However, an amount equivalent to the tentative acquisition cost published with the notification would have to be paid to the landowner, or deposited in the Land Acquisition Officer's Court if there is a dispute about ownership, as the order is pronounced, on which the land would be deemed to vest in the State and should be taken over without further delay. There would be no undue hardship to the landowner because the tentative amount of compensation would be paid to him simultaneously with taking possession of his land.
- (d) Thereafter, within three months of the order of acquisition, the Land Acquisition Officer must give a final award. The amount of tentative compensation already paid to the landowner would be deducted from the final compensation.
- (e) At present, a reference to the district court is permissible only to the party whose land is acquired. In the case of the State vs. H.P. Verma, the Supreme Court ruled that the State does not have a right of reference and

that the only remedy is to return the land to the party from whom it is acquired if the compensation fixed is not acceptable to the State. If the land has already been used by the State, then it has no alternative but to pay the amount of the award, regardless of its being excessive, obtained by collusion etc. Under the procedure that the Commission has suggested, the land stands vested in the State as soon as the acquisition order is passed, which means that, by the time compensation is finally awarded, the land might have been partially or fully used and cannot be returned to the landowner even if the compensation amount is excessive. Therefore, in order to permit the State to make a representation against the amount of compensation fixed, it is proposed that the right of reference to the district court should be made available to the State also.

- (f) The acquisition of land is done in exercise of the State's right of eminent domain. Every Land Revenue Code in the country provides that all land belongs to the State. At present, land acquisition proceedings are often held up by courts which question the propriety of acquisition of land itself. There should therefore be a restriction on the power of the courts to hold up or nullify acquisition proceedings, except on the narrow ground that no public purpose at all is served by such acquisition. Because the notification of intention to acquire would now have to be supported by a scheme which lays down in detail how the land will be used, *prima facie* it should be presumed that the purpose is public and, therefore, if the scheme is self-contained, there should be no authority vetted in a court to stay or otherwise stop the acquisition proceedings. This is most important because, unless acquisition proceedings are expeditious, any city growth which does not transfer land to the State should only be at the cost of unauthorised development.

## 6.11 The Free Market in Land

**6.11.1** Simultaneously with acquisition by the State, there has to be development of a large Market which facilitate the availability of land from private sources This implies that the master plan exercises have to be detailed in identifying lands which will be acquired and those which will be allowed to be privately developed, with acquisition being restricted to land for the poor, for use by government, and for the laying of physical infrastructure. All other land should be allowed to come into the market through individual or cooperative enterprise. For this purpose, the planning prescriptions would have to be permissive rather than restrictive and there would also have to be open encouragement of land readjustment and redevelopment schemes. The objective is to develop in a planned manner that which would in any case develop in a haphazard, and unauthorised way. Much of the development in Japan has come through *Sukaku Seri*, or urban land consolidation and readjustment. This is only a refined form of the town-planning schemes of Gujarat and Maharashtra. This technique of bringing peripheral and under planned development should be adopted on a large scale in all our urban centres. One of the advantages of this approach is that even the land which is needed for green areas can be transferred to public ownership through the process of readjustment of plots, thus benefiting both the landowner and the public at large.

**6.11.2** The Urban Land (Ceiling and Regulation) Act, 1976 having failed to transfer vacant land to State ownership, what are the alternatives? In its interim report, the Commission had suggested amendments to the act, providing, on the one hand, that, initially, a five-year moratorium on acquisition under the act would be declared to give landowners a chance to develop their land according to plan and, on the other, for the automatic vesting of vacant land in the State if the landowner fails to develop it within the prescribed

time-frame. As a further goad to planned development, the Commission has also suggested a tax on vacant land during the period of moratorium. Because land is an extremely valuable resource for city development, the Commission feels that the interim recommendations need strengthening in the following directions:

- (a) the discretionary exemptions permitted under Sections 20 and 21 of the Act should be eliminated;
- (b) all exemptions should be brought within the ambit of Section. 19, if necessary, by expanding its scope. In other words, what is exempt is mandatory and what is not exempt cannot be exempted by any authority;
- (c) provisions should be made to remove difficulties, correct anomalies and to deal with specific cases where use of land declared surplus is either not viable, feasible to develop or is incompatible with the existing use;
- (d) all lands which are vacant and surplus must be developed for constructing housing units of up to 80 sq. mtrs. plinth area each during the prescribed five-year period or transferred by negotiations to the State, a State undertaking, statutory corporation or authority dealing with housing and urban development, or a cooperative organisation dealing with housing;
- (e) all properties developed contrary to the permissible norms should be liable to confiscation by the State without payment of any compensation whatsoever;
- (f) on expiry of the period of moratorium, undeveloped land should vest automatically in the State on payment of the prescribed amount;
- (g) during the period when land in excess of the ceiling is kept vacant, a cess or tax, ranging from Rs. 3 per sq metre to Rs. 50 per sq metre, depending on the town size, location, etc., should be charged, with the proceeds being deposited in a Shelter Fund to be constituted for each urban centre to which

the act applies. In other words, no one in the notified towns and cities would be allowed to hold excess vacant land without paying for it or using it for city development as per the prescribed norms. This would very quickly ensure that surplus lands are properly utilised and would substantially add to land availability.

**6.11.3** An alternative method of forcing the pace of development of vacant or underutilised land could be to altogether give up the concept of ceiling on urban land holdings and to modify the land tax laws in such a way that all such land is brought under heavy taxation. Vacant or underutilised land would be defined as a plot wholly unbuilt-up, or built-up to less than 40 per cent of the prescribed F.A.R. The rate of tax has positive disincentive to keeping land idle. The Commission appreciate that bold political decision will have to be taken if the second alternative is to be adopted because agricultural land should continue to be under a ceiling.

**6.11.4** In addition to surplus vacant land in excess of the ceiling in notified towns, there are urban centres to which the ceiling act does not apply, where land pressures are nevertheless quite high. There are also vacant lands which are within the ceiling limit. There is need to ensure that even such land is brought to the market in order to relieve scarcity. Fiscal incentives and disincentives, as in the case of surplus land, appear to be the best instrument for forcing people to build. There must, therefore, be a vacant land tax with a start being made in all Class I towns, i.e., urban settlements with a population of more than one lakh. There is a suggestion that the tax be charged at 1 per cent of value in the case of non-developed land and 2.5 per cent in the case of land where there is peripheral development. The Commission has already recommended a system of property tax valuation on the basis of a division of each urban settlement into zones, with a basic zonal value being prescribed for each assessment period. There could be a similar exercise for land

also. All land falling within a particular zone would have a basic value, both for developed land and for land outside the reach of services. Assessment of vacant land could be done on the basis of the zonal value. This would avoid the complication of assessing each plot of land separately and leaving discretion in the hands of assessing authorities. The vacant-land tax would yield a substantial sum of money to the municipalities, whilst at the same time encouraging the owners to put their land to use.

**6.11.5.** A very fruitful source of revenue from land is its incremental value. A vacant-land tax, in which there is periodic reassessment of value, would mop up some of this increment. However, it is at the time of transfer of land that the real incremental value comes to light. In Delhi the system is to tap 50 per cent of the difference between sale price and the original price at which the land was obtained on lease. This does not apply to freehold property. Because as much as 50 per cent of the incremental value is appropriated by the State there is widespread evasion. If, on the other hand, an amount equivalent to the registration fee and stamp duty on transfer were charged as an incremental value tax, there would still be massive accrual of funds, despite the fact that, at the time of registration, only about half the real value is declared and, therefore, fee and duty are charged only on declared value and not on the real value. In Madhya Pradesh, which has a low level of urbanisation, the registration fee and stamp duty yield over Rs. 60 crores a year, of which about half comes from urban transactions. In states such as Maharashtra and Gujarat the amount would be much higher. If an equivalent amount is levied as an incremental value tax, much of the deficit of the local bodies would be wiped out. The Commission recommends that an incremental value tax be universally levied throughout the country.

**6.11.6** One of the corollaries of a system in which private enterprise in land development is encouraged would be development of a land market. At present there are too many restrictions on the market, too many authorities to be approached for permission and too many complications regarding title. First and the foremost, the matter of title must be unambiguous. There is a controversy about whether land should be held in absolute right on freehold or limited rights under lease-hold. Actually, the rights under both should be the same in regard to alienation, devolution, succession, etc. The only difference should be that, in the case of lease-hold an annual amount has to be paid to the State, whereas in the case of freehold no payment other than a tax is to be made. Otherwise, effectively, the ownership rights in both cases should be the same. Once alienation becomes a right, the development of a mortgage market would become much easier. A mortgage market would also facilitate loans for housing, which would substantially improve the housing position. The Commission recommends that steps should be taken to permit the development of a regulated land market which, whilst avoiding speculation, still permits easy transactions in land.

## **6.12 Squatters: A Practical Approach**

**6.12.1.** Even after all these measures have been taken to develop regulated market in land and to bring more and more of it on the market, the problem of those who have either squatted on public or private land, unauthorisedly built on land without planning clearance, remains. One estimate is that the number of such persons is anything between 3 and 3.5 crores. A view has been expressed that the only legitimate way in which the poor can gain access to land is by encroachment. An equally strong view has been expressed that whereas those who squat on land are welcome as service personnel, they are not welcome as respectable residents and citizens. Therefore, a suggestion has been made that

whilst, on the one hand, all encroachments and unauthorised colonies should be regulated, on the other; there should be no disturbance of unauthorised occupation unless an alternative location, which is of the choice of the squatters, is found. While selected re-location would be permissible selectivity will have to be on the basis of consultation with the squatters and their acceptance of the alternative and not some nebulous public purpose arrived at through a master plan exercise.

**6.12.2** The Commission is of the view that the bulldozer approach to slums must be given up. In fact, even now there is a government policy statement that the approach to slums would be one of improvement rather than removal. The Commission recommends that, by and large, the approach to slums must be to accept an existing situation and to try and accommodate people where they are. This, however, would have to be done with care and discrimination rather than by blanket order. Where a certain work-site-dormitory relationship has developed between a slum and place of work, there would be an excellent case for regularisation. Where a slum has come up in an area earmarked as residential, there would be no problem in regularisation at site. Where unauthorised construction has occurred on land earmarked as a residential or green area and where it is clear that the unauthorised colony has emerged as a result of the failure of the authorities to meet a growing demand, regularisation is the only option. This is the policy being followed in Delhi. Where a slum has developed because of certain economic compulsions, even if it has come up on land reserved for other purposes, it can be regularised, especially if the reservation of land for service population, etc., has been violated in a planned development. Where, however, a slum exists on land which is environmentally or ecologically sensitive, is a right of way, or is reserved for such social infrastructure as schools, hospitals, etc., there would be no alternative but removal and

relocation. Certainly there would be no objection to consultation with those affected, with every effort being made to obtain their consent for relocation. However, where public interest is involved, the State cannot give up its 'regulatory role of ensuring that public space remains available for public purposes. In fact, the unauthorised occupation of land occurs not only because access to land is not available to the poor, but also because the State has abdicated its function as ruler. Of course, the Commission recognises that the function of a ruler is not merely to prevent or to remove-it is even more to provide, and it is all Three functions in relation to land that the Commission emphasises.

**6.12.3** In this behalf, the Commission notes with appreciation the recent instructions issued by the Madhya Pradesh Government that, in any new development, public or ^W private, planning permission will not be given unless 15 per cent of the land area is surrendered to the State. Slum Board for the exclusive use of the economically weaker sections. This measure will compel all future developments to provide a substantial land area for those who at present have no alternative to encroachment.

**6.12.4** The Commission further notes with appreciation the process adopted under the urban community development programme by the Andhra Pradesh Government, whereby slum dwellers are encouraged to form community associations and to participate in the process of replanning their own slums and in upgradation of the slum area. The giving of a patta is then dependent upon the willing participation of the slum dwellers in improvement, upgradation, and induction of infrastructure and even rebuilding of slum housing through community effort. The Commission feels that, Whilst regularising slums or unauthorised construction, a similar process of community participation must be set in motion

everywhere. This would have the dual advantage of improving the slums and bringing slum dwellers into city management as equal partners.

### **6.13 Land Management Organisation**

**6.13.1** The present system of management - of land is excessively diversified. There is the state and its officers, development authorities, local bodies, various departments and undertakings of government which hold land in ownership, private owners, cooperative societies, etc. The management of rural land vests in the Revenue Department and, therefore, the collector of the district. This is regardless of whether or not land is held by the State or by a bhoomi swami. It is necessary to have a single-line land management system in the urban context also. It is suggested that the collector and an officer especially designated under his charge be named Land Manager in each city.

**6.13.2** Where city government has been organised broadly on the lines suggested by the Commission, and where the city administration has been adequately protected from undue interference in matters of administrative routine, the commissioner of the city corporation or town municipality could be designated the land manager. This officer would be responsible for survey and settlement, land demarcation, maintenance of land records, land allocation, land acquisition, assessment and collection of tax and cess on urban land, management of laws relating to vacant lands, and protection of public land from encroachment. Various agencies charged with land development would be answerable to the land manager for the proper development of the land allocated to them and its management according to the prescribed rules and orders. The land management office should be adequately equipped to fulfil all these tasks.

### **6.14 Recommendations**

The Commission's recommendations concerning urban land management are summarised below:

**6.14.1** A comprehensive data base on urban lands must be built.

**6.14.2** For this purpose, a Settlements Survey of India should be established at national level which would make scientific surveys of land in an urban context, suggest methodologies for identifying city-regions, prepare base maps through use of modern cartographic techniques and help state governments to use the maps for preparing urban land records.

**6.14.3** Each state should establish a Directorate of Urban Lands which would prepare detailed land records for all urban centres.

**6.14.4** The data base must provide the principal input for determining the location of various types of activities and in diverting land to urban use.

**6.14.5** Land must be treated as a resource and land-use planning converted into resource planning rather than being a zoning exercise.

**6.14.6** Land most suited to agriculture or needed for environmental protection should not be converted to urban use. Instead, land with the least opportunity cost should be used for building.

**6.14.7** A physical planner must be included in each district planning team so that the economic consideration of optimising land-use can be given full weightage.

**6.14.8** City land-use planning should sub-serve the basic policy relating to city function, housing, employment and social needs. It should not remain an exercise in matching land needs to demographic projections.

**6.14.9** Since, high prices deny access to land to all but the rich and lead to skewed land use, squatting and unauthorised construction, land-use policy must aim at improving access to land at affordable prices.

**6.14.10** In order to flatten the land price curve, decentralisation of activities intra-city between equitably distributed centres is called for. Since exclusive zoning accentuates inequalities, a balanced spatial distribution of activity that benefits the poor must be promoted.

**6.14.11** Efforts should be made to divert demand for land from high-price urban centres to those where land is still relatively cheap and plentiful.

**6.14.12** The Land Acquisition Act should be amended to provide that the notification of the intention to acquire should be accompanied by a detailed scheme for the utilisation of the land to be acquired, its tentative cost, etc. The act must also provide that an order of acquisition should automatically vest the land in the State on payment of the tentative cost; the award can follow. The State should also be given the right to make a reference to the district court. Courts should not have the power to delay or stop acquisition proceedings, save on the narrow ground of there being no public purpose involved in the acquisition

**6.14.13** Slums, squatter colonies and unauthorised colonies should be recognised as part of peoples' effort to provide shelter for themselves in the absence of the State being able to meet this need. Therefore, the approach to such colonies should be one aiming at regularisation rather than removal.

**6.14.14** Squatter colonies and workers' colonies located around work sites should, as far as possible, be regularised. Unauthorised colonies on land earmarked in a master plan as green or residential, which may have come into being

because the authorities were unable to make available adequate land for residential purposes, should also be regularised.

**6.14.15** Squatting on land which is environmentally or ecologically sensitive, constitutes a right of way, or is reserved for such public purpose as provision of social infrastructure, should generally be cleared of encroachment. The process should include consultation and, where possible, consent; and an alternative should be provided. However, the State must recognise that it has a positive role both to prevent and remove encroachments and also to provide land for those who need it. Both the regulatory and the developmental role of the State must be exercised.

**6.14.16** New developments should be permitted in the public or private sector only if a substantial percentage of the land is made available to a duly constituted authority, for the exclusive use of the economically weaker sections. This percentage should in no case be less than 15 per cent of the total layout.

**6.14.17** In regularising encroachments and unauthorised colonies, the Andhra Pradesh model of urban community development, with active participation of the residents in the process of replanning, improvement and upgradation of a slum is recommended.

**6.14.18** All laws restricting recycling of land must be modified or scrapped. Land under obsolete industrial use should be freed to allow viable redevelopment through the introduction of new activity like social housing.

**6.14.19** The concept of incompatible, compatible and inefficient use should replace that of conforming and non-conforming use. All inefficient use must be identified and strongly discouraged.

**6.14.20** FAR and density specifications must be reviewed and owners of underutilised forced to use their land optimally.

**6.14.21** Open lands should be brought under land readjustment schemes so that private landowners can make their developed land available for utilisation.

**6.14.22** The Urban Land Ceiling and Regulation) Act, 1976 should be amended, deleting Sections 20 and 21 and bringing all exemptions under act must also provide that if, after a moratorium of 5 years, a landowner has not developed his land as permitted, it should automatically vest in the State. So long as the land remains vacant, a tax of between Rs. 3 and Rs. 60 per sq. metre should be charged and deposited in a Shelter Fund.

**6.14.23** Vacant land not covered by the Urban Land (Ceiling and Regulation) Act, should also be taxed in Class I towns at 1 per cent of its value per annum in the case of undeveloped land and 2.5 per cent in the case as developed land. The valuation would be as periodically assessed for each urban zone. Alternatively, a flat rate of Rs. 2 per sq metre could be charged.

**6.14.24** Incremental value of land should be taxed at the same rate as stamp duty and registration fee levied at the time of transfer.

**6.14.25** Land title should be made unambiguous and alienable. This will permit the development of a land and mortgage market.

**6.14.26** For every city and town there should be an Urban Land Manager, under the collector, who would maintain land records, administer land and monitor it, protect public land, assess and collect land tax, deal with land acquisition, assign land and provide other managerial services.

**6.14.27** Where city government has been organised broadly on the lines suggested by the Commission, and where the city administration has been adequately protected from undue interference in matters of administrative routine, the commissioner of the city corporation or town municipality could be designated land manager.

## 7. FINANCE

### 7.1 Introduction

**7.1.1** There is a universal complaint in India that local bodies, which are responsible for managing city services, are woefully short of resources, both for maintenance of existing services and for making the capital investment necessary for expansion. The Seventh Finance Commission made a limited study of the problem and came to the conclusion that the local bodies needed support, but then did not proceed to make any recommendations in this behalf. The Eighth Finance Commission went a step further and commissioned a full-fledged study by the National Institute of Urban Affairs, covering almost all the urban centres in India. This study, which has not been published but to which this Commission had access, concluded that, even at the level of service existing in 1979/80, the local bodies needed an additional Rs. 500 and 800 crores per year for maintaining them and for catering to the normal expansion needs of a town, without massive capital investment in enhancement of the quality of the services. The Eighth Finance Commission did not doubt the veracity of these findings but, like the Seventh Finance Commission, did not proceed further to make any devolution of funds to the local bodies. As we understand it, the argument which weighed with the Finance Commission in not recommending such devolution to local bodies was that, under Article 280 3(a), the Commission is to make recommendations about the distributions between the Union and the states of the net proceeds of taxes levied by the centre which, under the Constitution, are liable to such sharing.



The local bodies do not figure in Article 280. The National Commission on Urbanisation, however, feels that if the Finance Commission had laid down principles relating to grants-in-aid to the states out of the Consolidated Fund of India under Article 280 3(b) and stated what portion of such grants should be passed on to the local bodies and on what principles, perhaps this problem could have been overcome. However, the incontrovertible fact which emerges from the studies initiated by the Seventh and Eighth Finance Commissions is that the resources of the local bodies as they stand today are inadequate for their needs. This is an issue to which we shall return later.

**7.1.2** What is the consequence of this paucity of resources of local bodies? The ugly face of urbanisation in India is growth of slums and unplanned colonies, absence of services and the running down of those that exist, encroachment on public land and open spaces, increasing inefficiency in management systems and the emergence of almost total urban chaos. The existing established towns, the principal manifestation of growth is the degeneration of old city areas, a negation of planning of modern colonies and almost uncontrolled growth in peripheral areas. In new towns, especially those which have grown as a result of location of large-scale industries in backward areas, urbanisation is almost coterminous with a total absence of planning and of even the elementary infrastructure necessary for the existence of a city. Every major industrial new town, whether it is Rourkela, Durgapur, Bhilai, Hcipur, Pithampur, Korba, or Singrauli, presents a picture of a thriving industry surrounded by one huge slum. In the oil-rich areas of South Gujarat the situation has passed the point of crisis.

**7.1.3** Whether we talk of established towns with a traditional economic base or of new towns which have thriving industry, we are referring to settlements which are intrinsically wealthy. In other words, towns such as Bombay or Calcutta and new towns such as Korba and Singrauli are

all centres of both the creation of wealth and the possession of resources. The investment in the Industrial infrastructure of these towns runs thousands of crores of rupees. The investment in power, transportation, telecommunications, etc., in these towns is also of a very high order. What seems to be lacking is both public and private investment in providing the supporting city infrastructure and in maintaining the created assets. Even in a town such as NOIDA, which is located near Delhi and has a powerful industrial base of modern industry, we find that, whereas there are privately owned capital assets and substantial private profit, very little income accrues to the Development Authority for the maintenance of the created services. In fact, the universal experience of all local bodies is that their own resource base is almost in inverse proportion to the resource base of the city, largely because very little flows from private coffers into the municipal treasuries.

**7.1.4** It is not as if government is unaware of the problem. When the Seventh Five Year Plan was under formulation, the Planning Commission set up four Task Forces to look into issues relating to urban development, one of which specifically examined the question of financing of development. The Task Force on the Financing of urban Development, of whose report the Commission has taken note with appreciation, returned some very interesting findings. Some of the most important are:

- (1) Whereas the share of municipal expenditure in the overall governmental expenditure by centre, state and local government combined as 8 per cent in 1960-61, it had declined to less than 4.5 per cent in 1980-81. This despite the fact that in the same period the urban population had expanded from about 16 per cent of the total in 1960-61 to almost 24 per cent in 1980-81.

- (2) Whereas the growth of municipal revenues was about 15 per cent per annum, as compared with 17.5 per cent in the case of central and state revenues, the growth rate was very slow in those cities where octroi is not levied or has been abolished. The property tax is not buoyant.
- (3) To an increasing extent, there is a decline in the share of tax revenue in the finances of local bodies and growing dependence on grants-in-aid from government. In the case of the Bangalore Municipal Corporation, the grant-in-aid in lieu of octroi constitutes about 80 per cent of its total revenue.
- (4) Plan funds are generally not spent through local bodies but by other agencies created by the State. Maintenance of created assets, however, is the responsibility of the local body. There is no system of guaranteed non-plan assistance for such maintenance, nor are local bodies always free to impose adequate user charges. This single factor is the most important of all in explaining the maintenance gap in urban public services.
- (5) There is neither a system of regular devolution of state funds to local bodies, nor are municipal development plans integrated with state plans. Perhaps state governments are unwilling to make any commitment of resources to municipal development, with the result that it is only individual schemes which are funded.
- (6) In regard to access to funds for capital investment, the Task Force noted that, at present, there is no apex financial institution for urban development, HUDCO notwithstanding. This means that the urban sector is denied regular access to the capital market and, therefore, there is always a great paucity of resources for infrastructural development.

**7.1.5** The Commission feels that the findings of the Task Forces have validity even today and,

therefore, any suggestions to improve the resource position of urban local bodies will have to take these findings into account.

## **7.2 The Existing Resource Base**

**7.2.1** The main resources of local bodies could be categorised as follows:

- I. International
  - (1) Local taxes
  - (2) User Charges for services
  - (3) Fees, duties, etc.
  - (4) Premium and rent from created assets
- II. External
  - (1) Borrowings, including approved borrowings under the Plan
  - (2) Grant-in-aid

**7.2.2** Below are listed some of the taxes which a local body can levy. The list is not exhaustive, but it does cover the main heads.

1. Property tax
2. Registration fees
3. Fair tax
4. Animal tax
5. Market tax
6. Entry tax (also called octroi)
7. Terminal tax
8. Turnover tax
9. Toll on new bridges
10. Vehicle tax (non-motorised)
11. Betterment tax
12. Conservancy tax
13. Lighting tax
14. Sanitation tax
15. Scavenging tax
16. Water tax
17. Advertisement tax
18. Entertainment tax
19. Professional tax
20. Pilgrim tax
21. Special education cess

**7.2.3** Not all local bodies are allowed to levy entry tax or octroi and in states such as Madhya Pradesh, Andhra Pradesh (old Hyderabad State), and Karnataka, octroi has been abolished. There is considerable pressure from the central government and the traders' lobby to abolish octroi throughout India. However, where it is levied, the largest single source of revenue for local bodies is octroi, with collections being on a daily basis and inflation lending great buoyancy to the tax. Next in importance is the property tax which, however, in many northern states, yields a poor return. The fact, even in states where assessment procedures are well established, there has been a tendency for the property tax to remain fairly static. There are many reasons for this. The exemption limits prescribed in all municipal acts exclude from the purview of the tax anything between 25 and 33 per cent of the properties located in a city. Similarly, squatter colonies also fall outside the purview of the tax, both because rateable value is low and because local bodies are reluctant to tax a settlement whose legality they do not recognise. This leaves only about a third of the property in the city legally liable to property tax. The Supreme Court has ruled that, where standard rent applies, regardless of the market value of the property, the tax has to be assessed on the standard rent. In other words, the Rent and Accommodation Act has stratified the rateable value at a low level and deprived local bodies of a rich source of revenue. In addition, under political pressure many local bodies do not make regular reassessments of the rateable value of properties. Tamil Nadu has, in fact, prohibited this by executive order for over fifteen years. Moreover, all governmental buildings and properties are exempt from property tax which, in cities which have a substantial government functioning, places large chunks of property beyond the purview of the tax. In the case of a city such as Bhopal, for example where anything up to 25 per cent of the buildings belong to the state, the corporation is deprived of revenue from such a large chunk of property that it is virtually

servicing the New Capital free of cost. In its interim report, the National Commission on Urbanisation has estimated that, if the Rent Control Act were to be suitably modified, the Bombay Municipal Corporation would get an additional amount of Rs. 50 crores from property tax alone and the Ahmadabad Municipal Corporation would double its property tax receipts. The Madras Municipal Corporation estimates a tripling of its revenue from the tax if reassessment is done and the Rent Control Act modified. If government buildings are also taxed; the revenue will increase even more significantly.

**7.2.4** There are certain taxes which are directly connected with services. One is speaking here not of service charges but of tax proper. This would include betterment tax on improvements done through capital investment and taxes on conservancy and drainage, sanitation, scavenging, lighting, water, etc. An educational cess or tax would also fall in this category. When compared with a user-charge, taxes tend to be somewhat inflexible because there is always resistance to additional taxes. The yield from such taxes will be very low and there would be a good case for their amalgamation with the property tax as a single tax directly linked with ownership or tenancy of property. In addition, there have to be user-charges.

**7.2.5** It is in the levying of user-charges that there seems to be some difficulty. Perhaps the best known case that of the Indore Municipal Corporation, which was required in the early 'seventies to make time-bound increases in the water rate as per an agreement with government and the LIC because a substantial loan and grant had been advanced to the corporation; it resolved that, because water was a gift of nature, the corporation would not charge for it at all. Naturally, the corporation had to be superseded, but the resolution is indicative of the general political reluctance to make people pay for services provided. Just as the irrigation rate is not sufficient for even

the normal maintenance of water courses and field channels, leave alone the main hand-works, similarly user-charges in most municipalities do not meet even the cost of routine maintenance. This is one reason why services, instead of paying for themselves, impose a crushing burden on the municipality.

**7.2.6** Duties and fees such as stamp duty and registration fee are designed to make available to the local bodies at least part of the enhanced value of property at the time of sale. In operation, the revenues flowing to the local bodies from these sources have tended to be marginal and insignificant.

**7.2.7** Grants-in-aid tend to be of three types:

- (i) An ordinary grant meant to defray administration costs.
- (ii) Grants in lieu of resources taken over from the local bodies, for example grants in lieu of octroi.
- (iii) Special grants-in-aid for assistance in development or maintenance.

**7.2.8** The main substitution grant now available to local bodies is that in lieu of octroi. It is only in West Bengal that the ordinary grant has been enhanced from 28 paise per capita in the case of municipalities outside Calcutta to approximately Rs. 14 per capita. The grant given to Calcutta is As 23 per capita. This, however, is a recent phenomenon. In some states such as Gujarat, approximately 25 per cent of the entertainment tax is also now passed on to the local bodies by way of a grant and in the southern states a larger percentage is thus made over. There are also some nominal grants in lieu of the motor vehicles tax. By and large, however, income from grants-in-aid, except as a substitute for octroi, is insignificant. This is reflective of the general reluctance of state governments to devolve funds to local bodies. In fact, about devolution the Task Force set up by the Planning Commission has the following comments:

Unlike federal-state fiscal relations, which are regulated by express provision in the Constitution, at the state-municipal level these relationships are wholly on informal lines and, in the absence of any well-established institutional arrangement for periodical review through state-appointed finance commissions, the entire area of state municipal fiscal relations remains vague and uncertain.

The situation could not have been summed up better.

**7.2.9** So far as rents and premia are concerned, most local bodies are unfortunately placed, especially in relation to such state organisations as development authorities and improvement trusts. By and large, vacant land tends to be state-owned and the income therefrom goes to the state government. Some municipalities are able to build up property which is either rented or sold, but here again it is the larger municipalities which seem to have done better. Smaller municipalities just do not have the resources to invest in such construction activity. Also, it is easier to ensure uniformity in tax resources rather than in rents because the opportunity-cost of property in terms of rental value varies so much between a small town with a low level of activity and a large town with a great deal of economic activity that dependence on rental revenue could create problems for the small towns.

## **7.3 Suggestions on Municipal Resources**

### **A. Taxation**

#### **Octroi**

**7.3.1** The Commission has noted that octroi as a tax is on the way out. Unfortunately its replacement has taken the form of a grant-in-aid from government in which the maximum growth factor is 10 per cent per annum. When Madhya Pradesh abolished octroi in 1976 it was found that the growth factor was 18 per cent per annum and even

the Task Force has commented that octroi revenue tends to grow by 16 per cent per annum as against slightly under 10 per cent in the case of property tax. The state governments, where octroi has been abolished, levy a surcharge on sales tax and an entry tax on goods which are not amenable to sales tax or surcharge. In the case of Madhya Pradesh, this has left a recurring deficit of anything between As 5 to 10 crores per annum. Moreover, the recovery of entry tax is done at barriers set up by the state Sales Tax Department, with the result that obstruction to free movement of traffic has not been substantially reduced. Traders have been vehemently opposing even this entry tax, with the result that, both in Gujarat and in Madhya Pradesh, an agitation has been launched by them against this tax. Moreover, by converting a substantial proportion of the tax revenue of the municipality into a grant-in-aid, government have reduced the flexibility of municipal revenues and placed a substantial proportion of it outside the control of the local body. No incentive now remains for a local body to enhance its tax base because any increase achieved would tend to be marginal. The Commission recommends that, instead of looking at the question of octroi in isolation, government should conduct very detailed studies of the alternatives and evolve a system whereby not only would there be adequate compensatory devolution of funds but the local bodies would continue to retain flexibility in the matter of their own tax base.

### **Property Tax**

**7.3.2** The Commission is of the view that this resource has been inadequately exploited. For this purpose certain steps must be taken urgently.

- (1) The Rent and Accommodation Control Acts must be immediately amended. In this connection, attention is invited to the recommendations of the Commission in its interim report.

- (2) The method of assessment should be simplified. A number of exercises have been conducted in this behalf, including the very detailed one in West Bengal done by the Babhatosh Dutta Committee. One alternative is to adopt the Japanese system of an annual publication of property valuation in each urban centre. This is done by the Japanese government and serves as a guideline to municipal authorities for assessment of property tax, registration authorities for assessment of stamp duty, and income tax authorities for assessment of income tax on property income. An annual exercise may be difficult in India, but we can certainly think in terms of an exercise every three or five years. The valuation statement would be based on location, use, building quality and size. The idea is to make available for general information the guidelines for assessment of rateable value and the general values which prevail locally by locality so that the scope for exercise of discretion by the assessing officer is substantially reduced.

**7.3.3.** That standardisation is possible even in a country where local bodies are powerful is shown by the San Francisco Bay Area Rapid Transit Act of the State of California in the United States. Chapter VII of that act deals with property taxation. Article I, Section 29, 1, 2, 3 gives the Authority the right to levy property tax and prescribes the rates. However, Section 29, 1, 2, 4 provides that all assessments shall be made for the District by the State Equalisation Board and the County Assessors, and all taxes shall be collected for the District by the tax-collectors of the counties in which the District is situated. In other words, even in the United States there is a system of assessment by a board which transcends municipal limits. This is a suggestion to which government must give deep thought.

### **Service Tax**

**7.3.4** Closely linked with property tax would be taxes which are leviable on services, such as conservancy tax, drainage tax, lighting tax, sanitation tax, water tax, etc. These taxes should normally form part of a single rate, as is the case in the United Kingdom: However, in that country all properties are liable to tax, whereas in India a substantial proportion of them is not so liable. Therefore, these taxes can be delinked from the property tax but clubbed together in one single service tax, which would be chargeable on all users, regardless of whether or not they pay property tax. Where no property tax is charged, the service tax could be assessed per capita, and where a property tax is charged it could be proportion of the property tax.

**7.3.5** All government buildings should be treated on par with private buildings and should be liable to tax. There is no reason why government should avail themselves of the services of a local body without contributing to its revenues.

### **Professional Tax**

**7.3.6** One of the taxes which can be levied by the local bodies would be professional tax, which is now limited to a maximum of As 250 per annum, as per the provision of Article 276 (2) of the Constitution of India. A professional tax is a quasi-rent because it is a tax on earnings through a profession which can be plied only in an urban environment. This quasi-rent has to have some bearing on value or earning and, therefore, the present restriction is highly unreasonable. The Commission recommends that Article 276 (2) be amended to read as under:

The total amount payable in respect of any one person to the State or to any one municipality, district-board, local board or other local authority in the State by way of tax on professions, trades, callings and employment, shall be such as may be prescribed from time to time by law. The Legislature of each State shall be competent to legislate in this behalf.

### **Betterment Tax**

**7.3.7** There is also need to simplify the procedure relating to the levying of a betterment tax. There is no reason why people should not share with the local bodies the enhanced value of their properties because of improvement works done by municipalities. The present procedure is very cumbersome and, therefore, this tax is almost never used. It is suggested that, when any development scheme is formulated, the betterment tax that would have to be paid should be notified with the scheme itself. Hearing of objections should be completed before the work actually begins and, thereafter, no further objections should be entertained. Much of the problem of servicing debts incurred on capital account could be solved if the betterment tax is applied as soon as the work is taken in hand.

### **B. Devolution**

**7.3.8** At present, the state-municipal fiscal relationship takes the form of largesse from the state government at its fancy. The position is much happier in the case of rural local bodies in the states where panchayati raj has been introduced. Certain taxes and revenues from the state are developed on the panchayats as per the provisions of the act itself. There is no similar provision in any municipal act. Gujarat experimented with a Municipal Finance Board. However, this was merely an instrument for passing on grants-in-aid and loans rather than a statutory body for laying down the principles of devolution. A suggestion has been made that there should be a constitutional amendment to introduce a Fourth List in Schedule VII, prescribing the resources which are legally and constitutionally devolved on the local bodies. The Commission gave considerable thought to the suggestion. Prima facie, it is very attractive because it would deprive states of the right to hold back resources from local bodies. However, there are certain practical difficulties in implementing it. The scale of local bodies varies so much, from a municipality of a town of 5,000 persons to a corporation encompassing over 10 million, that, if resources were to be devolved through a constitutional amendment, the local

bodies at the upper end of the scale would garner all the resources and the smaller municipalities would be left bereft even of the grants that they now get. Secondly, because most of the high-revenue-yielding taxes are in the Union List already, the states themselves have limited resources to play around with. If, from these resources, a substantial portion is transferred through a constitutional amendment to the local bodies, then, even in a crisis situation, for example a major drought, the state government would have no resources to cope with a situation which transcends municipal limits. Therefore, the Commission is of the view that, at the present stage of development in India, where the state governments have a major administrative role, a constitutional amendment creating a local bodies list in the Seventh Schedule is not called for.

**7.3.9** Subject to this, however, there is need for amending Article 40, which refers only to the organisation of village panchayats. This Article should be expanded to cover all local bodies, urban and rural. Secondly, in Part XII of the Constitution, especially Articles 280 and 281, it is necessary to introduce a new provision whereby, in every state, there will be a Finance Commission, to be constituted by the governor every five years, which will lay down the principles on which taxes and duties levied by the state will be shared between the state and the local bodies. Even without an amendment of the Seventh Schedule, such a provision would at least ensure that there is a statutory, uniform procedure for devolution of state funds to local bodies. Entertainment tax, motor vehicle tax, state excise and state tax are some of the obviously divisible resources. But more important still, this Commission would also have to suggest how there can be additionality of resources. In the ultimate analysis it is generation of new resources which will help in funding urban development rather than merely dividing an inadequate cake between several hungry mouths.

**7.3.10** Incidentally, the central government should also be persuaded to look at certain revenue sources which could well be devolved on local bodies. The most obvious are the oil cess, coal cess, etc., because drilling for oil and mining for coal leads to the setting up of townships which need servicing. Obviously, the industries responsible must pay for them. The Central Finance Commission which has always avoided the question of devolution of funds to local bodies on the ground that it cannot go below state level, nevertheless decides how much money will be available to each department of government for earmarked activities. For example, money is provided for new police stations, tehsil buildings, etc., which the Home Department or the Revenue Department of the state cannot divert to other purposes. If, therefore, the Finance Commission earmarks funds for the Department of Local Government which, in turn, passes them on to local bodies as per the principles laid down by the State Finance Commission, it should be possible to make specific recommendations about devolution even of central funds to the local bodies.

### **C. Fees, Duties, etc.**

**7.3.11** There are certain fees and duties, especially those levied on transfer of property, which are even today passed on to the local bodies. Registration fee and stamp duty are assessed as a percentage of the property value, which means that incremental value is partly tapped by the state government. In Holland, to give one example, all properties are liable to assessment of enhancement of capital value and such capital gains are taxed for the benefit of the local bodies. The underlying principle is that this incremental value accrues because of city development and the properties, therefore, should contribute to such development. There seems to be some difficulty in extending this principle to India on a recurring basis. However, at the time of transfer of property it should be possible to pass on a certain portion of such an enhanced value to the local body. In Delhi, the Delhi Development Authority charges 50 per cent of incremental value as a transfer fee. The procedure is cumbersome because all sales

require permission, which it takes time to obtain. If, however, a procedure could be prescribed whereby no permission for transfer is needed but, at the time of registration, apart from the stamp duty, etc., an incremental value fee has also to be deposited, it should be possible to garner part of the unearned value. At a rate of 50 per cent, there is substantial evasion. If this could be brought down to 10 per cent, it is possible that evasion may be substantially less widespread.

#### **D. Premia, Rents, etc.**

**7.3.12** In Madhya Pradesh, as per the Revenue Book Circulars, 80 per cent of the entire revenue from nazul land (government land located in urban areas) theoretically devolves on the local bodies, after deduction of administrative charges. Not much money in fact flows to the municipalities from nazul sales. Certainly, authorities such as the Delhi Development Authority, Indore Development Authority, etc., do not pass on any proportion of their profits from land to the municipality. While the question of the organisation for urban management will be discussed in the next chapter, a question can be raised whether the present bifurcation of functions into maintenance under a municipality and development under state agencies should not be reviewed and reconsidered. Whether land is directly managed by the state, through a state agency on behalf of the state or by the local body, the profit from land must certainly be made available to the local body for city development. It is obvious that cities cannot be subsidised by rural areas for the purpose of creation of infrastructure and must fund themselves. The one asset which appreciates in value exponentially is land and this is as true of a small town as it is of a large city. This is a fact which is so well known that the Commission need hardly take official note of it. To the extent that land pays for its own development and the improvement of the city in which it is located, the financial problems of the city are resolved. The Commission, therefore, recommends that, not only should land be treated as a resource by the

State, but steps should be taken to devolve on to the local profits from land so that they can be reinvested in further city development.

#### **E. User-Charges**

**7.3.13** All municipalities provide services such as water supply, drainage, conservancy, etc., and some also provide transport. All the services are either provided free, as in the case of public hydrants, or are so undercharged that they can neither be maintained nor enhanced. Those who use services must pay for them and, in fact, most citizens can afford to do so. It is permissible for a municipality to charge differential rates, depending on the extent of servicing, but, overall, the service must pay for itself. Even if the law has to be amended, state governments must insist on each local body levying adequate user charges.

#### **7.4 The Partnership Concept-Incentives and Disincentives**

**7.4.1** The theory is that all government should function on the basis of funding of its programme through tax revenues. This is true of local government also. There is, however, a qualitative difference between government in the abstract and government at the level of the town or mohalla, where it is possible for every citizen to interact with government. Therefore, at the local government level, there is, or should be, a sense of partnership and participation, with citizens, business and industry all sharing in city development. This is not to be done in the abstract, by merely paying taxes and then letting a bureaucracy do the job. At the level of the street, the locality or the city, it becomes the duty of citizens to actually be involved not only in planning activity and in projects of city development, but even in the day-to-day chores which make a city function. To give one example, in Japan it is the responsibility of the street committee to divide up the work of keeping the street spick and span, tending the flower-beds and scrubbing the pavement so that it shines. In the traditional bakhals or courtyard clusters in Malwa, for example, this is how the families living in the cluster behave,



with each family taking on the responsibility of keeping the common spaces clean. Such community participation has almost disappeared elsewhere in India. One still finds some traces of it in villages, but there too there is a definite degeneration of civic responsibility. When we carry the illustrations further and look at how business is behaving (here business includes industry), then we see an even larger picture of gross social irresponsibility.

**7.4.2** There are two levels at which this happens. One is in the existing city or town, which already has some infrastructure available to service the population. Obviously, there are certain economies of scale and concentration which prevail, very succinctly referred to by Sanat Mehta as the economies of urbanisation. This is a new term of which the Commission would like to take note. Business locates where there are economies because this makes good economic sense. If business were to contribute in equal measure, immediately and in the long run, to city coffers, the services could be maintained at a reasonable level of efficiency. However, what generally happens is that business, especially manufacturing industry, locates in the city or in its immediate vicinity and uses the existing services. If the business is located outside municipal limits there is no contribution by it to municipal taxes. At the same time, the existing stock of housing is used by the workers; water supply, sewerage and drainage are brought under greater pressure; the transportation system is over extended; the social infrastructure of education, medical care, etc. is stretched beyond endurance; and, in short, the entire social overheads of business are transferred to the city. The general picture throughout India is that such expansion, while it may create jobs, also imposes a burden on the city services, for which there is no commensurate payment.

**7.4.3** Economic activity in cities causes an increase in population, proliferation of slums, increased pressure on city services and their general running down. In a way, this is the urban paradox in India. As the wealth of a city increases

through new investment, the look of the city becomes more and more ugly and the level of municipal services continuously declines. The Commission feels that this is the result, partially, of the irresponsibility of business and partially of the weakness of government which fails to make business pay for the social infrastructure which it uses.

**7.4.4.** The economies of urbanisation, which should really be treated as a social resource, are thus converted into a private resource by the businessman. The social wealth of the city has been created over generations, through taxes, State intervention and private donations. It is this social wealth which is privately appropriated because new business does not participate in its upkeep and upgradation. The Commission very strongly feels that this trend has to be reversed and business should be made to participate in the process of creating new social assets.

**7.4.5** How can this be done? First and foremost, our entire policy towards industry locating in large cities has to be reviewed. Our present policy is that, whatever resources are generated should be used to keep obsolete industry functioning instead of being used to restructure the cities. This is a most wasteful application of resources. Decay and renewal are the natural order, and anything which prevents the process causes great hardship. In other words, as soon as obsolescence occurs there has to be phasing out. This releases the resources of land on which obsolete activity is located. In the cycle of renewal, the conversion of land into a realisable asset would automatically lead to renewal of decayed areas in the city, the introduction of new activity which is economically viable, and the phasing out of that which can no longer survive. Whether it be the textile mills of Bombay, Ahmedabad and Indore, or the jute and heavy engineering industry of Calcutta; the application of resources must aim at renewal and not at trying to salvage decay.

**7.4.6** The Commission is of the view that merely restricting the location of business is not enough. In the ultimate analysis, these restrictions are bypassed by any business which sees profit in locating in a large city. Instead, fiscal measures should be used to force the business to take into account the cost of the social infrastructure while estimating the profitability of the venture in a city location.

**7.4.7** Some suggestions in this behalf are:

- (i) Changes in the central, state and municipal tax structure whereby new businesses locating in and around large cities or towns are made to contribute substantially to revenues.
- (ii) A system of tax incentives whereby, to the extent that the business invests in housing, infrastructural development within a given locality and the construction and maintenance of such social infrastructure as schools, hospitals, etc., there are heavy tax rebates, if need be up to 100 per cent in suitable cases. Such rebates could also be extended if the business undertakes conservancy measures in a given locality.
- (iii) If business grants assistance to its employees for construction of private or cooperative housing, suitable tax rebates could be considered.
- (iv) If a business locates outside municipal limits to the extent that its workers commute over municipal services, it must be taxed as it is located within the municipality. If the municipality cannot legally apply the tax, then the state government should do so and pass on the revenues to the local body responsible for providing services.

**7.4.8** In a case study of Vadodra it has been found that the Indian Petrochemicals Ltd., which is located just outside the city, has constructed its own township, and has also caused proliferation of slums across the road from it. This industry and other similar industries should either be taxed to

provide services for the slums, or they should direct{ contribute towards slum upgradation and improvement and then claim tax rebates.

**7.4.9** Just as the existing towns are under pressure, the new industrial township developing around growth centres in backward areas are also creating problems.

**7.4.10** The policy relating to backward areas and no-industry district has been formulated both with the objective of Developing backward areas by attracting economic activity and the objective of bringing about suitable regional dispersal and relieving pressure on existing large cities. In implementation, however, the policy of dispersal and incentives in backward areas has led to cut-throat competition between states, with each vying with the others to attract the maximum number of industries. Not only does each state enlarge the scope of incentives and concessions conceived in the original plan; but also prices land at such ridiculously low rates that it makes it worthwhile for industries to obtain land purely for future speculation. No state, on its own, wants to charge the full value of land plus cost of total development, much less the real opportunity cost of land.

**7.4.11** In a case study done by the Commission at Pithampur in district Dhar, Madhya Pradesh, it was found that the Madhya Pradesh Audyogic Vikas Nigam (MP AVN), which is the promotional agency for medium and large industries, charges Rs.1.5 lakh per hectare for developed land allotted to industries. This price does not cover the cost of the infrastructure to service the industry proper and certainly leaves nothing in hand for township development. Approximately 2,000 hectares of land have been allotted to industry and the capital investment in industry at Pithampur is also estimated at approximately Rs. 2,000 crores. In this backward area a township which will have, in the near future, a population of approximately two lakhs, is developing with no infrastructure whatsoever to service it. Even

today, Pithampur is showing evidence of developing into a slum of monumental proportions. It has been estimated that Pithampur needs approximately Rs. 120 crores for township development, which means that, if the land were valued at Rs 7.5 lakhs per hectare (Rs 75 per square metre) instead of Rs 1.5 lakh per hectare (Rs. 15 per square metre), the necessary resources for township development could be raised. This additional amount represents only 6 per cent of the total investment in industry and, if added to the capital cost of industry, would only marginally increase its burden of cost. However, the Government of Madhya Pradesh is unable to charge this rate for land because the neighbouring states of Maharashtra and Gujarat would continue to charge a low rate and, therefore, industry would rather locate there than in Madhya Pradesh.

**7.4.12** The Commission is of the view that land pricing is one area in which there is scope for a degree of uniformity throughout the country. If a policy decision is taken at national level to make land available to industry in backward areas at price which would cover the cost of acquisition, cost of infrastructural development for the industry and cost of township development, then a range of between As 75 and Rs 100 per square metre (Rs 7.5 lakhs and Rs 10.00 lakhs per hectare) could be prescribed, within which land would be allotted to industry. The Commission recommends that when allotting land to industry in backward areas, the full cost of township development should be added to the land price.

**7.4.13** another measure which could be taken is the inclusion in the package of incentives now offered for investment in industry, additional incentives for contributing to township development. This could take two forms. The first could be that the pro-rata cost of township development could be assigned to each industry and the contribution made to the development agency by the industry could be tax deductible in the same manner as research and development cost is deductible. The pro-rata contribution could be

added to the project cost and the financial institutions could be persuaded to include this amount in the total advances made to the industry. Such additional amount would also carry interest and capital subsidy, which today forms a part of the package of incentives. The-second way in which industry could contribute towards township development is for government to make available land for housing, to each unit, with a specific responsibility for not only constructing housing for its workers on a hundred per cent basis, but also the support services. Fiscal and other incentives would automatically become available on inspection of the developed housing colonies and a certification of actual construction by a competent authority. This would cut down a great deal of red tape. Moreover, the possibility of industry misusing the concessions would be minimised because they would be available only against the certified physical asset. A further incentive could be the allotment of some commercial sites to industry, so that, while developing housing, it could also construct the markets and other commercial buildings necessary to service the township. If the profits from such commercial development are ploughed back into social infrastructure, such as schools, hospitals, etc., further tax and other concessions could also be made available.

**7.4.14** The Commission also considered a very interesting experiment tried in Gujarat. The state government adopted a command area concept for the industrial command of Ankleshwar. It was found that the induction of industry into backward areas did not solve the problem of unemployment locally, but it did attract migrant labour. The Gujarat Government declared an area within a 20-kilometre radius of Ankleshwar as the command of the industrial area and adopted a linkage scheme with the following elements:

- (1) Improving of transportation and communication facilities to villages.
- (2) Upgradation of village housing and creation of new housing units in villages rather than in the main town.

- (3) Training of local youth so that the new entrants in the labour market could find gainful employment in the new industry.

This project, the cost of which was much less than that of creating a complete urban infrastructure in Ankleshwar, had the following beneficial effects:

- (1) By dispersing the labour force it has prevented the worst manifestations of slums in Ankleshwar.
- (2) Employment was created in the villages because construction picked up there and income levels increased because of rental income from the new housing.
- (3) With the construction of housing in rural areas some investment automatically occurred in such infrastructural facilities as drinking water, village roads, etc.
- (4) The transportation system substantially improved because buses and private means of transport automatically developed as the roads improved and commuting to Ankleshwar increased.

The Commission is of the view that, in new developments in backward areas, a similar command area approach could be adopted, with a slightly extended scope, whereby village agriculture is also upgraded to service township requirement in terms of dairy products, eggs, fruits and vegetables, etc. Once again, to supplement activities financed through public funds, industry must be encouraged to contribute to the development of the command area, and the incentives necessary to achieve this should be offered.

**7.4.15** Reverting to the level of the mohalla, the Commission is of the opinion that there is need for decentralisation of the maintenance of services in all our cities. If need be, the law should be changed to permit the setting up of committees at the level of the locality or a cluster of localities. While the city municipality must discharge the responsibility of providing and constructing the infrastructure, the maintenance of the services

within the locality or cluster should be that of the citizen. They should be made to pay directly to employ the staff for this purpose and to supervise it. The taxes that they pay, plus their own additional contribution if they want to maintain a higher standard and quality of life in the community, should be made available to them and they should be allowed to budget the use of this money. The municipality would then look after trunk services, garbage removal from designated spots, periodic renewal of the infrastructure, etc. Perhaps a much better level of maintenance could thus be achieved.

## **7.5 The Planning Process and Institutionalised Financing**

**7.5.1** One of the major drawbacks in current planning of city improvement is the complete divorcing of municipal financial plans from the state and central plans. Despite the fact that the Task Force of the Planning Commission commented on this, no action has been taken to remedy the defect. One of the reasons why money is now flowing into rural areas is that the plan at the district level forms a part of the overall state plan. The District Rural Development Agency participates in the process planning right up to the national level and its needs are taken care of by the National Development Council; the Planning Commission and the State Planning Board. As soon, municipal plans also become part of the state plans, pressures would mount on the governments and, through them, on the Planning Commission to provide adequately for city management and development. The Commission unhesitatingly recommends that municipal budgets be brought within the ambit of the planning process and both the state planning boards and the Planning Commission should include urban management and planning in the state and central plans.

**7.5.2** The Commission has also noted with regret that urban local bodies have virtually no access to financial institutions or the capital market. Municipalities in the United States are regularly

permitted to float bonds and debentures. This practice has not percolated down to the municipal level in India. The Commission had, in its interim report, recommended the setting up of a National Cities Development Bank, to be expanded into a Metropolitan Cities Development Bank. Government has already cleared the setting up of a National Housing Bank. The Commission is of the view that three major financial institutions, working on banking principles, should be set up to provide capital resources for city development. A Metropolitan Cities Development Bank, a National Housing Bank, and an Urban Infrastructure Development Bank. The last would cater to other than metropolitan cities. It is recommended that each be given a paid-up capital of Rs 1000 crores, which, in the context even of the Seventh Five Year Plan of Rs 180,000 crores, represents only 1.6 per cent of the Plan. These three financial institutions would perform the following function:

- (1) They would extend the healthy practices of banking into the field of infrastructural development and housing by insisting on proper project planning and preparation of viable projects.
- (2) They would create consultancy services which could help even small local bodies to prepare projects acceptable by banks for loan assistance.
- (3) They would monitor the progress of works so that the present time-lag in completion of works would be substantially reduced.
- (4) They would help the municipalities to restructure their budgets so that the loans obtained from these institutions could be serviced.
- (5) They would break the local bodies' present dependence on government hand-outs and make them think in sound financial terms.

**7.5.3** The Commission also considered a proposal of the Housing Development Finance Corporation and the Central Bank of India for the setting up of an urban leasing company. This company would invest in plant and machinery and make it available to local bodies to lease; it would also

consider leasing of street lightings, telecommunication facilities, etc. The Commission recommends that this and other leasing company should be formed and their scope expanded to cover not only plant and machinery, but also actual infrastructure. Such companies should be able to build roads, lay sewage line and even construct houses and lease these facilities to local bodies. If the leasing companies expand into backward areas, where new industry is being located, the new townships could be developed by such companies and leased to the industries concerned.

**7.5.4** There are two other forms of institutionalised funding which must be tapped. One is small savings. At present, most of the proceeds from small savings come from urban areas, but the funds are diverted to other sectors. There is need for a policy whereby at least a set proportion of these funds flow to the urban areas. This would be a welcome additionality and, because urban local bodies would be the beneficiaries, might encourage them to further mobilise savings.

**7.5.5** The second set of institutions which mobilise urban savings is the urban cooperative banks. Their funds, too, are largely channelised into sectors other than urban development. A definite policy must be laid down that an urban cooperative bank's deposits must be used for urban development, preferably in the area from which the funds were raised. Even if the present funds are already committed, at least any net additionality should be used exclusively for urban development. In fact, if the theme is carried further and the Reserve Bank, the proposed National Housing Bank and the banking system as such sets up housing-finance subsidiaries, with deposits in them being directly linked to future availability of housing, large sums and probably be mobilised as savings even at low interest rates. If deposits could be raised at between 6 to 7 per cent interest per annum, housing activity could be

funded at an approximately 10 per cent rate of interest. This would make a fair-sized dent in the housing problem.

## **7.6 Recommendations**

### **The Commission recommends that-**

**7.6.1** Urban development and management should be brought within the ambit of both the Plan and the system of devolution of resources. For this purpose, municipal plans should be incorporated in state and national plans. The Finance Commission should also take into account the needs of municipal government and evolve a formula for the devolution of funds.

**7.6.2** There should be a provision for periodic finance commissions to be set up by state governments both to suggest additional resource mobilisation and to lay down the principles whereby state funds will devolve on local bodies. For this purpose, Article 40, 280 and 281 of the Constitution should be suitably amended. The Commission does not favour the amendment of the Seventh Schedule to add a fourth, or local bodies, list.

**7.6.3** To make property tax a major source of revenue, all laws which inhibit a proper valuation of property should be reviewed, amended or scrapped. In this behalf our earlier recommendations about the Rent Control Act and the Urban Land (Ceining and Regulation) Act 1976 should be seen.

**7.6.4** The system of assessment should be simplified, with every urban settlement being divided into zones, with an assigned value, with plus and minus factors on a predetermined basis. This would remove arbitrariness from assessment.

**7.6.5** Vacant land and also land under inefficient use, must be taxed. The Commission recommends tax ranging from Rs.3 to Rs. 50 per square metres in urban centres governed by the Urban

land (Ceiling and Regulation) Act and Rs. 2 per square metres in all other urban centres with a minimum population of 1 lakh.

**7.6.6** The exemptions under the property tax should be drastically reviewed and reduced. The tax should be assessed even on unauthorised structure and squatter colonies, without creating any right or title thereby.

**7.6.7** Taxes directly connected with services should be lumped together as a single rate, delinked from the property tax and levied even on those who are tenants or owners of properties which are exempt from property tax.

**7.6.8** Any substitute for octroi should provide for local body control over the tax, including enhancement. The replacement of the tax by a grant-in-aid which is beyond the control of the local body is not favoured by the Commission.

**7.6.9** Government property should be brought within the purview of property tax.

**7.6.10** Article 276 (2) of the Constitution should be amended so that the present ceiling on the professional tax is removed. This tax is actually a quasi-rent on earnings and the local bodies should have discretion to enhance it.

**7.6.11** There should be a betterment tax, the assessment of which should be simultaneous with the preparation of a project which is likely to improve a locality and enhance property tax.

**7.6.12** In relation to fees, duties, etc., the incremental value of property at the time of transfer should be tapped and a part of it passed on to local bodies. We suggest that 10 per cent of unearned value should be so tapped and transferred to local bodies.

**7.6.13** Profits on land which is owned by the State should be passed on to local bodies for city development.

**7.6.14** The Commission feels that the social wealth of cities is created over generations and its exploitation or appropriation for private profit, without participation in its creation, upkeep and upgradation, as is done by business which locate in the city, should not be permitted. In other words, business should be made to participate in the process of creating new social assets in a city. In order that there may be such participation, the Commission feels that there must be a system of recycling land under inefficient or obsolete use, with land being converted into a realisable asset and the profits there from being reinvested in city development.

**7.6.15** Suitable fiscal measures should be devised whereby a business is taxed for using social infrastructure, or is given exemptions' and incentives when it actually creates assets. This could take the form of housing, contribution to betterment, actual development of infrastructure, etc.

**7.6.16** In new towns, or in the case of industry locating in backward areas, costing of land should be so done that it not only pays 'for the support infrastructure for industry, but-also for development of the total township.

**7.6.17** In addition to incentives offered for locating in backward areas, industry should be given further incentives if it actually participates in-township development.

**7.6.18** The municipal budgets should be brought within the ambit of the planning, process.

**7.6.19** The priority assigned to urban development, housing and water supply should be, revised upward from Seventh Plan share of 4, per cent of the plan to 8 per cent of the Eighth Plan period.

**7.6.20** In the case of backward areas, instead of looking at individual industries or assets, there should be identification of the full catchment and

command of the industrial activity and an integrated plan for the development of both should be drawn up.

**7.6.21** The Commission is of the view that institutions should be created for funding urban development. These could be a Metropolitan Cities Development Bank, a National Housing Bank and an Urban Infrastructure Development Bank. The Commission recommends that the paid-up capital each should be Rs 1,000 crores. This amount should come out of Plan funds, and just as there is monitoring of credit flows into earmarked priority sectors, such as food purchase, rural development, etc., credit flows into urban development should also be monitored.

**7.6.22** A whole series of down stream institutions, subsidiaries of banks, financial companies like HDFC, Cooperative Housing Societies, Urban Cooperative Banks, etc., should be set up both to collect deposits and savings and to provide the credit infrastructure at field level.

**7.6.23** Companies which build and lease infrastructure may be encouraged to be set up in the joint sector, with participation of banks, HDFC, etc.

**7.6.24** The financial institutions recommended would be responsible not only for funding projects but for developing expertise in plan preparation, appraisal, monitoring and training, and also act as instrument to force local bodies to improve their town management and financial structure.

**7.6.25** Savings from urban areas should be partially or wholly made available for city development.

**7.6.26** There should be decentralisation of management of services within a municipal area so that there can be local participation, both in terms of actual management and financial contribution.

## 8 URBAN MANAGEMENT

### 8.1 Constitutional Provisions

**8.1.1** The present arrangements for the management of urban affairs can, broadly speaking, be divided into four categories of organisation, respectively concerned with:

- (1) policy planning
- (2) the planning of individual settlements and regions
- (3) the management of existing cities
- (4) the implementation of development programmes

**8.1.2** Involved in the process of planning and management are the central and state governments, local bodies and specialised authorities and organisations which either deal with a particular subject or provide specific service.

**8.1.3** The constitutional provisions regarding urban settlements is somewhat ambiguous. Article 40 of the Constitution directs the State to organise panchayats and to empower them adequately so that they become viable units of self-government. There is no counterpart provision for urban settlements. At the same time, Entry 5 of List II of the Seventh Schedule, (the State List) places local government, including urban local-government, within the legislative competence of the states. Entry 18 makes a similar provision for land, which is one of the major urban resources. Whilst there is no specific provision in the Constitution relating to urban planning it would fall within the ambit of both Entry 5 of List II (State List) and Entry 20 of the List III (Concurrent List) which relates to economic and social planning. This point needs to be borne in mind because, in any system of urban management that is to be evolved, the role of the central government will necessarily have to be advisory and catalytic rather than one of dominance. That, however, does not preclude the central government from evolving management typologies which the states would find it beneficial to adopt, with suitable

assistance being made available by the Centre and under Entry 20 of List III, to develop suitable legislation.

### 8.2 Central Government

**8.2.1** It would be useful to begin with a description of the planning and management structure that currently exists at the centre. Obviously, except in the union territories, the centre has no direct role to play either in the management of cities or in the planning of individual settlements or regions. This is a purely municipal function. However, there are a number of organisations of the Government of India which deal with the subject of urban planning and development, provide a forum for discussion and consensus, and also ensure the flow of funds to the states in the generic area of urban development. Broadly speaking the structures are as described below.

- (a) The Ministry of Urban Development is the nodal ministry in the field. Its basic function is to oversee, in totality, the process of urbanisation and governmental reaction to the process. It is also the ministry which is supposed to evolve urban policy and to try and ensure that suitable plan priorities are assigned to urban development, together with adequate funds. The weakness of the ministry, however, is that urban development is only a part of its total business. It also embraces the Central Division Works Department, the Delhi Division which looks after the planned development of Delhi, the Printing and Stationery Department of the Government of India, etc. To the extent that this ministry is involved in activities which are both time consuming and glamorous, because they involve direct implementation, it is unable to give attention to the broader, more important, but lower-key, function of overall urban planning and the formulation of policies.



- (b) Under the Ministry of Urban Development is its technical unit the Central Town and Country Planning Organisation (TCPO). The Chief Planner, who is not the head of the organisation, is the Chief Technical Advisor to government in matters relating to town planning. Both because the status of the Chief Town Planner is one of subordination to the chairman of the organisation and because the functions of the TCPO have remained diffused, the organisation is almost moribund. This is not to cast aspersions on its personnel, who have the technical capability of turning of performance of a high order, but is a comment on the manner in which the organisation is structured. Consequently, the TCPO has more often been used as an organisation to produce ad hoc town development schemes, which is really the job of a city planner of an individual city, instead of developing a broad policy frame for urbanisation and the processes which could make it possible in a planned manner.
- (c) Under the ministry or closely related to it are research and training institutions. Of these the National Buildings Organisation (NBO) is directly under the ministry and acts as a clearing house for information on building technology. This organisation has the potential of developing into the main repository of data in the field of housing. The NBO, as it exists, is perhaps inadequately structured for the gigantic task before it.

**8.2.2** Closely interlinked in the field of research, is the Central Building Research Institute (CBRI), Roorkee. Whilst some useful research has been done by the CBRI, there would be a good case for strengthening it so that there can be a major breakthrough in building technology in the context of our limited resources.

**8.2.3** The ministry also supports research and training institutions such as the Regional Centres at Lucknow and Hyderabad and the Centres for Urban Studies located in the Indian Institute of Public Administration. The ministry also funds the National Institute of Urban Affairs (NIUA), which does applied research.

- (d) Within the ministry is also located the office of the Advisor on Public Health Engineering. Closely connected with this organisation is the National Environment Engineering Research Institute (NEERI) at Nagpur. While NEERI is not under the ministry, its linkage with it, especially in the field of water supply and sanitation, is very close. In a closely related field is the Board for Pollution Control which monitors air, water and noise pollution. This, again, is not under the ministry, but its functions are related very closely to urban management:
- (e) Some development authorities are directly under the central government, including the Delhi Development Authority, functional organisations such as the housing boards in union territories, etc. It is only in the union territories that the central government is directly involved with urban management.
- (f) Under the central government there are also promotional and financing institutions such as the Housing and Urban Development Corporation, the National Housing Bank which is about to be set up, etc. These organisations have a pivotal role because it is through them that funding of urban projects is undertaken and, therefore, they are the media through which the central government can influence urban policy in the states.
- (g) The Ministry of Urban Development also provides forums for exchanges of ideas, such as the All-India Council of Mayors, the annual meeting of Ministers of Local-Self Government etc. These forums though

nominally formal and structured are nevertheless ineffective. To that extent their influence is weak.

### **8.3 The States**

**8.3.1** Because urban planning, development and management is a state subject, it is in the states that the governmental and organisational structure is relatively more elaborate. Broadly speaking the management structure follows the pattern described below.

#### **Government**

**8.3.2** The State Departments of Town and Country Planning, Environment, Urban Development, Housing, Local-Government (Urban), Public Health Engineering, etc., either individually or in different combination as of departments, are responsible for managing urban affairs. The secretariat departments are assisted in the field by directorates which relate to Town and Country Planning, Urban Administration, Engineering, etc. These directorates are responsible for ensuring that projects undertaken by states are implemented in the field and that the urban local bodies manage their affairs according to law and rules. A Directorate of Town and Country Planning is required to prepare city development plans and to give technical advice to government on all matters relating to settlement planning. Whilst the position differs from state to state, with Madhya Pradesh having a powerful directorate and Orissa having only a rudimentary one, to quote two examples, town and country planning is a discipline which has yet to achieve the status of some others, such as public works, irrigation and forestry. This does affect the weightage given to the advice rendered by a directorate on issues relating to settlement planning.

#### **Local Bodies**

**8.3.3** The actual management of towns and cities vests in local bodies, generally referred to as

municipalities, but broadly divided into municipal corporations for large cities and municipalities for other towns. These are the oldest existing organisations for self-government at town level. These bodies are elected, with the deliberative wing being assisted by a permanent executive. Paradoxically, as the urban population increases and the contribution of the towns to national wealth rises, the status of urban local bodies declines. There is a very genuine effort to build up self-governing units of rural administration, but there is no corresponding strengthening of urban local bodies in India.

#### **Development Authorities**

**8.3.4** In addition to the urban local bodies there are also a number of quangos, as the British call development authorities and functional organisations which are quasi-government bodies. These include development authorities, housing boards, slum clearance boards, water and sewerage authorities, etc. They function within city limits but are not answerable to the local bodies because they stand above them. The mushrooming of these organisations has resulted in a dichotomy in urban management in which the existing, decaying, largely inadequate services become the responsibility of municipalities, whereas almost the entire capital input into city expansion, together with the profits therefrom, fall to the share of the functional organisations or development authorities.

**8.3.5** In some states there are other quasi government organisations which are involved in urban planning and development. A very good example is that of Madhya Pradesh where government have sponsored the Environmental Planning and Coordination Organisation, Vikas Pradhikaran Sangh, etc. At the national level there is the Association of Metropolitan Development Authorities, which provides certain common services to all metropolitan development authorities in India.

**8.3.6** As at the centre, so also in the states there are Pollution Control Boards. In Madhya Pradesh they come under the department which deals with town and country planning, the Department of the Environment. The position differs from state to state.

**8.3.7** Each state directorate has its divisional and district offices. Whereas the engineering organisations are well represented at all levels, directorates of town and country planning and urban administration tend to be thinly represented on the ground. They suffer, therefore, from the dual disadvantage of both lack of status and lack of spread.

#### **8.4. The Infirmities of the System**

**8.4.1** It is an irrefutable fact, of which this Commission takes due notice, that urban India is in a mess. If any evidence is needed in this behalf one has but to refer to Volume II of the Seventh Five Year Plan document. To quote from paragraph 12.27:

The urban conglomerations, by their very nature, need a minimum of basic services for their healthy existence. However, the state of most of urban areas in this respect is far from satisfactory; in fact, in general the picture is extremely bad. Many of the municipal bodies have un-developed and/or eroded tax-systems and suffer from lack of capital funds for development. The services, if provided, have deteriorated over the years and there seems no sign of reversal. Overcrowded and under-serviced, an increasing proportion and area of urban conglomerations are being turned into slums.

**8.4.2** From this it is clear that the highest planning body—the Planning Commission—is aware of the sorry state of the urban world in India. The first sign of infirmity of the system, therefore, lies in the fact that we realise what is wrong but have no

machinery to ensure that things are set right. The Planning Commission itself states in Para 12.30 of the Seventh Plan document.

Urbanisation is a phenomenon which is part and parcel of economic development in general certain activities are best performed in, indeed require, agglomeration of people.

Despite this, there is no member separately designated in the Commission to deal exclusively with urban issues. Nor is there currently a separate Advisor in charge of urban development, as there used to be in the past. A system of government which denies to almost a quarter of the population even a small voice in the planning process through representation on the Planning Commission cannot be considered to be wholly balanced.

**8.4.3** The fact that, hitherto, urban development came under the Ministry of Works and Housing and that even here there is only a change of nomenclature without change of business, would suggest that there is as grave structural defect in the administration of urban affairs at the level of the Government of India. Perhaps this is inevitable under a system in which the Constitution recognises the existence of village people, with a right to self-government, but totally ignores those who live in towns and cities. What is needed, therefore, is a constitutional change so that, at least as a part of the Directive Principles, Article 40 embraces both village panchayats and urban municipalities. It is only if the Constitution directs that urban local bodies have to be encouraged that the central government might amend its Business Rules and have a ministry as exclusively dedicated to urban affairs as the Rural Development Department is to the rural.

**8.4.4** The technical organisations of government dealing either directly with urban matters or with connected fields, such as TCPO, NBO, CBRI, NEERI, etc., are also extremely diffused in focus and direction. This has seriously impaired their effectiveness, both as research organisations and

organisations which can render high-level technical advice in the urban field. This is equally true of the regional centre which are meant to impart training.

**8.4.5** There are two areas which are virtually unattended to in the urban field. The first relates to the alleviation of urban poverty. The poverty alleviation programme started very early in rural India, the beginning being made by land reforms which aimed to transfer land to the tiller, and being followed by major programmes launched for drought-prone areas, small and marginal farmers, agricultural landless labourers, and culminating in programmes aimed specifically at lifting the rural poor above the poverty line. Included in them are programmes for employment guarantee, creation of infrastructure, encouraging self-employment, training for self-employment and financial assistance. There is no urban parallel nor is there a division in the Ministry of Urban Development to deal with such programmes. An equally important missing link is an institutional arrangement for encouraging voluntary action in the urban field. This is reflected in the relative weakness of voluntary action and citizen participation in urban planning and in the implementation of programmes in cities and towns. Even the Community Development Programme, which provided universal coverage in the rural areas, has been applied only in a few selected towns and on a very limited basis.

#### **At the State Level**

**8.4.6** At the level of the states, the picture is even more bleak. In almost all of them, agriculture, irrigation and power are the main priority sectors, both in terms of funding and in terms of the status of the organisations which deal with these subjects. Urban development, therefore, is a low-priority sector and is treated as such. Thus, while there is a ready willingness to strengthen engineering organisations, electricity boards, etc., there is great reluctance to provide an adequate organisation for urban planning. In one

state, which the Commission visited, the Chief Minister acknowledged that there was virtually no town planning organisation available even to prepare plans for newly developing, resource-specific, industrial towns. Nevertheless, the state government was not prepared to do anything about it unless the central government gave assistance. In most states, even today, the directorates of town and country planning languish at the level at which they were originally created when, during the Third and Fourth Five Year Plans, the central government gave states some assistance for preparing urban plans.

#### **At the Local Level**

**8.4.7** However, it is at the individual city or town management level that we have our greatest crisis. To quote again from the Seventh Plan document (Para 12.27).

‘Many of the municipal bodies are moribund or have been superseded and are being administered badly’.

The Commission once again takes notice of the utterly horrifying position of urban management at city level. While, on the one hand, many municipal corporations and municipalities stand superseded, on the other, we have many examples of citizens rejoicing that the councillors have been sent packing. For example, when the Bhopal Municipal Corporation was superseded in May 1986, citizens of Bhopal held public thanksgiving ceremonies. Where there are elected corporations there is very often friction between the councillors and the officials. Even the corporations of major cities such as Bombay and Hyderabad are not free from this virus. In Hyderabad the Urban Community Development Programme has been seriously jeopardised because the councillors refuse to support the commissioner because they would much rather have the funds earmarked for this programme diverted to other works which would benefit the undeserving. There are fairly universal complaints of inefficiency, intrigue and corruption against municipal officials, many of whom

are active partners in the process of city ruination. There is lack of foresight, both on the part of councilors and officials, there is no process of planning and city services have been allowed to run down. Even such routine jobs as sweeping of streets and collections of taxes are not performed with any degree of efficiency. While municipal unions hold citizens to ransom with threats of strike, officials harass them with red-tape and councillors do not act as their representative but instead try and reap personal benefits. Example are not wanting of cities where a good municipal president or mayor, assisted by an efficient chief municipal officer or commissioner, has reversed the tide of decay and brought a city back to functioning on the right lines. If this is possible in few cases there is no reason to believe that is not possible in all, provided we decide to manage our cities better.

**8.4.8** If any further evidence is needed of the state of local government one has but to refer to the policies which have resulted in the setting up of functional bodies to deal with specific services and development authorities which provide for city improvement and expansion. These are not elected; they are directly appointed by government and are accountable to it; and they supplant the local body in the areas of their own respective functioning. Anyway, they point to a distrust of elected local government by an equally elected state government. It is almost as if the state government collectively feels that people cannot manage their own affairs at town level through an elective process.

**8.4.9** Many questions come to mind when one considers the state of municipal government in India. Has the State contributed to this state of affairs by gradually downgrading the status of local government? Is elective office in a municipal council now considered to be of such a low grade that worthy politicians avoid it and leave it to the riff-raff of the city? (That it was not always so is proved by the giants of yester-years such as

Jawaharlal Nehru, Sardar Vallabhbhai Patel, Subhash Chandra Bose and Pheroza Shah Mehta who headed our city governments). Are the municipal services valued so low that aspirants for the public services avoid employment under local bodies? Have the people become so apathetic that they do not insist on performance from their municipalities? Are the weaknesses inherent, induced or structural and can they be remedied? These were issues to which the Commission had to address itself and, in the subsequent discussion on remedies, they will be commented on.

## **8.5 The Restructuring of Urban Planning and Administration**

### **The National Level**

**8.5.1** Because urbanisation is a vital and desirable element of society and the economy, it is but appropriate that, at national level, a strong and properly structured framework for urbanisation should be created. It has been our experience that in any area where new ground has to be broken, the bonds of routine administration have to be untied and dynamic organisations, capable of decision-making, created. Thus the Atomic Energy Commission, the Electronics Commission, the Council of Scientific and Industrial Research, the National Council of Educational Research and Training, and the Indian Council of Agricultural Research, to name just a few, are governmental organisations which stand outside the normal departmental structure and yet provide impetus to both research and action in specialised fields. Urbanisation, encompassing as it does vast agglomerations of people and a myriad complex activities, is one such specialised field. The National Commission on Urbanisation strongly recommends the setting up of a high-powered full-time National Urbanisation Council (NUC). An urbanologist of note, who has practical experience in the field of urban planning and administration, should be its Chairman. His status should be equivalent to that of the Deputy

Chairman, Planning Commission. The council should not only oversee all research in urbanisation, but should also firmly guide policy and its implementation. In the matter of settlement planning and management, the council would combine the types of functions performed by the ICAR, in applied research, and the AEC in implementation.

**8.5.2** The Planning Commission too, must have a full-time Member Urbanisation. It would be fitting if he is a well-known urban planner. Not only would this bring a high degree of professionalism to settlement planning at the national level, but would also give due importance to the discipline of town planning by according a high status to a planner. The member should be assisted by a full-time Advisor, who would head the Urbanisation Division in the Planning Commission.

**8.5.3** The Ministry of Urban Development must be the nodal ministry for all settlement issues in general and urbanisation in particular. It should be shorn of all extraneous work, including the Delhi Division, the Central Public Works Department, the Printing and Stationery Office, the Directorate of Estates, and the Land and Development Office. These could be transferred to a separate Ministry of Works and Estates. The Ministry of Urban Development should, apart from Divisions of Housing, Urban Development, Public Health Engineering, etc., also have two separate Divisions of Urbanisation and Urban Poverty Alleviation, each under a joint secretary or an additional secretary. It is only thus that the implementation of the Commission's report, the monitoring of its implementation and review of policies relating to urbanisation could become possible and a vigorous effort could be made to deal with the problem of urban poverty.

**8.5.4** The Central Town and Country Planning Organisation (TCPO) should be transferred to the control of the proposed National Urbanisation

Council. It would then have the same relationship 'qua' the council as the Indian Agricultural Research Institute has with the ICAR, it would be the organisation through which the NUC would undertake field work, monitoring and evaluation and programme formulation. In fact, there is a good case for also transferring the NBO and the Regional Centres which impart training to the NUC. The TCPO should move away from its present function of low-grade plan preparation. Its Chief Planner should have a status equivalent to that of the Director General of the CSIR and he should be the Director General and Chief Technical Advisor of the NUC. Basically the TCPO should organise a research programme and oversee it. It should help in the formulation of broad urbanisation policies and should be the focal point for interstate discussions at official level on urbanisation issues. It should develop long-term perspectives of settlement patterns, even to the extent of indulging in futurology. It must develop a deep understanding of urban processes, so that the levers which can manipulate processes and trends can be identified and activated. In actual planning the TCPO should confine its inputs to large-scale regional plans, support to state departments of town and country planning and the evolution of planning techniques and methodologies which may, from time to time, be appropriate. What it must not do is to get involved in micro-level planning exercises in individual cities. This is best left State and city planners.

**8.5.5** Once the NBO and other research organisations come under the National Urbanisation Council, their research can be given a new direction. While the CBRI may continue to be autonomous, it must develop new thrusts in building-technology research so that mass housing at affordable prices becomes a reality. An efficient information system, easy to set up, easy to upgrade, and easy of access, should be developed as an aid to planning and monitoring. A very strong applied bias to research, with different

approaches being developed to suit regional needs, could then be ensured. The touchstone for judging the efficacy of research would be the extent to which government, industry, development agencies and individuals adopt its results. If the products of the CBRI are snapped up as eagerly as seed developed by, for example, the Punjab Agriculture University, Ludhiana, the research effort could be judged as being worthwhile.

### **Citizen Interaction**

**8.5.6** A major weakness of the system of urban development is the inadequacy of citizen interaction through organised voluntary effort. This will be commented on at greater length in the section dealing with city government, but what is needed at national level is an organisation that could provide a focus for voluntary action. In the rural field such a nodal function is performed by the Council for Advancement of Peoples Action and Rural Technology (CAPART). There is need to set up an Indian Council for Citizens Action (ICCA). This would be the nodal agency to which citizens' groups could relate, which would promote voluntary action and which, at central level, would channelise funds to voluntary agencies working in urban settlements. Much of this thrust would be in the area of poverty alleviation. It would thus work in close contact, on the one hand, with the Urban Poverty Alleviation Division of the ministry and, on the other, with voluntary action groups, thus acting as a bridge between government and the people. In order that the pitfalls of excessive bureaucratisation may be avoided, the ICCA should be headed by a social worker of renown, who is basically apolitical but who has a known reputation for voluntary work. Great flexibility should be allowed to the ICCA in matters of procedure and rules-in fact it should be given a free hand to evolve procedures as it goes along. Instead of the routine accountability which hampers such organisations, 'there should be a stringent annual review of its working by a small committee to be set up by its affiliated

voluntary action groups, with a representative each of government and the NUC also being members. This committee's report should normally be accepted by government, unless there are strong grounds for its rejection. So long as the ICCA moves in the direction of encouraging citizens' action, does not misappropriate or misapply funds and has a policy instead of just a string of ad hoc decisions, it should be left unfettered, even in the matter of making mistakes, for it is only freedom of action that will inspire citizens' action.

**8.5.7** With regard to the non-formal forums, such as the All-India Council of Mayors, etc., the NUC may provide the common platform for ventilation of views and the making of policy suggestions. The National Urbanisation Council could thus act as a common meeting ground on urbanisation, as does the Central Board of Forestry in matters relating to forests.

### **At The State Level**

**8.5.8** The position relating to the departments dealing with urban planning and administration in the states also calls for review. Urban administration, very often, is divided between the departments of town and country planning, of urban administration or municipal administration which is also referred to as the department of local government (urban), of public health engineering, of housing, and of environment. Quite often, these departments work at cross purposes. There would, therefore, seem to be a good case both for the setting up of a State Urbanisation Council (SUC) in each state on the lines of the one proposed for the centre; and also for the bringing together, under one umbrella, of all the departments concerned with urban planning and development. This department should also have a division dealing exclusively with the alleviation of urban poverty.

**8.5.9** The technical organisation for preparing regional and city plans is the state directorate of town and country planning. Most state directorates were set up in the early seventies and have stagnated since then. Urban planning is no longer merely an exercise in physical planning of land-use; it now covers the entire gamut of activities which cause people to come together and live in an urban settlement. The need to strengthen these directorates and make them more broad-based is self-evident. It would be worthwhile, therefore, to upgrade the post of Director, Town and Country Planning, to Director General, and, while reserving the post exclusively for a professional planner, equate it to the post of a commissioner in the IAS cadre. It is only the status given to the engineer-in-chief of a state PWD which enables him to have a voice in the state government. A similar upgradation of status of the Director, Town and Country Planning, would enable him also to render advice with some hope of being heeded. The directorates should be suitably expanded, both in terms of the number and quality of staff and in the disciplines that they embrace. No one discipline need be considered more important than another and the tendency of the physical planner to dominate such an organisation needs to be curbed. The disciplines which need to be represented and which most easily come to mind are physical planning, architecture, engineering (with particular emphasis on environmental engineering), urban administration, geography, economics, industrial organisation, environmental and ecological sciences, transportation, land management, sociology and housing. The list is illustrative rather than exhaustive. The additional money spent in creating such directorates would be more than compensated by the better, more relevant plans that would emanate from them.

**8.5.10** Representation of the planning discipline at divisional and district levels tends to be weak. The Commission recommends that, while the integrated regional offices of the directorate

should be located at divisional level, there should be a strong representation of the directorate in the District Planning Board. At present, the district plans are totally divorced from any physical planning of land, use and settlement planning, with the result that development plans are often in conflict with an efficient system of land management. The district unit could also be the main agency for advising small municipalities on the preparation of development plans and small development schemes and projects.

**8.5.11** Some states, Madhya Pradesh for example, have evolved interesting systems of semi-governmental organisation which supplement the work of government departments dealing with urbanisation. The Environmental Planning and Coordinating Organisation (EPCO), Madhya Pradesh, is a good example of such an institution. It is funded by government and is headed by a Director General, who is also the Principal Secretary of the Department of the Environment (which also deals with town and country planning, etc.). At the same time, the organisation is not governed by the ordinary government rules and is free to engage consultants and experts from the open market. It is the organisation through which much of the research work in the urban field is sponsored and undertaken and it cooperates very closely with the universities in the state. Its activities are mainly in three fields:

- (a) *Urban Planning*: The formulation of norms and methodologies of regional and urban planning is one of the main functions of EPCO. For this, it is in close communication with the Directorate of Town and Country Planning. EPCO also undertakes such specific exercises as preparing development plans for towns, in particular the new towns which are established around large-scale industries, which are resource and location specific.



- (b) *Environmental Planning*: The organisation works in close coordination with the State Pollution Board in undertaking studies in the environmental field. Of particular interest is its expertise in the management of water bodies.
- (c) *Architecture*: EPCO is the body through which all large-scale architectural planning is undertaken in the state. Any project costing more than Rs 2 crores has to be designed by EPCO, which engages eminent architects from a panel prepared by it. This has permitted the introduction of a degree of architectural innovation in the state.

**8.5.12** A new field into which EPCO has ventured is urban conservation and the preservation of our cultural heritage. In this behalf, the studies conducted at Mandu, Orchha, Chanderi, etc., call for special mention. The Commission is of the view that all state governments should explore the possibility of sponsoring similar consultancy organisations so that there is a break from the routine which usually tends to hamper and stultify government departments. 8.5.13 There should be a State Council for Citizens Action (SCCA) which, like ICCA would promote citizens' action at state level. It may be structured on the lines of ICCA.

#### **At The City Level**

**8.5.14** All urban planning and development finally boils down to implementation and management at the level of the individual town or city. The basic unit of urban administration is the municipality. Broadly speaking towns have municipalities headed by a president and cities have municipal corporations headed by a mayor. For this purpose, however, there is no distinct definition of town and city, and the norms applied to determine what constitutes each differ from state to state. A council is assisted in its work by a permanent executive, headed, in the case of a municipality, by a chief municipal officer (CMO), by whatever designation known, and a

commissioner in the case of a municipal corporation. While a CMO is a subordinate of the municipality he serves, a commissioner is one of the three constituents of the corporation to which he is seconded, the other two being the mayor and council and the standing committee. In Calcutta, his position is somewhat different, because it has a Mayor-in-Council and the Commissioner, though a legal entity under whom the municipal services work, is still subordinate to the 'corporation, somewhat on the model of a CMO. The Calcutta experiment is of very recent origin and it is not yet possible to evaluate its impact on the municipal system.

**8.5.15** Generally speaking, and as already mentioned earlier, town management in India is in a total mess. Put very bluntly, the local bodies are flat broke. A study for the Eighth Finance Commission conducted by the National Institute of Urban Affairs found that even in 1980 the local bodies needed an additional injection of Rs 800 crores per annum just to maintain the existing level of urban services. The position has considerably worsened since then. In a paper presented to the Commission, the Calcutta Municipal Corporation stated that it needed Rs 20,000 crores for the proper development of the city. Even the capital of India, Delhi, which receives substantial central assistance, presents a picture of rapidly deteriorating services, the proliferation of slums, increasing pollution and a general breakdown of municipal administration. The Commission has observed that this picture seems to prey throughout the country and that, generally speaking, local government has ceased to be an effective instrument of city management.

**8.5.16** Operationally also, the system has decayed substantially. In earlier years the electorate for municipal councils consisted of property holders only and, for example, in the case of Bombay, it was only in 1947 that the franchise was extended to all adults. The chief executive originated all proposals involving financial commitment and

the council discussed and budgeted for them. Debates tended to be sharply focused, pertinent and at generally high level. The chief executive was thus able to do a great deal of advance planning for city development and adhocism was minimised. The situation has since rapidly deteriorated, with councils and standing committees having expanded to unmanageable proportions. Meetings have also become very frequent, with councils meeting almost every week and standing committees perhaps two or three times a week. While, on the one hand, the chief executive is thus kept busy in council meetings, on the other, the councillors, for want of anything better to do, drift into totally irrelevant subjects or, worse still, discuss administrative matters which are beyond their purview. Basic issues, however, are either side-tracked or delayed, thus reducing municipal efficiency and negating all efforts at planning. There is great need to make councils more compact and to delineate their functions so that all irrelevant matters are excluded. There is also need to lay down time limit for deliberation, on the expiry of which the proposal of the chief executive should be deemed to be approved.

**8.5.17** Numerous suggestions have been made from time to time about how to improve city government. The task forces set up by the Planning Commission in 1983 suggested strengthening of the municipalities by improving their tax base, ensuring timely elections providing better personnel, improving training programmes, etc. A suggestion was also made that urban development authorities should be merged into the municipal system. By and-large, the thinking of all state governments, as also the central government, has been that local bodies need to be supplemented by, or supplanted by, functional agencies and development authorities which are not elected and which are directly accountable to government. None of these suggestions, however, have emerged from a proper understanding of the

real ills of municipal government. This is a problem to which the Commission has addressed itself squarely.

**8.5.18** What is a town or a city? It is not just a collection of people. It is a complex, pulsating, ever-changing organisation which is not only the habitat of man but also the place at which he carries on his myriad economic and social activities. All these activities need to be serviced, whether they be housing for the people or water supply, drainage, power systems, transportation, or anything else. The entire infrastructure which services a city is closely intertwined and interdependent and it ails for a management system which is integrated, technically advanced, and capable of adopting a systems approach. Such an organisation must also have an inbuilt capability to foresee future trends of growth and to plan for them. What we have provided through our municipal system is a group of individuals who are elected to office on the basis of promises they have made to the constituents in their ward, but with no vision of the city as a whole. At the level of the centre and the state there is a much wider party ideology and discipline which determines the thinking process of MPs and MLAs. The issues before government tend to be broad-based and, therefore, policy decisions on them can shave their roots in the ideology of the party in power. The issue before a municipality, however, is the maintenance of services such as water supply or sewerage, which are not amenable to ideology. They are amenable only to technology. At the state level there is, even today, the remnant of an attitude of hands-off in relation to matters which are purely technological, such as the construction of a major dam. The decision to construct or not to construct will be political, but in the actual construction it is the engineer who will take decisions. Unfortunately, in the case of a city, even at the level of the technical services, there is constant intervention by councilors. Unable to take an overview of the city, they inject the immediate needs of their individual wards at all

levels of decision-making in city government. This has virtually wrecked the services in all our urban centres. Merely ensuring that elections are properly held and that the state government does not supersede local bodies will not solve this problem. The only way to improve the situation is to create a structure in which those things which need to be professionally managed are left to professionals.

**8.5.19** This would apply as much to the administration of taxes, management of finances and administration of city services, as it would to the technical management of the physical services which constitute the city infrastructure.

### **Democracy in Urban Government**

**8.5.20** The Commission also addressed itself to the question of democratisation of city government and the close interaction of citizens with the management system. At present, we have elections to municipalities every four or five years, with no power of recall of councillors and no real accountability of councillors to the electorate till the next election. The involvement of citizens in decision-making is almost zero and their interaction with civic officials is largely restricted to pushing their individual cases or meeting officials for the solution of individual problems. 'City Hall' remains very remote to most citizens. The Commission is of the opinion that the present system, therefore, is neither truly democratic, nor is it a representative forum for projecting the needs of the people. The Commission, therefore, has concluded that what is needed is a major structural change and not merely the cosmetic surgery of ensuring elections, improving the training of officials, etc.

**8.5.21** The Commission is of the view that our urban settlements should be divided into two categories for the purpose of municipal administration: settlements which are of a size which can be managed by a single unit of administration; and those which are so large that they require

multi-tiered government. The Commission would term the first category towns and the second cities. (This nomenclature will be used in the next few paragraphs in the above context.) The Commission recommends that all settlements with a population of less than 5 lakhs should be termed as towns, largely because they are amenable to management as a single unit of administration, be it municipality or Municipal Corporation. This is a settlement of a size in which the town is largely signlecored and where, while the activities may be many, they tend to be relatively less complex and are amenable to a somewhat uniform approach in the matter of administration. The Commission recommends that for towns there should be a single municipality, elected for a term of five years. The mayor or president would be elected by the municipal council, either from amongst its members or from the voters registered in the town. His term of office should be coterminous with that of the council. At present, he tends to function more as Speaker of the House rather than the head of the municipality. To remedy this, it is recommended that the head of the municipality should also be Chairman of the Standing Committee, which should be renamed as the Executive Committee. A municipal council should have only deliberative and legislative functions, which implies that it need not meet more than once a quarter, with each session being of relatively short duration. Major policy issues, rules, regulations and bye-laws, the budget, etc. should be discussed and decided by the council which would also be competent to set up committees to evaluate performance, but not to interfere in matters of administration. The executive committee, on the other hand, would have executive functions. It would meet more frequently and, in some ways, perform the function of a cabinet. However, the chief executive of the municipality, whether known as commissioner, CMO or whatever, should be the person entrusted with the administration of the municipality and for this purpose he and his heads of departments should enjoy

autonomy. Subject to the budget provision and the guidelines determined by the council, the chief executive should enjoy full administrative and financial powers and should not have to undergo the problems now faced by many commissioners with the standing committees of municipalities in matters relating to tenders, sanction of works, etc.

**8.5.22** The Commission recommends that in order to eliminate all ambiguity in this behalf, the powers and functions of the councillors, the mayor or president; the executive committee, the chief executive and heads of departments should be clearly codified. The Commission recognises, that, unlike the position in the United Kingdom, where convention and common practice and usage are determinants of official behaviour, in India more rigid codification is necessary. To ensure that the codes are not transgressed, the Commission also recommends the setting up of a state-level tribunal, to which an appeal would lie if any of the elements constituting municipal government transgress the code. At the same time, the Commission recommends that the specific duties and the manner and degree of accountability of each element of the council, especially the chief executive and his staff, should be clearly prescribed, with penalties being imposed for failure of performance. Codification would remove the excuse for non-performance, while the prescription of accountability would penalise failure of performance. In particular, it is recommended that the council need not meet except in extraordinary session, more than once a quarter and the committee more than once a month. Any proposal relating to the budget, a matter with a financial implication, a project or plan, acceptance of tenders, etc., must be decided by the executive committee within 60 days of presentation and by the council within two quarters. Failing a decision the matter would be deemed to be approved as proposed by the chief executive.

**8.5.23** To bring about close interaction between citizens and management in municipal affairs, it is recommended that, in every town or city with a population of more than 50,000 there should be one or more urban community development projects. Even in towns of a smaller size, there should be community-level projects, even if no separate administrative structure is created. While these projects would be aimed basically at ameliorating the conditions of the urban poor, they would also be the instrumentality for participation of the citizens, at locality level, in the management of their towns. The structure need not be as elaborate as in Hyderabad, but there should be, in every such municipal town, an officer specifically designated as being in charge of the urban community development (UCD) programme. This officer must be one who has undergone special orientation and training before taking charge. The extension of urban basic services locality-wise should be done on the basis of community participation, either by way of contribution towards capital cost or by a continuing involvement in maintenance and upgradation. This organisation should also be the main instrument for slum upgradation, with the slum residents being participants right from the planning stage. The UCD structure would not be in conflict with the municipality because it would be a part of it, but with a strong participative element. However, flexibility could be built into the system whereby UCD projects could be implemented either through the U administration or through a voluntary agency a citizen's or a citizen's conglomerate, rather than the normal departmental agency.

### **Decentralised City Government**

**8.5.24** Moving up to cities of more than 5 lakh population, these tend to be multi-cored, highly complex in their activities, and amenable to division into semi-independent townships or colonies. A problem with such large cities is that distance makes it difficult for citizens to interact with the municipal administration, zonal offices

notwithstanding. The city size creates a scale of activities which distances officers from citizens. The complexity of the problems faced by cities of, say, about 2 million people make them incapable of efficient management by a single administrative organisation. Some cities have experimented with a two-tiered governmental system, with Tokyo, Yokohama and Toronto coming most easily to mind. The concept is that, within a large urban settlement, there are certain management issues which have to be looked at city-wide. These would be the overall financial structures of the city, overall, planning in the context of the city-region and the creation and maintenance of services which are city-wide and which cannot be broken up into small compartments. These would include the transportation system, watersupply and sewerage mains, and power. Pollution control and land management on city-region scale would also be city-wide functions. Then there are other functions which are of local interest and on which citizens of different localities might have differing views. The maintenance of local roads, parks, local schools, street lighting, scavenging, recreational facilities, environmental hygiene, etc., are some such issues. In a city such as Toronto, the city administration is divided into two parts, with an overall city -government being responsible for city-wide functions and borough councils, working within the overall control of the city government, being responsible for local affairs. Because the boroughs are compact, there is a great deal of interaction between the borough administration and the citizens. While the arrangement is not without its problems, by and large it seems to have worked satisfactorily. In fact, in London, the UK Government have abolished citywide administration as represented by the Greater London Council and have devolved all municipal functions on the boroughs. This step, however, has to be viewed with caution because behind it was the basic conflict between a conservative central government and a labour-dominated local body.

**8.5.25** The Commission is of the considered view that cities, i.e., settlements with a population of more than 5 lakhs, should have a two-tier form of city administration. Even the rural development administration is layered at the level of the village, the block and the district. Our large cities are virtually districts in themselves. Here, too, there is scope for division of function locally and at city level.

**8.5.26** The Commission recommends that every city be divided into local councils. Depending upon the size of the city, the population covered by each local council could vary between 50,000 and 2,50,000. Direct elections would be held at the local council level. All the functions which are divisible at local level would be transferred to the local councils, which would be funded by grants from the city administration according to a formula determined by law, with population and state of the services being the major considerations. All city-wide functions would vest in the city corporation, which would consist of two councillors each to be elected by each local council, either from amongst its members or from voters residing in the local council area. Each local council would elect a president and the city corporation would elect a mayor, either from amongst its own members or from amongst the registered voters of the local council area or city respectively. The term of the president and mayor respectively would be coterminous with the term of the local council and City Corporation, as the case may be. Because the city councillors would be elected indirectly, their loyalty would not be to a particular ward only but to the much larger area of the local council. This would widen their vision beyond the confines of a ward and would thus permit them to be participants in a larger planning process. Also, not being indebted to individual voters, they could be expected to be reasonably free of the necessity of having to pander to the whims of individuals.

**8.5.27** A city corporation would not be involved in routine municipal administration; its job would be the planning of the city, the raising of resources and the provision of citywide basic services. It would, therefore, be largely free of the daily pressures which now plague our municipalities. Because the services for large cities would obviously be on a massive scale, they would have to be professionally managed if, at all, they are to survive. In fact, management of city services would come to operate in an ambience very like that prevailing in the management of large engineering projects at state or national level.

**8.5.28** The Corporation would still be required to prepare a plan, approve it and decide on the taxation measures necessary to meet the budget. For this purpose it could be in session, say, four times a year, with each session being reasonably brief. The budget session could be longer. The mayor would have an executive committee of which he would be the head, which would interact with the city administration in matters of policy or of importance to the city as a whole. The city administration would vest in a commissioner appointed by the state government, who would have a team of professionals under him. The commissioner must have tenure of at least 5 years so that he is not subject to the whims of individual councillors and does not feel threatened by transfer. His powers should be codified and, subject to the budget and the policy control of the corporation, be adequate for him to ensure a systematic and professional management of city services. The provisions relating to limitation of debate and delay, as applicable to town municipalities, should apply *mutatis mutandis* to city government also. In other words, while overall policy would be the function of the elected city council, in matters of implementation it is the commissioner and his officers who would be responsible. To monitor and regulate this, there should be adequate provision for accountability with penalties prescribed for non-performance. In

order to ensure financial discipline, city corporations should be brought under the audit umbrella of the Comptroller and Auditor General. Detailed audit can continue to be done by the Director of Local Fund Audit.

**8.5.29** The local councils too would each have a professional team headed by a chief executive officer, to be appointed by the commissioner. There should be a common cadre of the city officials functioning under the overall control of the commissioner. This would ensure lateral movement. The local council would have two sources of funding. One would be the devolution of funds from the city corporation on the basis of prescribed norms, which would be adequate to maintain local services at a given level. The local council would be competent to decide how the developed funds should be utilised provided that, where major deviations are made, this would not be done without inviting public objections and hearing them and without obtaining the prior approval of the city corporation.

**8.5.30** Local taxes or surcharges on the city taxes would be levied by framing bye-laws. The procedure should be that, if the local council decides to upgrade services or provide additional facilities, it should prepare a project report and publish it for inviting objections and suggestions. These would then be heard in public. Thereafter, the proposal would come to the city corporation, for its approval. The scheme would also include proposals for raising the necessary additional funds, including taxes. If the citizens accept the proposal, including new taxes, and the city corporation agrees, the local council would then be permitted to raise these additional taxes within its own jurisdiction. This scheme of things would permit the citizens of a locality to decide on the level of services they would like to have and to tax themselves for this purpose without arousing the opposition which is now met with when there is a proposal to raise city-wide taxes. The more

affluent localities could then raise their own standard of services without depriving the less affluent of a fair share of city resources.

**8.5.31** To make local government service more attractive, it is recommended that there should be state-wise cadres of local government employees, at least at supervisory level. These cadres should be controlled overall by the state government so that there is a high degree of protection to the staff. In states where there is panchayati raj, the rural administrative cadres at supervisory level belong to a statewide cadre and are under the control of government. For one thing, this ensures a fairly uniform level of executive staff to all local bodies. For another, it ensures that recruitment is at least of the level which prevails in the state services. With emoluments and security of tenure thus protected, there is no reason why a good quality of recruit should, not be attracted to local government service.

### **Development**

**8.5.32** Once the concept of a city government is accepted, what would be the role of the development authorities and functional organisations? Going back to the origin of such organisations, initially it was the city improvement trusts (CITs) that were set up, perhaps first of all in the old Mysore State, to undertake tasks connected with city expansion. Generally speaking, the CITs acquired land for new residential colonies. The developed sites were then allotted, mainly to the middle classes, who constructed bungalows on them. A new genre of city development authorities, however, was created with the setting up of the Calcutta Metropolitan Planning Organisation (CMPO) and the Delhi Development Authority. The CMPO was succeeded by the Calcutta Metropolitan Development Authority. The basic purpose of these organisations was to prepare a city development plan and thereafter take steps to implement it. Similar bodies have since proliferated. By and large, the development authorities have shied away from planning the future

development of existing built-up areas and have, instead, concentrated on planning and developing green-field areas. This has tended to further accentuate the structural, social and cultural charm between the older sections of our cities and the new suburbs. One could safely state that the development authorities, instead of bringing about harmony between the old and the new have contributed to enhancing a duality in our city structures through a faulty planning approach. Not being part of the elective process, standing aloof from the municipalities and have access to greater resources than the local bodies, the development authorities have generally invited the hostility of the municipalities.

**8.5.33** In the field of transport, water supply and sewerage, power and housing, functional agencies have been created in most states. These include transport undertaking, electricity boards, and water supply and sewerage undertakings. One need not mention here telecommunications and railways, which have always stood apart. All these agencies were created because it was felt that local government cannot provide the capital input or even the maintenance grants which these services require. Therefore, the state has intervened through such functional agencies.

**8.5.34** Starting from the top, there may be city-regions which encompass more than one City or town. Bombay and Calcutta are two good examples of such regions. The town municipalities and city corporations functioning within the region are hardly likely to surrender their autonomy to one omnibus city corporation. At the same time, such a region does need an integrated planning approach and there would be justification for setting up a regional planning authority with the task of preparing an integrated regional development plan. Such an authority should be headed by an officer appointed by the state government, but with representation on its governing council of the city corporations and town municipalities located within the region. Its chief

executive would be appointed by the state government. Its planning decisions would have an element of participation by the constituent local bodies because of their representation on the governing council. While the regional planning authority should have wide powers of plan preparation and monitoring and evaluation of its implementation, it should not be the implementing agency. This work should be left to the local bodies.

**8.5.35** It is possible, that the transportation system has also to be worked out regionally. A regional transit authority may be created for this purpose, somewhat on the lines of the Washington Metropolitan Area Transit Authority or the San Francisco Bay Area Rapid Transit Authority. In the case of Washington, the Board of Directors consists of two representatives each of the states of Maryland and Virginia and the Federal District of Columbia. Such a system would be useful where the city-region encompasses more than one state. In the case of the San Francisco Bay Area Rapid Transit Authority, the region is divided into nine electoral districts, conforming to the cities and counties within the jurisdiction of the authority, with each electing one member to the board of directors. This system would also be relevant to a city-region which lies wholly within one state. In the matter of water supply and sewerage, either a similar arrangement may be made, or the head-works, treatment system and the mains and out-falls may be constructed and maintained by the state public health engineering department, with internal distribution being the responsibility of the city corporation or town municipality.

**8.5.36** Apart from this, there should be no separate development authorities or functional organisations. Those, which exist, should be merged into the appropriate town municipality or city corporation.

**8.5.37** With the proposed restructuring of the local bodies whereby the management of services becomes professionalised, it is also recommended that the provision relating to supersession of municipalities should be drastically altered. Before a local body is superseded it must be given a charge sheet. There should be a hearing afforded to the local body by a tribunal whose independence is not in doubt. If the tribunal rules against government, the local body cannot be superseded. In case there is justification for supersession, the maximum period should be six months, with one extension of six months being permitted. At the end of six months or, if extension is given, then at the end of one year, elections must be held. The chief electoral officer of the state should be the election commissioner for elections to local bodies and the law must empower him to schedule elections without any further notification from government. In other words, the power to delay elections should be taken away from government. This would ensure that the continuity of the democratic process is automatically provided for and that it continues uninterrupted.

**8.5.38** Many of our cities developed in the past because a thinker, an academician, a retired civil servant, an industrialist or a philanthropist took an interest in his town or city and, through ideas, citizens' action or private charity gifted schools, colleges, hospitals, parks and playgrounds. What is more, such individuals seeded ideas and acted as conscience keepers. The Commission feels that, even today, such people are not lacking, but keep aloof because the elective process frightens them. In order to bring such people back into the picture it is recommended that, in every city and in those towns that desire it, there should be a Council for Citizens' Action. This may be so structured that all respectable citizens may feel honoured to participate in its activities.

## **8.6 RECOMMENDATIONS**

The Commission's recommendations are set out



below:

**8.6.1** There should be a National Urbanisation Council entrusted with the task of formulating policy relating to urbanisation and its management, to prepare a guideline for implementation of policy, monitors and evaluate programmes and direct overall research in the urban field. A noted urbanologist with practical experience in the field of urban planning and administration should be its chairman. He should enjoy the same status as the Deputy Chairman of the Planning Commission.

**8.6.2** The Planning Commission should have a full-time Member Urbanisation, assisted by an Urbanisation Division under an Advisor.

**8.6.3** The Ministry of Urban Development must be the nodal ministry for all settlement issues in general and urbanisation in particular. The ministry must be divested of such extraneous functions as the Delhi Division, Central Public Works Department, Printing and Stationery Office, Land and Development Office, Directorate of Estates, etc., which could come under a new Ministry of Works and Estates. There should be added to the Ministry of Urban Development two new divisions, Urbanisation and Urban Poverty Alleviation each headed by an Additional or a Joint Secretary.

**8.6.4** The Central Town and Country Planning Organisation (TCPO) should be placed under the National Urbanisation Council. The Chief Planner should enjoy the same status as the Director General of the CSIR and should be the Director General and Chief Technical Advisor of the Council.

**8.6.5** The TCPO should move away from planning of individual towns or schemes and into the area of research, norm setting and regional planning.

**8.6.6** Research organisations such as the NBO and the Regional Centres, which impart training, should be transferred to the Council.

**8.6.7** In order to encourage citizen's interaction through organised voluntary efforts, an Indian Council for Citizens Action (ICCA) should be set up. The ICCA would act as the bridge between government, voluntary action groups and citizens.

**8.6.8** The ICCA should be headed by a social worker of renown who has no political affiliations and who has a reputation for voluntary work. Great flexibility should be allowed to the ICCA in matters of procedures, rules, etc. Its accountability should be ensured through a review committee to be set up every year, with representatives of government, the National Urbanisation Council and the affiliated voluntary action groups.

**8.6.9** The National Urbanisation Council should provide a common platform for airing of views and making of policy suggestions by the All India Council of Mayors, etc. The Council should perform, in this behalf, functions similar to those of the Central Board of Forestry.

**8.6.10** The present arrangements in the states for work relating to urbanisation being divided between many departments should be reviewed and an umbrella Department of Urban Development should be set up. Town and country planning, municipal administration, and public health engineering should come under this department. It should include two strong divisions: urbanisation and urban poverty alleviation.

**8.6.11** As at the centre, there should be a State Urbanisation Council with functions very similar to those of the National Urbanisation Council.

**8.6.12** There should be a State Council for Citizens Action (SCCA), structured on the lines of the ICCA.

**8.6.13** The State Directorates of Town and Country Planning need to be completely revamped. The post of Director of Town and Country Planning may be upgraded to Director General and equated with a Commissioner in the IAS cadre. The incumbent should be a professional planner.

**8.6.14** The directorate of Town and Country Planning should not be confined to physical planners alone, but should have, representation, of equal status, of the disciplines of physical planning, architecture, environmental and public health engineering, geography, economics, industrial organisation, environmental and ecological sciences, transportation, land management, sociology, urban administration, housing, etc. The list is representative.

**8.6.15** At divisional level there should be an integrated regional office of the Directorate, which functions as a part of the Commissioner's outfit. At the district level the Directorate should be represented in the District Planning Board under the supervision of the District Collector. The district unit could also be the main agency for advising small municipalities on the preparation of development plans and projects.

**8.6.16** The state governments may promote consultancy organisations which enable government to have access to expertise outside the official fold.

**8.6.17** The present municipal administrative system should be wholly restructured. For this purpose, a new definition of town and city should be prescribed. For the purposes of municipal administration, a town would be a settlement with a population of less than 5 lakhs, which is capable of being governed by a single administrative unit.

A city would be a settlement with a population of more than 5 lakhs, which is multi-cored and requires a two-tier administration.

**8.6.18** A town municipality or a municipal corporation, as the case may be, should be headed by a President or Mayor. His term of office should be coterminous with that of the council. He should also be the Chairman of the Executive Committee.

**8.6.19** The council's functions should be limited to deliberative and legislative. For this purpose, it should not meet more than once a quarter, except in extraordinary session. Each session can be of a reasonably short duration. Major policy issues, rules, regulations and bye-laws, the budget, etc. should be the preserve of the council. The council may also set up committee to evaluate performance, but not to interfere in matters of administration.

**8.6.20** The standing committee should be renamed as the executive committee of the municipality.

**8.6.21** The chief executive of the municipality, whether known as Commissioner, Chief Municipal Officer or by any other name, should be entrusted with the administration of the municipality. He should be appointed by the state government and should enjoy tenure. He and his heads of departments should enjoy autonomy subject to the budget provisions and the guidelines determined by the council and the executive committee. The chief executive should enjoy full administrative and financial powers so that he is not hamstrung in his working in matters relating to tenders, sanction of works, etc.

**8.6.22** The powers and functions of the mayor or president, the councillors, the council, the executive committee and the chief executive should be clearly codified. There should be a state-level tribunal on the lines of the Central

Administrative Tribunal, to which many of the municipal authorities, or even a citizen under certain circumstances, could appeal if there is a transgression of the code by any of the elements of the municipal government.

**8.6.23** The duties and the manner and degree of accountability of each element of the council, especially the chief executive, should be clearly prescribed, with penalties laid down for failure of performance.

**8.6.24** All proposals relating to the budget or having a financial implication, new projects and plans, acceptance of tenders, etc., must originate from the chief executive though councillors would be free to send him their proposals before the council. The Council must decide such issues within two quarters of presentation and the executive committee within sixty days. In case a final decision is not taken within this period, the proposal will be deemed to be approved.

**8.6.25** In every town with a population of more than 50,000 and in every city, there should be one or more urban community development project under an Urban Community Development (UCD) administration, aimed basically at ameliorating the conditions of the urban poor through a process of citizen participation at locality level. For this purpose there should be an officer, who is specially trained and oriented for this purpose, designated to be in charge of the programme. Even in towns of less than 50,000 population, community-level projects should be implemented through specific UCD programmes. Community-level projects may be implemented by the departments of the local body, through the UCD or through voluntary agencies or citizens' conglomerates.

**8.6.26** All cities must have a two-tier government, at city level and locality level. These could be designated as the City Corporation and Local Councils, respectively.

**8.6.27** The local council would be an amalgam of homogeneous, contiguous wards covering a population ranging from 50,000 to 2.50 lakhs, as the case may be.

**8.6.28** Direct elections would be held at the level of the local council. Each local council, in turn, would elect 2 persons, who need not be members of the local council, as councillors to represent them in the city corporation.

**8.6.29** All local functions such as maintenance of roads, parks, local schools, street lighting, scavenging, environmental hygiene, recreational facilities, etc. would be fully transferred to the control of local councils. For this purpose, there would be devolution of funds by the city corporation on the basis of norms to be prescribed, which would take into account population, the state of the services, etc. The norms would provide for equity, so that, regardless of the wealth of a particular locality, funds are devolved on an equitable basis.

**8.6.30** The local council would be competent to make suitable re-appropriation of devolved funds, subject to major deviations requiring the prior approval of the city corporation. The local council would also be competent to raise additional resources for a specific purpose, either as a betterment levy or a surcharge on city taxes. These would be confined to the jurisdiction of the local council only.

**8.6.31** The procedure for preparation of plans for upgradation of services or providing additional facilities by local council would be that the plan or proposal would be published for the information of the public and inviting objections and suggestions. These would then be heard in public hearing. Thereafter the local council would vote on the proposal, which would come into effect after approval by the city corporation. In other

words, the local council would be competent both to undertake additional works and raise additional resources.

**8.6.32** All city-wide services should vest in the city corporation. These would include city planning and planning of the city-region, the overall financial structure of the city, creation and maintenance of services which are city wide, such as transportation, water supply and sewerage, power, etc.

**8.6.33** The Mayor should be the Chairman of the Executive Committee. The Corporation Council would, *mutatis mutandis*, have the same functions as the town municipality and could be in session once a quarter. The Executive Committee could meet, perhaps, once a month. The provisions relating to limitations of debate and delay as applicable to a town municipal committee would apply *mutatis mutandis* to a city corporation.

**8.6.34** The city administration should vest in the Commissioner, who should be appointed by the state government. He should have a tenure of at least five years. He and his heads of department should enjoy autonomy in functioning, subject to the budgetary and policy control of the corporation and the, executive committee.

**8.6.35** The powers and functions of the Mayor, Corporation Council, Executive Committee, Councillors and Commissioner should be codified. Duties and accountability should also be codified and penalties for nonperformance should be prescribed.

**8.6.36** Both city corporations and the town municipalities must be brought under the audit umbrella of the Comptroller and Auditor General, with detailed audit being done by the -Director of Local Fund Audit.

**8.6.37** The local councils should have a Chief Executive Officer, appointed by the Commissioner. He should be assisted by a professional team.

**8.6.38** There should be a common cadre of city officials functioning under the control of the Commissioner and liable to posting either under the Corporation or under a -Local Council. There should be lateral movement between the two.

**8.6.39** All local-government-service at supervisory level should form part of statewide cadres. These cadres should be under the rule-making control of the state government, should be recruited on a state-wise basis and should enjoy the overall protection of the state government. This would ensure both a fairly uniform level of executive staff for local bodies and also attract a good quality of recruits to the services.

**8.6.40** Where a city-region encompasses more than one city or town, there may be a Regional Planning Authority, headed by an officer appointed by government, but with representation on its governing council of every city corporation and town municipality within its jurisdiction. It would have the power to plan and to monitor and evaluate implementation. The implementation function, however, would vest in the local bodies.

**8.6.41** Where services must be provided region-wise, a regional authority may be set up for the service in question. *Mutatis mudandis*, its governing council would be composed as in the case of the Regional Planning Authority.

**8.6.42** The above two regional arrangements apart, all development authorities and functional organisations should be merged in the town municipality or city corporation, respectively.

**8.6.43** The power to supersede a local body should be severely restricted. For the purpose of exercising powers of supersession, the state govern-

ment must serve a detailed charge-sheet on the local body. Thereafter, an independent tribunal, which has credibility, should hear both government and the local body and decide whether there is a case for supersession. A negative decision would exclude the power of government to supersede.

**8.6.44** The period of supersession should not exceed six months, subject to one extension for a similar period. At the end of six months or one year, as the case may be, elections must be held.

**8.6.45** The Chief Electoral Officer should be the Election Commissioner for elections to local bodies. By law, he should be empowered to schedule elections, with no power vesting in government either to issue a notification in this behalf or withhold it. In other words, the democratic process should be automatic and uninterrupted.

**8.6.46** In order to encourage citizens' action at city level, every city should have a Council for Citizens Action (CCA). Through it, the prominent citizens, who hold the interests of the city at heart, can be brought together to advise on future development. Any town desirous of setting up a CCA would also be free to do so.

#### PART IV

### 9. PLANNING THE CITY

#### 9.1 Role of Cities in Promoting National Development

**9.1.1** Cities contribute in a large measure to economic growth and to the process of modernisation so vital to national development. Because in cities we have a concentration of people, infrastructure services, and markets which offer opportunities for economies of scale, both in production and consumption; economies of juxtaposition, from convenient and efficient spatial and functional relation--ships; economies

resulting from diversity of labour, from specialisation of function and occupation, and diversity of skills and professions. It is these features which enable cities to serve as centres of administration, transportation and communication, and finance; as entrepôts, industrial centres and markets; as centres of the arts, services and recreation. Through concentration and specialisation of labour, cities promote accumulation and distribution of capital. They are identified with the growth of financial institutions and the development of entrepreneurial and managerial ability.

**9.1.2** Cities reach into their hinterland for labour supply, for raw materials, and for provisions. But they return manifold benefits to the rural areas. They are major consumers of agricultural produce. They manufacture goods needed by rural consumers. When cities reach a kind of take-off stage in their own development, they provide jobs for surplus agricultural labourers; and even though they may be low-paid jobs, they nonetheless mean higher incomes for the rural migrants. As population moves out of the rural areas, gross per capita product will increase since the numbers of persons sharing income from the rural product will decline and inter-regional income differences may lessen. Finally, cities act as major sources of technical know-how and other skills for rural areas, without which their productive efficiency will not increase.

**9.1.3** In addition to the crucial roles cities play in a nation's economic development, in a developing country like ours, they perform important social functions. Civilisation has flourished in cities. Since the beginning of urban life, cities have been the repositories and generators of major expressions of human creativity. In cities lie the major benefits of human development.

**9.1.4** In recent years, the urban and industrial growth generated by our national economic development has had its greatest impact in our

cities. The new shape and character of our cities that have resulted from rapid urbanisation and industrialisation pose a major threat to the human environment there, setting even more complex problems whose genesis is closely connected with the very way in which our cities have been growing and expanding.

**9.1.5** Our cities are where evils such as sub-human conditions in shanty towns (jhuggies), functional chaos, environmental degradation and pollution, unemployment, hunger, disease, illiteracy, a general lack of skills, come to a head in monstrously visible concentrations of human misery. Cities in India today are failing badly. They stand as a dire warning of the consequences of unbalanced development that could lead to a complete breakdown in coming decades. Our cities are failing both in making good the deficiencies in literacy and job-skills that migrants from rural-areas suffer from and in providing them with work which they can do.

**9.1.6** However, it is in the cities that remedies can best be applied. We, therefore, need to fashion them in a manner that will serve human needs in our transitional society, in which education and human development must receive the highest priority. This, indeed, must become the dominant theme of urban policy and urban development. These considerations are applicable not only to metropolitan cities, but to medium and small cities and towns also. It is in the larger aspects of urbanisation strategy and in the plans for specific cities that the social objectives of our developing society can best be reflected and furthered.

## **9.2 Nature and Scope of Urban Planning**

**9.2.1** The urban scene, especially in our major cities, reveals some common characteristics: they are subject to rapid demographic growth and uncontrolled physical expansion; the urban poor constitute over 50 per cent of their population and have no access to housing and municipal services; unemployment and under-employment are

widespread; the 'informal sector' is sizeable; mass transportation is poor and there is a clear bias towards the private car; air and water pollution affecting public health is widespread; the impact of so called 'modern' architecture and the consequent deterioration in urban form is everywhere evident; physical decay characterises the central districts and old residential areas; open areas and green spaces are inadequate; and, finally, archaic local government systems prevail, resulting in poor urban management and grossly inadequate finances. It is in this context that it is necessary, at the outset, to define the type of planning with which we must be concerned at the urban area level.

**9.2.2** Urban planning or town planning, as it is popularly termed in our country, is concerned with spatial development of urban settlements - the use and development of land. For nearly all their activities people depend on land, and land is a limited resource in urban areas in relation to the demands made on it; also the location of an activity, particularly an industry, can have a profound effect on social, economic and environmental issues. It is therefore imperative that we have effective means to regulate the use and development of land in a manner that would take account of social, economic and environmental objectives and ensure that conflicting demands are reconciled in the best possible manner in the national interest.

**9.2.3** The many and varied interests involved in land-use, the competing demands for land and the growing importance of ensuring that land is put to the use to which it is best suited by virtue of its quality, its contents or its location, make the need for urban planning (physical planning) imperative. To assess present and future requirements of land for various forms of human activity; to design the physical framework within which all forms of development will take place in a planned, orderly and as effective a manner as possible, is essential to the national interest.

**9.2.4** While, in all planning, the physical base is no doubt important, all improvements in physical environment have a higher purpose, namely, the realisation of certain social values. Therefore, it is necessary to understand the interrelationship between social, economic and spatial aspects. Physical growth must be in harmony with well-defined social and economic needs and ends. This is only possible when the three essential and complementary aspects of development—the social, economic and physical, are considered together and coordinated from the very beginning.

**9.2.5** At city level, urban planning is subject to man-made factors involving relationships such as that between intra-urban transportation pattern and work and living places. It involves the specifics of land-use patterns and the functional requirements of individual cities. Unless the city provides an efficient environment for carrying out its productive and trade activities, the erosion of its economic base may result. Therefore, land-use planning at the city level is just as concerned with economic growth as are national and state planning.

**9.2.6** In order to deal with the influx of migrants to our large cities, to deal with housing for the masses, public transportation, employment, finance, income levels, the integration of informal economic activities into the general urban economic system, health services, education and the utilisation of all available resources for achieving social objectives, policies must be formulated at the local government level. It is the formulation of these policies which constitutes the principal activity of the urban planner, with land-use considerations stemming from the application of these policies. A land-use plan then is designed as one of the instruments to promote the implementation of accepted policies.

### **9.3 Current Urban Planning Practice in India**

**9.3.1** After nearly four decades of planned economic development, urban development contin-

ues to remain isolated from the national planning process. In the Five Year Plans so far, urban development has been treated as an item of social expenditure, with the result that it accounts for a very small fraction of the total plan budget.

**9.3.2** Although urban planning (town planning) is in the state list, there are organisations of the Government of India that also deal with the subject of urban planning and development. The main amongst them are the Ministry of Urban Development, the Town & Country Planning Organisation (TCPO) and the Housing & Urban Development Division of the National Planning Commission. However, in spite of the existence of these organisations at the centre, there is no explicit urban policy at the national level. Consequently, the approach to urban development has been piecemeal and desultory, as described by the Task Force of the Planning Commission on Housing and Urban Development (1983). According to the Task Force, even schemes termed 'integrated', such as the Integrated Urban Development Programme (IUDP) and Integrated Development of Small and Medium Towns (IDSMT), were focused on towns of different sizes: cities over 3 lakh population in the case of the IUDP and towns under one lakh population in the case of the IDSMT. The selection of the towns was quite erratic and little attempt was made at planning of urban development as a whole.

**9.3.3** Another set of major schemes was the 'master plans' for a large number of cities. These, however, proved largely infructuous due to lack of contact, during the preparation of these physical plans (master plans), with investment planning at the city, state and national levels. Other major interventions were the metropolitan city and state capital projects and various slum improvement schemes. In these cases, investments were in response to major service deficits which could no longer be ignored or, in the case of the new state capitals, were relatively lavish in the provision of a high level of infrastructure. Some of the other lavish investments were in the

establishment of new towns for large-scale public sector enterprises, like those producing steel, electricity and fertiliser.

**9.3.4** Since urban planning (town planning) is a state subject, it is governed by the respective state town planning acts. These provide for the establishment of planning authorities at the city level for promoting and securing the development of a city according to a master plan or development plan which indicates the manner in which the land is proposed to be used and prescribes development control measures for enforcing the land-use plan.

**9.3.5** Experience has shown that our planning system, wherein the preparation of master plans is the principal activity of urban development, is a static concept, whereas, in today's context, urban planning in India must be seen as a dynamic, adaptive, interactive and continuous process of anticipating, planning and managing social and economic change brought about by the economic development of the country.

**9.3.6** Master plans or the so-called development plans with their rigid land-use, zoning and development controls have proved extremely poor instruments for regulating the dynamic process of urban growth. The core problems of urban planning are not only spatial but functional as well. A master plan fails to be truly comprehensive if its comprehensiveness is restricted to land-use allocations only.

**9.3.7** Urban planning should aim at devising ways and means to increase the economic productivity of urban population and improve urban efficiency by eliminating bottlenecks and breakdowns in the delivery of urban services, which impose costs on workers, business and consumers. This necessitates a dynamic and entrepreneurial approach to urban planning. An essential aspect of such an approach is the generation of employment. Employment creation must be synchronised with plans for providing housing, infrastructure and mass transportation.

**9.3.8** If urban planning is to make a positive contribution to our national development it cannot continue in its present sterile form. It must shift from its present emphasis on land-use planning to guiding the very complex, interrelated processes of social and economic change. A prerequisite for this change is the formulation of urban development objectives and principles in precise terms so as to provide appropriate guidance for land-use planning and regulations.

## **9.4 A New Approach to Urban Planning**

### **Planning Objectives**

**9.4.1** A primary requisite of all planning is the perception of the present reality and future probability. What, then, is the present reality in urban India and, for the foreseeable future, the probability. The present reality is that the majority of our urban population is poor and their number is increasing. The urban economy is not capable of absorbing them. Since the poor constitute over half the total urban population, they form the obvious target group for whom a series of planning objectives must be laid down:

- first of all, employment opportunities for the urban poor must be increased. Employment cannot just be conjured up, nor is it, something that happens by zoning land for industry in the master plans for cities/towns. Neither is it something the municipal government can significantly influence. Planning and programming must proceed on several fronts concurrently. For example, one of the criteria for industrial location decisions at state and national level must be the relative unemployment among different cities/towns in India. New migrants and the unskilled urban dwellers in the cities/towns must be made employable through training programmes, which include an element of entrepreneurship potential for self employment. Also the informal sector must be better organised than it is today.



- the poor in cities/towns live in bustees, chawls and shanty towns. Even when employed, their living conditions are deplorable. Thus the second objective is providing a minimum living environment by making available potable water, a system of sanitary latrines, a drainage system, paved and lighted roads and a modest amount of open space.
- the third objective is making social service like health and education easily accessible in the respective mohallas, health services that lay stress on health education and preventive medicine; work-related education and education that is responsive to family needs.

**9.4.2** Unfortunately, none of the plans drawn up for our cities/towns single out the urban poor as a target group, nor do they respond to their needs. On the contrary the plans are biased against the poor; like private cars getting precedence over the public mass transportation system. The plans are oriented more towards the needs of the middle and upper classes of urban society who constitute a much smaller proportion of the urban population.

**9.4.3** Besides the urban poor, an important target group is the lower-middle-class who have a reasonably secure employment but whose incomes are only slightly better than those of the poor. Their living conditions are anything but tolerable. In a tight and inadequate housing market in our large cities, their housing options are severely circumscribed. They scramble for admission for their children in an overcrowded education, system, health services serving them are disjointed, they have inadequate water supply and live with a generally unhygienic drainage system. For most, the journey to work is a nightmare. This is an important target group, for without them the city's economic machine would not run, and yet we do not provide adequately for them.

**9.4.4** It is imperative that the lower-middle-class should live in conditions that enhance rather than depress their productive capacity. The planning objectives for this target group must be to provide an adequate stock of modest housing; economical, safe and comfortable journeys to work; assured supply of potable water; adequate sanitary drainage and waste disposal; education up to secondary level; preventive and curative Medicare; and opportunities for sports, recreation and cultural activities. Planning Principles Urban Structure

**9.4.5** The haphazard manner in which our cities/towns are growing underscores the need for an urban ethos in our planning of cities/towns. Without one, they have tended to be just by-products of economic forces. In the absence of an urban philosophy, of considered planning principles, the phenomenon of our cities/towns growing into just amorphous masses of structures has been the dominant feature of urban expansion. In the present age, cities/towns can and must be guided along desired lines of renewal and development.

**9.4.6** The physical form of our cities and towns emerges from the initiative and enterprise of many people acting individually and collectively. This community action needs to be guided by means of a plan which must express the basic principles and standards which should shape the physical form of our cities and towns, their general land-use pattern, the transportation system, and the dimensions of functions among various urban facilities and services.

**9.4.7** The space constraint as well as the factors which increase demand for urban space are inevitable in the wake of massive urbanisation. The only escape from this situation is to evolve an urban structure for the city in India, instead of letting cities grow into an amorphous urban sprawl.

**9.4.8** The urban structure should be cellular in concept, based on the principle of hierarchy of functions performed by the city. Not all functions of the city\_ can be satisfied in its central area. There are many that can be fulfilled only in the residential precincts. Therefore, the cellular organism of the city must start from the small shops around the corner in housing clusters and residential neighbourhoods, and from these move to bigger quarters — community centres and district centres, and on to the city centre and metro centre (CBD), which provide more basic functions and services and goods of higher grade.

**9.4.9** We will have to structure our city in such a manner that enforced movement is reduced to a minimum. This can only be done by relating all compatible types of urban functions, in a most intimate manner with each other, within urban sub-units (the cellular organisation) of a size which establishes desirable workability. Thus, it is hoped to reduce the need for the use of motorised transportation to a minimum and thereby save vast areas of land now required for urban motorways and parking.

**9.4.10** In our land-use plans, the practice of prescribing that, in certain areas, land can be used only for certain urban functions, should be discontinued in favour of permitting, in principle, multifunctional use for all land, provided the uses are compatible. Multifunctionality, in fact, ought to be encouraged in our planning, so that workplaces are accessible within walking or cycling distance from residential areas; other facilities within a distance which can be easily covered by bicycle, and yet others which can be reached by public transport. Today, motorised transportation has broken the pattern of our cities and made them unwieldy. However, we cannot rid cities of automobiles; at the same time we must not concede to them the rights and privileges of a tyrant that dictates our lifestyle. This can be achieved only when we determine where we need human scale and where the scale of the automobile, and use each one of these in the proper place.

**9.4.11** The search for a better city must, therefore, begin with the smallest and most human unit — the neighbourhood (mohalla or wada). We, in India, must respect and renew our ancient traditional pattern of community life. The neighbourhood unit in the city must form the basic building block of the whole urban structure of the city, the place where human scale is preserved. Our town planning which seems to ignore the human scale and human values inevitably erodes the urbanity of our cities.

**9.4.12** The massive urbanisation of the country is going to impose a heavy burden on our limited capital resources. We must, therefore, adopt standards for urban infrastructure and community facilities which are more closely related to our resource availability and socio-economic factors. These standards should by no means be rigid. On the contrary, they must respond to the evolutive need of a city's population.

**9.4.13** In so far as density standards are concerned, these are at present directed towards prescribing a maximum density. The directive thrust of these standards should actually be on a minimum density which is subject to modification in accordance with the size of the city or town. In fact, no absolute ceiling for density need be established, but, instead, a performance standard should be applied which ensures the supply of basic human amenities.

**9.4.14** Town planning legislation and related measures should be amended with the objective of creating greater diversity in cities. With respect to major urban functions and land uses, the present restrictive type of zoning regulations and development controls should give way to an extremely liberal and permissive set of provisions.

#### **Urban Aesthetics**

**9.4.15** Urban planning is not only a matter of allotting land for various kinds of activities and uses. It is also very much concerned with the quality of physical environment- that is produced

by such allotments. Ultimately, what matters is not simply where development takes place; its built-form is equally important, and our physical planning system will always be judged by the quality of the results it produces.

**9.4.16** The zonal development plans which usually follow the preparation of the development plans or master plans and which, by implication, are the basis for physical development, have proved grossly inadequate as such two-dimensional exercises totally ignore issues related to the urban-form of the environment. Real improvement of urban environment through physical planning can therefore be achieved only through planning that takes into consideration not only the fundamental human needs, but also the need for aesthetic satisfaction. Hence, as in the case of social and economic objectives, aesthetic objectives must also be expressed and steps for their achievement become an integral part of the physical planning process in cities and towns. It is at this stage that, in addition to land-use plans - detailed area development plans should be worked out which will relate density and floor-space indices (FSI) to the built form and to the volume and heights of buildings. The resulting urban design, besides being technically proper, should be aesthetically and culturally adapted to the environment. This, indeed, is a complex problem and, if neglected, can lead to a city being destroyed by haphazard development, as is evident today in so many cases.

#### **Traffic and Urban Environment**

**9.4.17** There are two fundamental problems of contemporary urban planning — transportation (traffic) and environment. Environment comes first, as the ultimate goal of urban planning (town planning) is to improve the conditions of urban life.

**9.4.18** Practically all our major cities are plagued with traffic congestion, regardless of the modes of movement. Commuters in Bombay are just as

frustrated with suburban trains as their counterparts in Delhi with city bus transport. The peak-hour rush in Calcutta, with its buses, trams, rickshaws, private cars, etc., is no different from the traffic muddle in Ahmadabad with its auto rickshaws, cars and buses. There is obviously a universal factor contributing to urban traffic congestion. Most obviously it is the tendency to crowd too many people and too much activity into too little space. Our urban areas are being defeated by simple geometry.

**9.4.19** Indian cities are the product of a long historic evolution, served only by some simple form of public transport. They are now threatened with disintegration by the invasion of motor cars for which they were never designed. The private car is in conflict with the compact structure of cities, a conflict which appears difficult to reconcile. There are many reasons for this. One of the most important is the demand for urban space. The car occupies, on an average, 80 square feet of urban space and carries, on an average, two people. A bus covers an area only 3 times larger (240 sq ft) and carries 56 passengers, when stationary, cars carrying the same number of passengers as one bus cover, 12 times the road space. When vehicles are in motion, the comparison is even more staggering. Cars carrying the same number of passengers as one bus cover, in motion, 30 times the road space of one bus. In addition, buses do not require parking spaces in central business areas as cars do. The rapid increase in automobile traffic has had a profound and bewildering influence on our cities, with far-reaching social and economic implications. The proliferation of automobile traffic is throwing living conditions in our cities out of balance.

**9.4.20** In order to provide reasonable accessibility for private cars to the city centres, existing street capacities would have to be increased at an astronomical cost, and would also, in the process, destroy the scale and character of the urban environment. Added to this, pollution from car exhausts has become a major health hazard. The

impact of automobiles is so overwhelming that the very existence of our urban civilisation is at stake if we do not act now.

**9.4.21** Transportation is critical for cities; it is too important to be looked upon simply as a method of moving people and goods. Transportation must also be regarded as a means of designing a more satisfying environment. In the process, urban mobility would be well served. For much that would be done to improve the urban environment would also help improve transportation. This two-way relationship between transportation and the city structure may prove to be the key to the urban-revolution. Might it not be a far better approach if instead of trying to force the fabric of the city to fit the car, we make an all-out effort to devise means of transportation to fit the city?

**9.4.22** The older parts of our cities, which now form the urban/city core, with their physical obsolescence and functional inefficiency need rebuilding to adapt them to present needs. 'Urban renewal' is the term planners use for this rebuilding.

**9.4.23** Urban renewal is, inevitably, a continuous process. In India, it has been going on a piecemeal basis and in a haphazard manner. Urban renewal needs to be planned and programmed as an integral part of the urban planning process, which now addresses only the problems of city expansion, leaving the older parts to decay. Historically, the older city has been the centre and has certain basic advantages. Its location is good because city growth followed important transportation routes or the site possessed other material relationship with its surroundings. What is needed to restore the older city to its place of pre-eminence in a city region is a renewal programme that will let these advantages come into play once more.

## **9.5 Management Aspects of the Urban Planning System**

**9.5.1** The urban planning system in India needs to be reoriented to make the urbanisation process more productive and to improve urban efficiency. The Commission, therefore, recommends the introduction of an urban planning system at the city/town level which is new in form and content. It implies a shift from the present emphasis on the statutory power of long-range visions of the city/town to an emphasis on the short-run management of the urban system.

**9.5.2** The management aspects of the urban planning system must be considered at three levels: the master directive plan level, the execution plan level; and the action area plan level, the form and contents of which are described in the following paragraphs.

**9.5.3** The master directive plan approach to the urban planning system is distinct from the incremental, or piecemeal, development approach, however expedient a particular development in any aspect may be. It is based on the premises that functional programmes must be in consonance with the city-wide system of relationships, and that all relevant variables should be considered in the design of individual programmes. The approach, therefore, is one in which, conceptually and analytically, as many as possible of the essential elements within the overall control of the city system, and which determine the course of action and influence its development, are taken into consideration in the formulation of the master directive plan.

**9.5.4** The organisation of such a planning is based on a two-fold strategy. One which is concerned with policy planning, and the other with programme planning. Policy planning focuses primarily on performance goals for the city as a whole in a long-term horizon; programme planning focuses on achievement of goals for specific functional activities or sectors, or the subject areas that are of concern to the city for short-range and medium-range periods. Formulation of development policies rest in the first of the three levels of planning, namely the master

directive plan for the city. Formulation of programme plans rests in the next two levels, namely execution plans and action area plans. These two indicate the degree of detail and specificity of the programme planned.

### **Master Directive Plan**

**9.5.5** The master directive plan (MDP) for a city or metropolis is not a rigid design for the future, rather it is a framework in which public and private action can achieve common objectives and policies during the time horizon of the plan. An MDP must be prepared in the light of national and state/regional planning policies. The contemplated setting up of state/regional spatial planning agencies and the preparation by them of planning studies/plans should provide the urban planning authorities with sources of information and guidance in the preparation of their own master directive plans. The urban planning authorities will, therefore, need to inform themselves thoroughly of the regional background prior to preparing MDPs, maintaining liaison with the state/regional spatial planning agencies. Exchange of information will be beneficial for the regional planning process. This means that the state governments must provide for interaction between their urban planning bodies and other bodies/departments concerned with social and economic policies; and that there should be interaction between the state government and local urban planning bodies and between the latter and other functional agencies in the city. Within the organisation of the city/metropolitan government there must be satisfactory and harmonious collaboration between the urban planning and other departments and, finally, there should be interaction between the public and private authorities.

**9.5.6** An MDP must be concerned not only with land-use but also with other urban issues which are vital to the planning and development of the urban area, the most important being the integration of land-use and transportation. An MDP must relate the policies evolved for the

transportation of passengers and goods, management and control of road traffic, and maintenance of balance between mass public transport and private modes of transport within the city or metropolitan area. An MDP must also reflect the main lines of housing policy, including a positive approach to the creation of a good environment in the city or metropolis. At present, master plans/development plans have acted mainly as a basis for negative control, which neither helps the planning authorities nor the developers to secure development of built-form of real aesthetic quality. Hence, the urban aesthetic objectives must also be expressed and achieved as an integral part of the physical planning process.

### **Execution Plan**

**9.5.7** To achieve a satisfactory measure of programme coordination among the sectors and across geographic space, execution plans must be prepared in the form of a city development programme with a corresponding capital investment plan.

**9.5.8** Execution plans are medium-term plans and should cover periods of five years corresponding to the national five Years Plans. An executive plan identifies the location of projects to be implemented and indicates guidelines for preparing detailed development plans. It lays down planning standards and urban design criteria suitable for local conditions. The preparation of execution plans as mid-level planning between the traditional master plan and detailed plans is a unique feature in the new form of physical planning process suggested by the Commission. The planning and programming of all developmental activities covering an entire city operation area, as distinct from only a few development schemes, enables the translation of the MDP into city-wide programme planning, corresponding to national and state Five Year Plans, thus forming a capital investment plan as a budgetary tool, and also an instrument for coordination and implementation of public and private sector projects, in addition to bringing about inter-governmental coordination.

### **Action Area Plans**

**9.5.9** An action area plan is a device for detailed planning and implementation of programmes and projects for specific areas within the framework of the execution plan. It provides the flexibility necessary for accommodating short-term changes within the overall concept of the MDP of a city or metropolis. An action area plan serves three major functions, namely, application of the strategy of the MDP; provision of a detailed basis for coordinating public and private development; and bringing local and detailed planning issues before the authorities.

**9.5.10** Action area plans deal with schemes related to urban development, renewal and new developments which include a whole range from development of the city centre, district centres, residential, industrial and shopping areas, roads and the like, to providing guidelines for preparation of detailed layout plans by public and private agencies.

### **9.6 Urban Planning As A Function of City Government**

**9.6.1** At present there is a separate urban planning and development authority in each of the major cities in India, which is only tenuously connected with municipal government. These independent development authorities have not been effective in meeting the continuously changing needs of the urban areas. Therefore, this concept of a separate organisation that controls municipal government as regards either the desired ingredients of a development plan, or of its implementation, does not appear to be correct. Urban planning should emerge from the people themselves. If this responsibility is placed on the city government, it is probable that the development plan that emerges will prove more acceptable and easier in implementation.

**9.6.2.** The Commission, therefore, recommends that urban planning should be made an administrative function, one of formulating policies, programmes and projects for accomplishing

agreed urban development objectives within the structure of a city government. It is important to note that urban planning is much more than mere preparation of a master directive plan. For, urban planning is not an event but a process; once begun, it is a continuous process of preparing plans, sanctioning plans and, finally, implementing plans.

**9.6.3** The formulation of a master directive plan, and its adoption by the government through a series of related policy decisions; the adjustment of administrative responsibility for resources; implementation according to phased and realistic development programmes (execution plans); monitoring and evaluation of progress achieved; and periodic plan review; all these are indispensable steps in the continuous and systematic sequence of the urban planning and development process. In our rapidly changing technological environment, nothing can be extrapolated with certainty, even in a medium-term time frame. It is essential, then, that the urban planning process evolves with the rapidly changing social and economic structure of our country. It is, therefore, important to set up a permanent urban planning structure within the city government which will secure the continuity of the planning process.

**9.6.4** In fact how urban planning can most effectively be carried out will depend not only on the professional urban planners engaged in it, but also, and even more on the properly designed structure and working of the planning administration within the city government, and in the form and content of the urban planning function.

**9.6.5** At the city level, urban planning is subject to man-made factors, involving the relationships between the intra-urban transportation pattern and work and living places. It involves specifics of land-use patterns and functional requirements of individual cities and towns. Therefore, at the city level, there is an urgent need to make urban management more efficient and responsive to urban demands.

**9.6.6** Urban planning must be treated, not as a detached activity, as it is today, but as an integral part of the whole business of city government. Since local planning has to conform to state policies, so within the city government itself there are other departments whose needs and activities must be taken into account by the urban planning department and reconciled with its own, policy and proposals. Further, the implementation of the master directive plan calls for the cooperation of other departments.

**9.6.7** However, it is not that an urban planning department has to conform to the policies of others. Such a situation would reduce an urban planning department's functions to mere recording on the plan the claims on land of a variety of public interests. Hence the danger that, where planning is not seriously pursued, it is likely to degenerate into little more than this.

**9.6.8** The function of urban planning is to create a well-balanced synthesis of what might otherwise be a mere collection of separate policies and claims, to combine them into one consistent policy for the use and development of land within the urban area, to devise the means of translating this policy, in the physical conditions of that area, into a plan that is practical, economical and aesthetically pleasing, and to organise the implementation of the development for which the plan has provided.

**9.6.9** For urban planning to be fully effective in this manner it is necessary that the administrative arrangements within the city government structure should be such as to permit this synthesising function to have full scope. This function should be exercised not only in the formulation of the plan but throughout the total process of implementation.

**9.6.10** Under the existing town planning acts planning becomes a static concept regarded primarily as the preparation of a plan, the other aspects being left to be pursued independently by other departments. If this continues, the value of

urban plans will be lost. Therefore, if urban planning is to be properly performed, the organisation of a local planning authority should be such as to vest in the Chief City Planner the full responsibility, for handling the planning function.

**9.6.11** The institutional structure of municipal government, inherited from the British Raj, has proved to be inadequate in managing contemporary urban problems. It is not structured to cope with rapid urban growth or to manage cities of several million inhabitants; and yet, even after forty years of independence, municipal government in India remains unaltered. The Commission strongly feels that the time has come for initiating action on the restructuring of our system of city government and providing proper organisation for urban planning.

**9.6.12** The Planning Commission Task Force on Housing and Urban Development (1983), while making recommendations for planning at the local level, states that there is a consensus that municipal bodies should be strengthened to meet the planning needs of each city and town. Once the regional dimensions are spelt out by the state-level planning body, the responsibility as well as authority for planning at the city/town level must be that of the local government.

**9.6.13** It is quite possible for the Class 1 cities (with one lakh and above population) to develop their own urban planning capability in terms of qualified staff. Since there are 218 Class I cities (1981) which are likely to increase to 300- by 1991 and 400 by the year 2001, a substantial portion of the urban population will be covered by these city governments. However, it may be difficult for local governments in small and medium towns to support their own urban planning staff. For them, the state town planning organisation should set up a special wing for providing consultancy services in urban planning.

**9.6.14** Urban planning shares substantive concerns for the quality of life and environmental amenities with a number of other groups. Town planners must, therefore, work in teams with other disciplines. Because of the interdisciplinary nature of urban planning, the traditional structure of the town planning profession which has been dominated by architects, civil engineers and surveyors, must give way to the inclusion of economists, sociologists, geographers, etc. However, the distinctive specialisation of a planner in the conduct of team-work stems from his 'parametric perspective', detached from the special objectives of other professions and agencies, and his viewing of policies as system inputs.

**9.6.15** There are no prescribed solutions to the myriads of problems which the planner faces in the pursuit of his practice. With time, the urban planner has to find his level and formulate his own, very personal approach to the environment in which he functions. An urban planner's primary responsibility is to be concerned with the arrangement of physical space in the human environment so as to improve the quality of life for all.

### **9.7 Existing Urban Planning Acts**

**9.7.1** There are about sixty cities in India with urban planning/development authorities. These authorities are each governed by an urban planning/development act. These acts provide for the creation of the authority and charges it with promoting and securing the development of the concerned urban areas according to plan.

**9.7.2** The Commission having examined the key provisions of these state acts (which are all similar) underlined the weaknesses and inadequacies in the law. In reviewing the acts, reference is made not so much to plans themselves, but to the principles and methods by which plans are prepared, sanctioned and implemented.

### **Characteristics of the Urban Planning Process**

**9.7.3** It is necessary to establish, first, certain characteristics of the urban planning process and then, against these characteristics, make an appraisal of the urban planning/development acts. Urban planning is much more than the mere preparation of city development plans. Once begun, it is a continuum of preparation of the plan (city development plan), getting it sanctioned by government, and finally implementing it.

**9.7.4** To a large extent, the activities associated with preparation of a city development plan consists of research. The facts about the planning area which bear on its development are compiled. The present and future needs and resources of the area are evaluated, and development objectives drawn up. Urban planning proposals are formulated along with the measures needed to carry them out.

**9.7.5** The sanctioning of a city development plan involves review and appraisal. The sanctioning authority has to judge with special care the policies posed by the plan. And finally, its implementation requires both regulatory and development and redevelopment activities.

**9.7.6** When a plan is prepared, it has really to be in the form of a detailed programme of action. This, indeed, is the vital and essential character of a city development plan. Besides, a viable plan is both spatial and functional. While the spatial aspect relates to land-use policy, the functional aspect relates to the urban transportation and communication system, public housing and public utilities like water supply, drainage and power supply.

**9.7.7** Thus urban planning can be characterised as a continuous, coordinated, and programmatic process of effecting the development of an urban area. This is the functional concept of urban planning.



### **Appraisal of Urban Planning Acts**

**9.7.8** This appraisal is made with a view to indicating the administrative requirements of various major activity components of the urban planning process. The weaknesses and the inadequacies of the acts are indicated in relation to each component.

### **Plan Preparation**

**9.7.9** In the urban planning process, every major functional agency in a city whose activities significantly affect the development of the planning area is, in a way, a plan-preparing agency. In our cities, there is a multiplicity of such functional agencies, such as housing boards, water supply and sewerage boards, electricity boards, intracity road transport corporations, public works departments, railways, port trusts and the like. For its own activities, each such agency assesses its resources and projects, its service and urban improvement and development programme. Plan-making by these functional agencies has advantages; it is done by persons expert in the techniques of the functional agency's programme; it is done in close awareness of the needs of the agency and it tends to be practical, because it is usually influenced by an awareness of the problems of implementation.

**9.7.10** However, such plan-making is, by itself, inadequate for dealing with the complex problems of development of a city as a whole. Necessarily, each agency plans only for its own functions. Furthermore, single agencies lack the power to influence the plans of other agencies and some agencies may not have the staff or resources to prepare long-range plans. Technical expertise does not necessarily imply planning expertise also. Consequently, planning by functional agencies must be accompanied by plan-making at higher levels.

**9.7.11** A central planning authority at the city level, with a wide perspective, specialised physical planning skills, and sufficient resources must therefore prepare and maintain a comprehensive development plan for the city, revising where

necessary the functional agencies', plans. A close and continuous coordination of work must exist between the central planning authority and the functional agencies. This is particularly important when the central authority and the functional agencies are not under a single command.

**9.7.12** Therefore, while the acts make it clear that the urban authorities should prepare development plans (master plans), they must also make provision for the coordination of plan preparation by the urban planning authority with that of functional public agencies. The urban planning authorities must have systematic means of getting full information on the plans of the other public agencies and a method of adjusting their plans to its own and vice versa must be provided. Coordination will come from a systematic interlocking process, such as a review of the capital investment budget for various urban development and improvement projects; it will not come from mere membership of the planning-authority by heads of various functional agencies.

**9.7.13** The present urban planning/development acts do not adequately meet these requirements for effective administration of development plan preparation. On the contrary, the acts isolate the elements of the planning process, since they fail to provide the necessary linkages between plan-preparation by the multiplicity of functional agencies in the cities. Under the acts, only the planning authority has any part in the preparation of the overall development plan.

### **Plan Sanctioning**

**9.7.14** Since plans are programmes, the sanctioning of city development plans (CDPs) is a political decision. The development of a city is at stake, as may also be important private rights. The approval of a CDP, therefore, is a grave responsibility. It is akin to the enactment of a law.

**9.7.15** The value aspect of democratic participation in this function apart, there are several desiderata to be met from an administrative point of view in the sanctioning process. In the first

place, the sanctioning authority (state government) should be equipped to evaluate CDPs. This implies that it should have competent independent technical advice. Since CDPs, involve several functional agencies, conflicts of interest must be resolved on the official as well as popular plane. Since a COP is also a mandate to incur the expenditure required to implement it, its adoption will in effect, encumber the budgets of all the functional agencies involved in implementation. For these aspects of the sanctioning of plans, the states must devise administrative procedures. The acts suggest no standards of administrative discretion in sanctioning plans.

### **Plan Implementation**

**9.7.16** The essential characteristics of the urban planning process imply that the implementation of plans must be related to the other stages of planning, especially to plan preparation. The central planning authority which is required to coordinate plan preparation must also coordinate the implementation of plans. Only such an authority can have the perspective to oversee the entire implementation process and to provide direction and guidance, within the framework of a comprehensive development plan, and other plans. The devices of cooperation essential to coordination at the plan preparation stage are equally needed for implementation.

**9.7.17** The defects of our urban planning/development acts in relation to this issue arises from the sharp separation of plan preparation and plan implementation. Only the urban development authority, being a central authority for planning, can secure direct coordination of these two stages of the planning process.

**9.7.18** The urban planning development acts which are currently in operation in India are seriously deficient in respect of planning administration. The complexity and dimensions of contemporary urban development problems are too formidable to be tackled within the framework of the existing urban planning laws; to make the urban planning process more

responsive to the changing needs of the rapidly growing cities in India, the urban development acts are in urgent need of review and revision in the light of a realistic conception of urban planning.

### **9.8 Recommendations**

**9.8.1** The Commission recommends an urban planning process at the urban-area level in which the present emphasis on the statutory power of the long range vision of the city is shifted to the short-term management of the urban system. The organisation of this planning process is based on a two-fold strategy - one that is concerned with a policy which focuses on the performance goals for the urban area in a long-term horizon; and the other with programming that focuses on achievement of goals for specific functional activities or sectors or the subject areas that are of concern to the urban area for short and medium terms.

**9.8.2** The formulation of overall development policy should rest in the first of the three levels of urban planning, on the 'Master Directive Plan' for the entire city, and the programming should rest at the next two levels, namely the 'Execution Plan' and the 'Action Area Plan'

**9.8.3** Urban Planning responsibilities which have hitherto vested in the newly created planning authorities should be transferred to the city municipal bodies with a view to ensuring proper coordination and execution of urban planning and municipal programmes.

**9.8.4** Urban planning should be treated, not as a detached activity, as it is today, but as an integral part of the whole business of city government. While urban planning has to conform to state policies, within city government itself, there are other departments whose needs must be met and reconciled with its own planning policies & proposals.

**9.8.5** Once the regional dimensions are spelt out by State Planning Board, the responsibility for planning at city level must be that of the local government. However, for providing technical assistance to local governments in small and medium towns which may not be able to afford town planning staff special wings should be set up in the state town planning organisation.

**9.8.6** Because of the interdisciplinary nature of urban planning, the traditional structure of the profession, dominated by architects, civil engineers & surveyors, must give way to the inclusion of economists, sociologists, geographers, etc. However, the distinctive specialisation of the urban planner in the conduct of team-work stems from the 'parametric' perspective of the planner, detached from the special objectives of a profession or agencies, and viewing policies as system inputs.

**9.8.7** The commission would also like to recommend an alternative approach to the process of preparation of plans based on the following principles:

- (i) Preparation of plans at the lower levels, i.e., (functional agency levels) and urban planning authority level must be linked by all the devices necessary to ensure mutual knowledge of plans, and to guarantee that subordinate plans are rationalised within the overall city development plan.
- (ii) Plan preparation and plan implementation must be linked so that the urban planning authority may, as directed by the plan sanctioning authority (state government), interpret plans and, where necessary, call for the redirection of activity in accordance with those interpretations.
- (iii) Plan implementation by different agencies should be coordinated horizontally at the department level or local level where possible, but, where necessary, coordination may be secured vertically, through the urban planning authority.
- (iv) The sanctioning of a city development plan, since it is a mandate to carry out its terms, must be binding on all functional agencies.
- (v) The sanctioning authority should be so structured and equipped as to be able to evaluate the technical adequacy and political acceptability of the plan it brings into force.
- (vi) Provision will have to be made in the acts for the establishment of functional boards for housing transportation, water supply and drainage, urban renewal and environmental protection. The terms of reference must clearly lay down that each functional board of the city/town planning agency should be charged with the task of preparing detailed functional and area-development plans for housing, transportation water supply and drainage, urban renewal and environmental protection. The vital utilities of water, sewerage, electricity, and transportation must be supplied and housing provided in cities in accordance with the master directive plan. The functional plans will be concerned with the totality of the problems pertaining to the field of each board's concern.
- (vii) The responsibility for coordination of plans, programmes, and projects of the functional boards should be vested in the city/town planning agencies. It should be the function of the planning agencies to prepare short-term capital project programmes (execution plans) and a corresponding budget for the city indicating the phasing of the programmes and their financing. The vesting of the capital-budgeting function in the planning agency is the only dependable means of ensuring coordination among various agencies executing development projects in a city, and the attainment of targets and objectives of plans.

## 10. URBAN FORM

### 10.1 Introduction

**10.1.1** Cities are extremely complex mechanisms, generated by many diverse factors. Looked at one way, they are the outcome of economic and fiscal policies; from another point of view, they are the direct expression of the socio-political forces at work in society. Then again (and perhaps in the final analysis), they are material entities, existing, like other pieces of hardware, in a physical world.

**10.1.2** It is this physical aspect of the city which we will examine in this chapter, for the Commission firmly believes that, even within the socio-economic-political parameters existing in India, our towns and cities could function considerably better than they now do. In other words, given our levels of per capita income, prevailing technology, physical and financial resources, our urban centres, as pieces of hardware, could work better; their functioning could correspond more precisely to our needs.

**10.1.3** Today, there is a brutal mismatch between the form of our cities and the way we use them. How could they be refashioned to better suit our purposes? This question is of particular importance to us in India because of the rapid urbanisation which lies ahead. As was discussed in an earlier chapter, Dimensions of Urbanisation, the urban environment we see today, both in terms of physical size as well as number of inhabitants, is only about half of what will exist at the end of the next two decades. Thus we have an extraordinary opportunity (and obligation) to consider new growth options concerning not only the development of urban settlements across the nation (see the chapter on Spatial Planning), but also the

physical form and characteristics within each urban centre, from the largest metropolis to the smallest town.

**10.1.4** It is of vital importance that we undertake this task. Because of the prevailing low levels of income, more than half our urban population cannot afford to buy more than 2 or 3 sq m of pukka construction (RCC and/or brick) per household. Of course simple mud and bamboo houses built in sites-and-services schemes would be very much cheaper; but here the cost of desirable urban land becomes exorbitant. Thus these projects tend to be relegated to unwanted land on the edge of the city - a miserable location, since the inhabitants are far away from public transport lines, and hence from employment. On the other hand, in high-rise schemes, the cost of service infrastructure, including efficient mass transport, is much lower. However, the cost of the multi-storeyed buildings themselves is well beyond the reach of the vast majority of our urban people.

**10.1.5** Indeed, as long as we deal with the problem in small bits and pieces, we cannot hope to find any real solutions. To address the urban growth that lies ahead, we must perforce start with an overview; we must examine the entire system we call 'city' and try to identify those living patterns, those lifestyles, which are of optimal relevance to our economic capabilities, cultural patterns, climate, etc., in their totality - including roads, services, schools, transportation systems, social facilities and, of course, the buildings themselves.

**10.1.6** This is indeed the main thrust of this chapter of the Commission's report. We begin with trying to identify appropriate built-form in the context of the site next we examine it from the viewpoint of public spaces; and thirdly, in terms of the city structure as a whole.

## 10.2 Densities

**10.2.1** To identify what might be appropriate built-form, let us begin by looking at what we can afford. As can be seen from the chapter on Housing, about 30 per cent of the households in urban India live below the poverty line and have an affordable capital for housing of less than Rs. 5,000. The next 30 per cent earn less than 1,000 per month and have an affordable capital of approximately As 13,000; for the next 25 per cent, the figures are Rs 2,000 and As 40,000 respectively. Only the top 7 per cent of households earn more than Rs 3,000 per month, and have an affordable capital in excess of Rs 1 lakh. Could these amounts be augmented through subsidies? Unfortunately, as discussed in the chapter on Finance this is not really possible. Urban problems should never be tackled at the expense of the rural population; furthermore, any cross-subsidies available within the urban sector for have many other priorities: job generation health, education, and so forth. Thus talk about producing high-rise housing for the masses is absurd, since the high land values and the expensive construction that such a typology represents can be afforded by only a small segment of our society - forcing the others into squatter colonies, and precipitating exactly the kind of polarization which is destroying our cities like a cancer (Fig 1). *[not included here]*

**10.2.2** What then is the most appropriate built-form affordable within this budget profile? One of the key determinants of the answer is density, (i.e., the number of persons per hectare of land) Now density is determined by two factors: firstly, the total amount of built-up area, (i.e., the, FAR, or Floor Area Ratio) permissible on a given site; and secondly, by the amount of this built-up space that is assigned to each household.

**10.2.3** FARs in Indian cities generally run between 0.5 to 3.0, and their relationship to built-form is as shown in Fig 2. *[not included here]*

It should be noted that as the number of storeys increases, the FAR does not rise in direct proportion, but is on a gradually flattening curve. This is because the taller the structures, the further apart they must be placed in order to provide adequate light and ventilation.

**10.2.4** Densities also vary with the amount of space assigned to each family, that is, in effect, with the income levels of the households. As area per household decreases, densities rise. However, this effect is considerably diminished if we take into account the community areas needed at the neighbourhood level for each family (e.g., tot-lots, schools, health centres, etc.). Under Indian conditions, such spaces total about 30 sq m per household (not including space-intensive uses like playfields and green belts). Figs. 3, 4 and 5 *[not included here]* plot the relationship between FAR and overall densities (both within the building site and at the neighbourhood level) for various sizes of housing units.

**10.2.5** From Fig. 3 it can be noted, instance, that for housing units of 25 sq m area, as the FAR increases from 1.0 to 4.0, the net sital densities also increase by 400 per cent; the neighbourhood densities, however, increase by only 50 per cent. Given the affordability levels outlined in para 2.1, it can be seen that higher FARs are of only marginal relevance to the vast majority of our urban population - in fact, they are largely counter-productive if one takes into account the costs involved.

### 10.3 The Crucial Trade-Offs

**10.3.1** Almost all the major cost factors incurred in the construction of built-form are a function of densities. Broadly speaking, they fall into four categories:

1. Service infrastructure (roads, water and electric supply, sanitation, etc.)
2. Transport (public and private)
3. Building
4. Land

**10.3.2** These variables do not all affect costs in the same manner. The costs of Service Infrastructure and Transport vary inversely with densities, moving along a curve towards a point of diminishing returns. In the case of the other two factors, viz. Land and Building, the relationship of costs to densities involves a somewhat more complex trade-off. Building costs of course depend on the type of materials used. In the warm climate of India, shelter can be made from a wide variety of simple materials like mud and bamboo and sun-dried brick, construction is of necessity low-rise. Better quality kiln-fired bricks, used in load-bearing walls, can build up to four storey walk-ups; but as construction goes higher, it has to change to RCC - not because the climate demands it, but for structural strength. This of course brings considerable escalation in cost. (In the cold climates of Europe and north America, these variations in construction costs have a much narrower range, since even a ground-floor house must, of necessity, be constructed of relatively expensive, thermally insulated materials) Table 1 lists some of the alternative construction specifications most prevalent on our urban scene today.

**Table 1. Construction Alternatives**

A. Kutchha construction	Approximate cost per sq m
Scrap material	Rs 100/-
Mud and bamboo	Rs 200/-
Sun baked bricks and Country-tile roof	Rs 400/-
B. Pucca construction (brick and/or RCC)	
Ground and 1 storey	Rs 1000
4-storeyed walk-ups	Rs 1500
7-storeyed apartments	Rs . 2000
Over 10-storeyed high-rise	Rs. 3000

**10.3.3** The other key factor in these trade-offs is land. Although hard data on land prices in urban India are not easily available, a study carried out by the Town & Country Planning Organisation (TCPO) in 1984 provides a broad picture of this component. It shows that, around 1983, land prices ranged between a maximum of Rs 15,000/sq m in Bombay (Colaba) to a minimum of about Rs 20/sq m in cities like Ahmedabad, Hyderabad and Pune. Although unspecified in the report, the lower price probably refers to large, undeveloped tracts of fringe land which are about to be converted from agriculture to urban use. As the cost of laying a minimal infrastructure network is about As 50/sq m of gross area, the lower end of urban land-prices could be assumed to be As 70/sq m.

**10.3.4** Now, as the FAR increases, the buildable area goes up (necessitating taller construction) and the cost of the land component per sq m of built-up area decreases along a curve. At the same time (as we have just seen in para 3.2) construction costs increase as building heights rise. For a given land price, the most economical built-form lies at the point of trade-off determined by the intersection of these two curves (see Fig. 6) [*not included here*].

**Fig. 7. Optimal built form, Housing Budget (Rs.)**

Land Price Rs./m <sup>2</sup>	Household Percentile	5000.00 0-30 Mud &	19500.00 31-70	40000.00 71-85	65000.00 86-93	100000.00 94-97	175000.00 98-100
50.00	Const.Type	Bamboo	Ground	Ground+1	Ground+1	Ground+1	Ground+1
	Plot Area	25.00	25.00	36.67	60.48	93.81	165.24
	Built Area	11.25	16.75	36.67	60.48	93.81	165.24
	FAR	0.45	0.67	1.00	1.00	1.00	1.00
100.00	Const.Type		Ground	Ground+1	Ground+1	Ground+1	Ground+1
	Plot Area		25.00	33.64	56.36	88.18	156.36
	Built Area		14.00	33.64	56.36	88.18	156.36
	FAR		0.56	1.00	1.00	1.00	1.00
200.00	Const.Type		Brick & Tile	Ground+1	Ground+1	Ground+1	Ground+1
	Plot Area		25.96	28.33	49.17	78.33	140.83
	Built Area		20.87	28.33	49.17	78.33	140.83
	FAR		0.80	1.00	1.00	1.00	1.00
500.00	Const.Type			Ground	Ground	Ground+1	Ground+1
	Plot Area			25.00	25.00	56.67	106.67
	Built Area			12.50	10.00	56.67	106.67
	FAR			0.50	0.40	1.00	1.00
1000.00	Const.Type					Ground+1	Ground+1
	Plot Area					35.00	72.50
	Built Area					35.00	72.50
	FAR					1.00	1.00
2000.00	Const.Type						4 Storeys
	Plot Area						27.06
	Built Area						40.59
	FAR						1.50

Note: Land prices are in Rs. per Gross m<sup>2</sup>, Circulation and Amenity area per household is 30 m<sup>2</sup>.

**10.3.5** Fig. 7 summarises paras 10.2.1 through 10.3.4 by identifying these optimal construction specifications, FAR, and dwelling unit area, in the context of varying budgets and land costs.

#### 10.4 Low-rise, High-Density

**10.4.1** Comparing the findings in Fig. 7 with - the resources identified in para 2.1, it is clear that, for the vast majority of urban India, the Optimal built-form is low-rise construction. It is only 7 per cent of our urban population that can afford anything taller - and this is precisely the income-group that prefers to live in bungalows! Because of our warm climate, terraces, gardens and courtyards have a high usability coefficient for most of the year. Masala pounding, papad

making, relaxation in the evening on a charpai, and even sleeping at night, all take place in such spaces - they are almost as useable as rooms. In fact, if the advantages of these open-to-sky spaces are taken into account, then the cost/benefit trade-off would come down even more decisively in favour of low-rise, high density (LRHD) built-form, since it is possible to promote the use of such spaces primarily through a pattern of individual houses" (as opposed to apartments). Henceforth, instead of viewing sites-and-services schemes merely as ghettos for the urban poor, that typology should be perceived as part of a continuum of LRHD urban form that stretches all the way up the income profile to the elegant town house, making this form of tightly packed indi-

vidual houses one of crucial relevance to the entire spectrum of income groups that constitute our society.

**10.4.2** This typology of LRHD has several other decisive benefits as well:

- (a) It is incremental. That is, it can grow with the owner's requirements and his earning capacity. This advantage may soon become a political imperative in our nation, where available resources, at least for the next few years, are going to be pre-empted by other priorities.
- (b) It has great variety, since the individual owner can design and build it according to his own needs.
- (c) This pattern is far more sensitive to the social/cultural/ religious determinants of our environment - factors which are of increasing concern to us. For in such a pattern it is relatively easy for the people to adjust the spaces to suit their own preferred lifestyles.
- (d) The open areas left between high-rise towers are nowhere as useable as the small scaled organic spaces generated by low-rise built form. This matter is of crucial importance since occupants, over a period of time, must find ways of colonising and personalising the spaces they inhabit. Such individual and cultural identity can only be created in a dis-aggregated world.
- (e) It makes for speedier construction since an individual building his own house is a highly motivated person. Furthermore, this initiative would engender an increase in per capita savings, so that housing is built without sacrificing other national investment targets.
- (f) A low-rise building has a much shorter construction period. Thus, the interest cost of capital tied up during construction is considerably less.
- (g) Then again, since this capital is tied up for a much shorter period, the velocity of its circulation increases, thus allowing it to generate a much larger quantum of housing.
- (h) It need not consume high-priority construction materials. As we have seen multi-storeyed buildings must of necessity use steel and cement, commodities which are in excruciatingly short supply. On the other hand, the individual house can be built from a wide range of inexpensive materials, and improved over time
- (i) It increases employment in the bazaar sector of the economy precisely where the migrants are arriving. In contrast, large high-rise buildings restrict activity to the handful of developers who can organise the staggering bundles of finance needed for such projects, to the very few engineers and architects who can design the structures, and to the even fewer construction companies that build them, not to mention the profits, much of which goes to the banks which underwrite the deals. Compare this to the number of jobs in the bazaar sector (masons, carpenters, petty contractors, etc.), that the same amount of investment would generate if the pattern of development consisted of the kind of built-form we find in traditional architecture throughout the world, viz., small tightly-packed buildings, each one to four storeys high.
- (j) Maintenance is much easier in low-rise buildings. The cheapest whitewash can be slapped on by a person on top of an ordinary ladder. In contrast, high-rise buildings are expensive to maintain, since painting them requires special external scaffolding; and if this is not done regularly, as they rise above the tree-tops, they can despoil the skyline for miles around. This phenomenon is getting to be a horrific problem in most Indian cities.



- (k) Experience throughout the world has shown that even in everyday administrative problems of law and order, the advantages of LRHD built-form are indeed overwhelming. The anonymity of the high-rise block facilitates crime, whereas in low-rise buildings the inhabitants themselves, looking casually out of doors and windows, are the neighborhood's best protection.
- (l) But there is one other advantage in this pattern of housing that may prove to be the most decisive of all, and that is **EQUITY**. Today the amount of urban space one commands is directly proportional to one's status and/or income: it has no connection with actual family size (poor people have families as large as rich people do, in fact, larger). This space differential, therefore, cannot be justified in human terms, but only in brutally economic ones. In certain other societies, e.g., in Australia, almost every family has a quarter-acre lot - no more, no less. Australia is locked into equality - one senses that it could never become elitist. The exact opposite is true of most of urban India. Despite all our rhetoric about social justice and equal opportunity, we are locked into inequality. Our cities make sure of that.

**10.4.3** To summarise: income profile and affordability considerations suggest that a range of small and medium plot sizes, between 25 sq m to 100 sq m (with some plots perhaps up to 200 sq m) can satisfy the needs of over 95 per cent of the urban population. It is a typology more economical than apartments (since no space is wasted on public circulation and lifts), and one which provides far superior living conditions. Furthermore, it would help to decrease the grotesque urban disparities prevalent on our urban scene. ('Tell me how much urban space you command and I'll tell you who you are'). It would also liberate the public from the developers, since this typology is, by definition, one that can be

constructed individually and unilaterally. Assuming an average plot of 50 sq m per five-member family, this pattern "generates a net density of 1000 persons per hectare, (i.e., a gross residential density of 500 persons/ha, if we take into account local circulation and social facilities).

**10.4.4** Similarly, 100 sq m plots would generate gross residential densities of 250 persons/ha. To give a specific example: construction in Malabar Hill in Bombay consists of high-rise apartments. Yet the prevailing FAR of 1.33 could be achieved in individual terrace houses on 100 sq m sites - each house having a coverage of 60 per cent on the ground floor, 40 per cent on the 1st floor, and 33 per cent in a barsati, adding up to a total of 133 sq m, which is the area of a typical 3-bedroom apartment in Malabar Hill. The area of accommodation would be the same, but the pattern would allow a vastly Superior lifestyle, one involving small lawns and terrace gardens, and direct access from the outdoors into your house! The reason this does not happen is, of course, that the sites are not sold in packages of 100 sq m or thereabouts, but in lots of 1000 sq m or more, thus forcing people into a typology of apartments.

**10.4.5** Another crucial advantage of this typology is that it allows a clear demarcation between the role of official agencies (preparing site-layouts, providing services, etc.), and that of the people/cooperative societies (designing and building the units themselves). On no account should centralised official agencies construct dwelling-units - which, with a few notable exceptions, has led to poor workmanship and corruption, all at public expense. We must disaggregate the processes of production. Only then will we achieve diversity, cultural expression, motivation, identity, economy and all the other crucial objectives we have been discussing.

**10.4.6** In order to operationalise this process, the Commission recommends that the city authorities should lease these plots not to individual buyers, but to cooperative societies of 10 to 100 members each. Should the members of a cooperative society decide to pool their land and build group housing or apartments at higher FARs (at nodal points in the city structure, selected by the planning authorities), they should be free to do so, provided the total number of dwelling units remains the same. This maintains the principle of land equity and, at the same time, allows the freedom to live in apartments if so desired.

## 10.5 Density Thresholds

**10.5.1** From the preceding, it is clear that as long as our cities remain within certain density thresholds, (i.e., neighbourhood densities of 250 to 1,000 persons/ha.), there are efficient and cost-effective solutions within our resources. Which brings us to the question: just how much of urban India lies beyond the density thresholds we are discussing here? Table 2 shows densities prevailing in 228 Indian cities of various sizes (based on ward-wise population data from the census).

**Table 2. Distribution of Population Densities in 228 Cities**

City Size	% Distribution of Population and Area						
	Density range persons/ha.	Less than 62.5	62.5 to 125	125 to 250	250 to 500	500 to 1000	above 1000
1. 10 lakhs +	P	16.0	23.0	25.0	23.5	12.0	0.5
	A	61.3	19.0	12.2	6.1	1.4	-
2. 5 lakhs to 10 lakhs	P	29.6	12.4	20.4	18.0	16.7	2.9
	A	75.8	9.3	7.2	2.5	1.5	0.2
3. 1-5 lakhs	P	33.0	21.2	18.6	13.0	10.2	4.0
	A	79.3	14.6	6.2	2.2	1.0	0.2
4. 50,000 to 1 lakh	P	43.4	18.9	17.5	13.1	5.5	1.6
	A	82.3	10.1	4.8	2.2	0.5	0.1
5. 20,000 to 50,000	P	48.1	15.5	17.1	13.9	4.6	0.8
	A	92.2	4.3	2.4	0.9	0.2	-
6. Less than 20,000	P	47.7	13.5	15.2	19.0	4.2	0.4
	A	93.2	3.3	1.9	1.4	8.2	-
7. All	P	32.6	18.9	19.7	16.0	10.3	2.5
	A	80.3	10.7	5.7	2.4	0.8	0.1

**10.5.2** Note that most of the high gross densities tabulated, particularly in inner cities, are not necessarily due to high-rise buildings, but are more often the result of the virtual absence of parks and open spaces, health and education facilities, road space, and above all, extreme overcrowding in the built-space itself. Furthermore, since the densities are gross, lower densities in some cases may occur on account of the predominance of non-residential uses. Notwithstanding these limitations, one conclusion can be drawn unequivocally, viz., only a minuscule fraction of the cities cross these high-density thresholds. The problem then is to see how we can manage land use in order to avoid such

pressure points. The Commission is of the opinion that this could be done in two ways: firstly, by interventions in the city structure (see chapter on Planning the City) and, secondly, by readjusting land-use allocations within the city itself, as it grows (discussed later in this chapter, in paras 14.1. through 14.9)

## 10.6 Public Spaces

### The Spectrum

**10.6.1** In every city, there is a wide range of public spaces, from streets, chowks and public squares, to parks and maidans, and including important civic and religious buildings. We seem to be

curiously indifferent to these crucial determinants of our urban environment. Our lack of concern for (and more often than not, callous misuse of) these spaces have reduced our urban environment to the pitiful state it is in today.

### 10.7 Streetscape

**10.7.1** A component of primary importance to any city is the quality of its streets. In India, from the earliest times of Harappa and Mohenjodaro, through the Vijayanagar town of Hampi, right up to Jaisingh's Jaipur, the street as an architectonic environment has been superbly understood. Buildings are not allowed to be placed at random points on the site, but are organised to form continuous facades, thus defining the public right-of-way. Hence the pink city of Jaipur, a great piece of sculpture where the facades of the buildings relate to the public spaces the way walls relate to the rooms they contain.

**10.7.2** The cantonments, built by the British, followed a different pattern. There the structures were free-standing, set in the middle of large compounds. This pattern was largely an outcome of the need for security (since the large compound, like the maidan, served to keep the natives at a distance); but they were also a hand-me-down version of the 18th century taste of the English country squire, whose abhorrence of the urbanity of city life had filtered down to the colonial administrators. Thus India, and specially her ruling classes, inherited the idea of an elite living in large anti-urban bungalows right in the heart of huge crowded cities — as witness New Delhi (or, on a smaller scale, Chandigarh).

**10.7.3** The result of course is that the streetscape gets totally destroyed. This has been compounded by a compulsion among city engineers in recent years to incorporate road-widening schemes, quite indiscriminately, in city master plans. Thus, even existing examples of good streetscape Which we have inherited, like Dadabhai Naoroji

Road in Bombay, are lost because any new building, (e.g., the rebuilt Alice Building which was destroyed a decade ago in a fire) has to be placed along a new, deep setback line. The result has been a jolting visual break and the virtual destruction of the character of that section of Dadabhai Naoroji Road. A great deal has been lost, and nothing has been gained: because there is really no way that, in the foreseeable future, the other buildings along, the road will also be pushed back; and even if they were, the scale of the street would certainly be destroyed.

**10.7.4** In this matter of streetscape, scale is of primary importance - which is why, although traffic has been growing by leaps and bounds, there is no road widening whatsoever in the heart of any of the great cities of the world: such as Paris, London and New York. The city planners there have comprehended the monstrous price that has to be paid for such butchery. Nevertheless, in India, the motorist lobby keeps encouraging these road widening plans in our city centres effectively destroying them in the process. (The wider roads only entice yet more cars, thus generating ever bigger traffic jams - and effectively postponing once again the crucial switch to public transport.)

**10.7.5** This lack of coherent streetscape - almost endemic to Indian cities over the last few decades - has another lethal impact on urban-form as well. A prime example can be seen in the nation's capital where, in a very recent edict, a high FAR (2.5) has been combined with a maximum plinth area of 25 per cent. This forces the construction of high-rise buildings (at least 10 storeys high, plus 3 or 4 parking floors). Furthermore, the savage setbacks on all sides makes certain that these towers will have no relationship whatsoever to their neighbours, nor to the street.

**10.7.6** Now although there is certainly a case for intensification of land-use in Delhi (in order to counteract the wasteful low-density sprawl that is

devouring the agricultural hinterland around), such densification cannot be accomplished by a blanket jump of FAR right across the city. Instead, there should be increases at selected nodal points, depending upon the holding capacity of each area. Furthermore, this densification will have to be related to the mass transport network, so that corridors of high density demand are developed, enabling the Delhi Transport Corporation to run more efficient and economical services.

**10.7.7** In examining this issue of densification, it is essential to distinguish between high-rise and high-density. The two are not synonymous. For instance, with a plinth area of 50 per cent, an FAR of 2.5 would require a height of only five storeys. In fact, in places like Ballard Estate in Bombay, where the building starts around the boundary of the plot, a ground and five-storey building contains a floor area equivalent to an FAR of 6.0!

**10.7.8** In a city like Paris, at pedestrian eye-level, there are parks and boulevards with many trees, but from the air we can perceive that the site coverage is very high - thus allowing high density through built-form which is not more than five or six storeys high.

**10.7.9** On a street where the higher FAR does not necessitate more than 5 storeys, there is no discontinuity between new construction and the existing context. Where new development must perforce reach 10 or more storeys, the discontinuities are brutal. Since a great many independent land owners are involved, new construction (to consume the higher FAR) will occur sporadically over a period of years, thus creating visual chaos all across the city:

**10.7.10** Which brings us to a cardinal principle of urban-form throughout history; that, in the past, the relationship between buildings and cities were analogous to those of spare parts to machines. Thus it was possible to add a spare part, (e.g., a new house in Jaisalmer, or a shop in the bazaar in

Hyderabad), because one knew what the whole machine looked like. Today our city centres (like downtown USA) are beginning to look like a collection of spare parts with 410 one having the slightest idea of - nor responsibility for - what the whole machine is about. And even where there are well-meaning and statutory bodies (like the Urban Art Commissions in Delhi and Bangalore), they have not been able to proceed on the basis of any conceptualisation of the overall machine, but mostly through well-intentioned ad hoc decisions about the spare parts.

**10.7.11** We are strongly of the view that these confused and ineffectual approaches must end. Coherent urban-form demands a controlled streetscape, one in which mandatory building lines are clearly specified - which could be along the plot line in commercial areas, and 5 to 10 metres back along main residential roads. It should be compulsory for any building to construct at least 50 per cent (and in some cases, 100 per) of the main facade along these lines. Such controls would indeed constitute a great leap forward towards creating legible urbancape.

**10.7.12** Secondly, where the scale of the street is to be preserved, the built-from envelope could take the form of a stepped section (Fig. 22) [*not included here*] thus allowing larger built-up areas without destroying the quality of the existing environment.

**10.7.13** Where appropriate, an arcade should be mandatory (Fig.23) [*not included here*], so as to provide a shaded promenade so useable in our climate.

## 10.8 Streets for People

**10.8.1** Given the massive number of pedestrians moving around our urban centres, it is surprising that, in most areas, motorised traffic still has the right-of-way, if not by fiat, then by sheer muscle-power. In a sort of pen, revenge, some

pedestrians defy the status quo by brazenly walking along the roadway reserved for traffic. The result is confusion and chaos.

**10.8.2** It is essential that we disentangle the right-of-way for each kind of traffic. In this process, there emerge compelling reasons indeed for creating once again the kind of pedestrian precincts that existed in the past. Such precincts have been reintroduced in many of the cities of Europe, with spectacular success. Here in Asia, they have been operating for decades in places like the Ginza in Tokyo. And in China, most of the city centres consist of wide sidewalks reserved for pedestrians, and separate lanes for cycles and buses, resulting in an enviable degree of urban order and harmony (Fig. 25). *[not included here]*

**10.8.3** In evolving these pedestrian precincts for Indian cities, it is essential that space for licensed hawkers is also incorporated. Today the presence of uncontrolled and illegal hawking is evident everywhere (Fig. 26). *[not included here]* The answer does not interfere with the movement of people and yet, at the same time, keeps the otla immediately accessible to any potential shopper. After all, the relationship between the hawkers and the public is a symbiotic lies not in trying to remove the hawker (which serves only to increase the 'hafta' he must pay the local hawaldar) but in clearly specifying (and licensing) the places from which he can operate. For instance a 2 m x 2 m otla, 0.5 m high, could accommodate four hawkers, each sitting on a clearly demarcated, numbered and licensed 1 m x 1 m space (Fig. 27). *[not included here]* Such otla could be placed in clusters within the pedestrian precincts, in a pattern which one: they need each other. For the average urbanite, these hawkers provide a wide range of goods, from food to clothing, at prices considerably lower than at the local shops. These transactions in turn generate more employment exactly where it is needed - among the migrants in the tertiary sector. Properly landscaped with

trees and benches, these precincts could make a decisive difference to the quality of life in our urban centres.

## **10.9 Chowks and Public Squares**

**10.9.1** Whether in the smallest village or in the largest metropolis, an intersection of two roads becomes a special place. The chowk, which literally means 'four streets' has been an element of urban-form in India right from the earliest times. In its grander manifestations, it assumes the form of a large public plaza, like Hutatma Chowk (Flora Fountain) in Bombay. These constitute important nodal points in a city and should be well looked after. Today because of our pandering to motorists, they have, almost without exception, been converted into glorified parking lots (Fig. 28.) *[not included here]*

**10.9.2** It is imperative that we take steps to correct the situation. The number of cars allowed to park in these places should be severely restricted, and even these should be allowed only along the edges of the plaza. Our present policy of surrendering the centre of the public space to parked automobiles is suicidal since the glare coming off the metallic tops makes it impossible to see the central statue that the plaza is commemorating. The difference is illustrated in Figs. 29 and 30 *[not included here]* (which explains why this particular principle of urban design has been a well established practice in most European cities over the last several decades).

## **10.10 Parks and Maidans**

**10.10.1** We all agree that open spaces are the lungs of city-which makes it all the more dismaying to perceive that over the last four decades since independence, while most of our urban centres have tripled and quadrupled in population, at most no new assets of this kind have been created.

**10.10.2** With the possible exceptions of Delhi and Bhopal (both of which have had admirable policies for continuously creating new public open spaces), the record for the rest of the country in this behalf is abysmal. Even Bangalore, our so-called 'garden city', has created no major new assets in this direction and is still living off Cubbon Park (created by the colonialists) and Lalbagh (courtesy, Tipu Sultan). At least Bangalore was lucky enough to inherit these amenities; most Indian cities have no such patrimony, and the few public 'Open spaces that exist are continuously being eroded by encroachments of one kind or -another. (In this connection, it is shocking to note the unscrupulous manner in which State governments have been feathering their own nests - as for example, the erosion of maidans in Bombay).

**10.10.3** City governments must accept responsibility for preserving such amenities as exist, and furthermore, of generating schemes to create new ones over the next few years. Right now, many of the maidans we have in our large cities are preserved not by the municipal authorities, but by the military, as witness Chowringhee in Calcutta. In fact, it can be persuasively argued that it is the holdings of the Defence Ministry in Bangalore which gives the city its 'garden' look. The areas owned by the private sector are getting as crowded and over-built as the rest of urban India. Sadly, we note that the military is beginning to follow suit, as witness the mass of high-rise structures which have been built in the military area in Colaba, in south Bombay. Since these military holdings are of such importance to our cities, it is imperative that their development is undertaken in consonance with the overall urban form we are seeking.

**10.10.4** Yet, merely increasing the number of maidans (open spaces) is not, in itself, a panacea; for maidans are not used by the entire populace, but only by those age groups that play cricket, football and other such games. No little toddler

of two or three years would dare to play there; nor does one see middle-aged couples using them for evening strolls. On the other hand, the pavements along the seafront in Bombay - which incidentally do not show up in the statistics! - are one of the great community spaces of this city. Obviously, we should generate many more such promenades; they are the heart of the social and cultural life of tropical/temperate zones. The Latin cities - Paris, Rome, Rio de Janeiro - have always understood this; hence the boulevards with their broad pavements and cafes. Land used for such boulevards may be far more cost-effective than conventional 'green areas'.

### **10.11 Civic and Religious Buildings**

**10.11.1** The intelligent placing of important civic and religious buildings at nodal points in the city structure is of primary importance in the generation of coherent urban-form. This was done with spectacular success in the great cities of the past (as witness, Fatehpur Sikri), as well as in this century, (e.g., Lutyen's Delhi). These monumental buildings become urban 'events', not only giving character and meaning to the environment that surrounds them, but also acting as coordinates on the city-scale, providing a sense of orientation and direction to the passers-by.

**10.11.2** In the final analysis, such images can become the symbols for the entire city, as has been the case of the Charminar in Hyderabad, and the Gateway of India in Bombay. Given the environmental scale of urbanisation that lies ahead, it is important that we in-built an understandable structure of such urban events into the fabric of the city as it grows. These nodal points (and the images they create) serve to articulate the entire neighbourhood, giving each of them a distinctive identity. They generate a greater sense of civic life, thus allowing the city to expand not as an amorphous, undifferentiated mass of built-form, but with coherent and rhythmic syntax.

## 10.12 City Structure Poly-Centered Growth

**10.12.1** Such nodal points (which, over time, can appear to contain the very soul of a city) are of crucial importance in helping us to physically structure new areas of cities as they grow over the next two decades. Unfortunately, since the mid-1940s, our cities have grown on the basis of structures no longer either relevant or functional. Thus the nine million citizens of Bombay today continue to use a linear, north-south structure that started getting over-extended forty years ago when the city crossed two million. (Even in nature, the size and pattern of arteries and vertebrae, etc, are determined by the mass and bulk of the organism to be serviced. An elephant has a totally different system from that of, say, a bird. To deal with urban growth is to pay the greatest attention to such principles.)

**10.12.2** Thus questions of city size can be meaningfully addressed only if we look at city structure as well. It is structure that determines the holding capacity of a city, as also the amount of urban land generated, the pressure points, etc. Bombay is in deep trouble not just because of its enormous population, but also because its linear structure has a dominant focus at one end, which gives it a very limited holding capacity. But a Bombay consisting of five different centres, each of two million citizens or less, ringed around the harbour, would be quite a different story.

**10.12.3** Poly-centred urban systems are nothing new. All the cities of Holland (Amsterdam, The Hague, Rotterdam, etc.), form one interdependent urban system of several million people - yet each individual city is quite small. Another poly-centric system is the urban structure of Goa (Panjim, Margao, Vasco, Mapusa, etc). Given the growth that lies ahead, most of our cities would probably gain immeasurably by being restricted to form polycentric systems which:

1. allow citizens to enjoy the better quality of life obtainable in smaller centre, as well as the economies of scale inherent in being part of a larger 'system; and
2. offer more growth options for future generations.

## 10.13 Transport, Jobs and Infrastructure

**10.13.1** How can we restructure cities towards these poly-centric patterns? Largely by the intelligent deployment of work areas, and the transport network that interconnects them. 'These are the basic tools that open up more land for a city. Since economies of agglomeration promote concentration of employment, the effective supply of land for residential development can be ensured only by distributing work areas equitably across the city. In fact, by locating employment centres within residential areas, travel distances and costs can be further reduced, and sometimes eliminated altogether. Furthermore, small-scale and cottage industries (printers, weavers, carpenters, etc.), are more likely to survive economically if we minimise the impediments that come in the way of their setting up shop. In this respect, certainly the age-old patterns of - the work/dwelling mix found all over India (as also in the shop-houses of south-east Asia) are far more humane - and economical - than the exclusive zonal systems introduced by modern town planning. It is essential that our policies are amended to encourage mixed land-use on the basis of performance criteria.

**10.13.2** In the dynamic context of evolving city structure, transport (particularly the public train and bus system) can play a decisive role. Initially, cities are small and most travel needs are satisfied by walking or bicycle trips. With time, cities grow in a concentric -manner and, at a certain stage, travel time, distances, and costs increase to such an extent that demand can be satisfied only by economical systems of public transport -which

being linear functions, become viable only in the context of a land-use plan which develops corridors of high-density demand. The city structure must be amended to reflect this. Bombay, for instance, is a linear city based on two parallel commuter train corridors. Even today, for a few rupees you can buy a month-long railway pass valid for an unlimited number of journeys from north to south, a distance of over 40 km. On the other hand, Delhi, being a low-density sprawl of even distribution, cannot support an economical mass transport system. To attempt a viable mass transport system in Delhi will necessitate first creating a series of linear sub-structures. That is to say, into the existing land-use pattern we must inlay high-density housing developments in a manner which generates corridors of demand, down which the mass transport will run. Until the city structure is so modulated, subsidies on Delhi's public transport (over 150 crores a year) are just so much national resources down the drain.

**10.13.4** With regard to service infrastructure costs, it has already been pointed out that LRHD

built-form is capable of providing densities equal to those existing in most city centres. Furthermore, such a pattern of built-form makes low-cost infrastructure technology relevant and feasible: pour-flush, twin-pit latrines, small-bore sewers for sanitation, borewells with hand pumps for water supply, and so forth. Thus energy consumption (which in high-rise development is essential for the pumping of water, far vertical transportation, etc.), is rendered minimal.

#### 10.14 Land-use Allocations

**10.14.1** But since this LRHD built-form requires marginally more land it is essential that we return to the question of how, during the process of massive urban growth that lies ahead, we can adjust land-use allocations within the city. Now, contrary to common belief, buildings do not occupy the majority of land area in our towns and cities. Table 3 presents typical land-use allocations in urban centres of various population sizes.

**Table 3. Land-Use Allocations**

City Size		% of Developed Land								
		Resi- dential	Commer- cial	Indus- trial	Parks	Public Semi- Public	Roads	Vacant	Other	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	10 lakhs	28.4	1.8	5.1	4.2	8.6	7.5	25.4	17.0	100
2.	5 to 10 lakhs	33.2	3.2	14.0	3.4	15.0	10.3	10.7	10.2	100
3.	1 to 5 lakhs	40.3	2.4	5.4	3.5	12.8	11.4	12.7	11.5	100
4.	50,000 to 1 lakhs	37.1	2.3	6.2	3.4	7.6	9.9	16.2	17.3	100
5.	20,000 to 50,000	31.9	2.0	10.2	5.2	8.6	12.8	15.4	13.9	100
6.	Below 20,000	22.9	2.5	5.2	1.9	9.9	11.1	21.8	24.7	100
7	All	35.7	2.3	6.8	3.7	10.8	10.9	15.4	14.4	100



**10.14.2 Residential areas,** including related facilities and local road circulation occupy only about a third of city area. In fact, the net plot area for building sites is only about 20 per cent. Increasing this by just a few percentage points (shaved off the other uses) could bring down residential densities significantly - thus triggering off the host of benefits we have enumerated earlier, and allowing a whole spectrum of inexpensive and easily obtainable construction materials to be used in the process.

**10.14.3 Industrial land-use** varies from between 5 per cent and 15 per cent, depending upon the economic base of the city. It must, however, be noted that this statistics does not take into account large industrial estate that have been set up outside the administrative boundaries of cities. Over the last two decades, it is not uncommon for industries, particularly those in the public sector, to occupy vast tracts of land under the guise of requirements for future expansion. Servicing urban growth in the vicinity of such industrial plants proves to be expensive and wasteful. Rationalising use of such land is therefore of crucial importance (see the Commission's Interim Report).

**10.14.4 Semi-public and public uses** is a heterogeneous category that occupies 7.5 per cent to 15 per cent of city area. Though some public uses like bus termini have inadequate space, institutional users tend to occupy excessive areas. This tendency needs to be curbed in the interest of overall efficiency of city infrastructure. (One of the ways of achieving this would be to bring to such uses the acid test of true market prices; but another, perhaps more bureaucratic, way would be for the Ministry of Urban Development to stipulate land-use guidelines.)

**10.14.5 Commercial land.** Indian cities are characterised by mixed commercial and residential use. Such mixed land-use zones need to be promoted, since they encourage craftsmen and

small businesses to set up shop, thus increasing tertiary employment. City area used exclusively for commercial purposes, (e.g., Nariman Point in Bombay) is only about 2.5 per cent of total city area. Thus, granting higher FARs in these commercial centres does not make any real difference to overall city size. The reason why the FARs in these zones are raised is the high land values which, because of the increased FARs escalate further, thus triggering a new round of demand for even higher FARs (like a serpent feeding off its own tail).

**10.14.6 Roads occupy** 7.5 per cent to 13 per cent of city area. Although the proportion varies considerably in different parts of cities the area available for circulation is generally inadequate (Calcutta's CBD has only 6 per cent under roads). However, since increasing road space in the existing CBDs of large cities is going to be virtually impossible (see chapter on Transport) methods like area licensing, car restraint, priority to public transport and pedestrianisation will have to be deployed.

**10.14.7 Parks and playgrounds** have only 2 per cent to 5 per cent of city area. This is grossly inadequate, and must be increased. Furthermore, the large parks should be supplemented by a system of small open-to-sky spaces close to individual houses for sitting places, tot-lots, etc.

**10.14.8 Vacant land** is about 18 per cent of city area. This large proportion of vacant (though developed) land is indicative of the need for policies that discourage speculative under-utilisation of urban land (see the Commission's Interim Report and chapter on Land as a Resource). Bringing it into full use would bring considerable relief to our cities.

**10.14.9** Readjusting land-use allocations is one of the key strategies for maintaining optimal densities. Here the Commission wishes to emphasise that any investigation. Of densities is

largely determined by the scale of the context established. As discussed earlier to a developer looking at an individual urban site, the trade-off between cost of construction and of the land component can lead to very high densities. To an authority responsible for a larger context, say the whole neighbourhood, this trade-off will certainly give another answer, since they must take into account the area needed for schools, roads, and other infrastructure necessitated by this decision. To anyone looking at the overall city, in fact at the whole nation and its resources, the answer will change again. Given the awesome scale of urban growth facing us in India, there can be little doubt that it is within these larger parameters that we should view this crucial issue.

### **10.15 POLLUTION**

**10.15.1 NOISE:** The high decibel level prevalent in almost all our towns and cities is truly extraordinary. From time to time, certain centres try to enforce controls on traffic noise (car horns, etc.) but to little or no avail. An ever-increasing menace is the use of glaringly loud public address systems to celebrate wedding and other religious-social occasions. Surely it is a shocking abuse of the traditional Indian concept of tolerance to allow a small group of celebrants to impose their will on the rest of the population. In any event, though it is a pattern of behaviour which might be acceptable in a village context (since everyone would know what the celebration is all about, and probably be participants as well), it makes no sense whatsoever in large urban agglomerations where one's privacy (including aural privacy) has to be protected by more thoughtful codes of behaviour. Small wonder, indeed, that so many of the communal riots that convulse our urban centres are triggered off by such 'celebrations'.

**10.15.2 AIR AND WATER:** Pollution of these vital elements has also reached alarming proportions. In several parts of Bombay (e.g. Chembur and Lalbagh), air pollutants have already crossed

those levels defined as dangerous by WHO standards. Yet little or no action is taken to control the main polluting agents: industrial plants and motor traffic. In fact, in all our cities, from Coimbatore to Bangalore to Kanpur, the high level of pollution from scooters and auto-rickshaws needs our immediate attention. Far stricter controls regarding pollutants (both air as well as noise) should be mandatory for such vehicles.

**10.15.3 VISUAL:** Another grave danger to our urban environment is the ever-wowing visual pollution. Our streets today present a chaotic image of signboards, posters, utterly undisciplined traffic, etc. We have become quite indifferent to these visual emits on our senses. In fact, our standards have fallen so low that we accept, without any surprise or outrage, the defilement of some of the most beautiful towns and many of the most sacred sanctuaries of this country.

### **10.16 RECOMMENDATIONS**

#### **Built-Form**

**10.16.1** Municipal regulations should be modified so that residential sites are provided as follows:

50 per cent of land in plots of between 25 to 100 sq m  
25 per cent of land in plots of between 100 to 200 sq m  
25 per cent of land in plots in these or any other sizes

**10.16.2** These plots should be leased out not to individual buyers, but to cooperative societies. Should the members of a cooperative society decide to pool their land and build group housing or apartments, they should be free to do so, provided the total number of dwelling units remains the same. This maintains the principle of urban equity and, at the same time, allows the construction of apartment buildings at higher FARs.

**10.16.3** The appropriate built-form can be translated into:

- (a) *Building Envelopes*: For the smaller plots (up to 100 sq m), side set-backs should be reduced to 1 or 2 m one side, and eliminated altogether on the other (so as to facilitate the construction of terrace-houses, semi-detached, and other similar typologies).
- (b) *Building Codes*: Construction specifications need not be confined to RCC, but should allow a wide range of building materials and technologies, so as to more realistically reflect our economy.

### Streetscape

**10.16.4** Coherent urban-form demands a controlled streetscape, one in which mandatory building lines are clearly specified. It should be compulsory for any building to construct a least 50 per cent (and, in some cases, 100 per cent) of the street facade along these lines.

**10.16.5** Where the scale of the street is to be preserved, the built-form envelop should take the form of a stepped sections, thus allowing larger built-up areas without destroying the quality of the existing environment. Where appropriate, an arcade should be mandatory, so as to provide a shaded promenade so appropriate to our climates.

**10.16.6** Pedestrian precincts, integrated with clusters of otlas for licensed hawkers, should be introduced in our city centres. Properly landscaped with trees and benches, these precincts could make a decisive difference to the quality of our urban life.

**10.16.7** Chowks and public plazas - those critical nodal points of any urban centre - should be rehabilitated. Car parking should be severely restricted and discretely placed away from the centre, so as not to destroy the intrinsic architectural/spatial quality of these nodal points.

### Parks and Maidens

**10.16.8** Existing open spaces should be preserved

zealously and new ones created so as to raise the standards in this behalf (now abysmally low) in our cities.

**10.16.9** Where military holdings are of importance, their development should be coordinated with that of the city as a whole.

**10.16.10** Public promenades, (e.g., along riversides, waterfronts, etc.), should be developed as space-intensive, cost-effective urban amenities, useable by the entire spectrum of age groups.

**10.16.11** Important civic buildings should be treated as urban 'events', giving identity to different neighbourhoods and generating a greater sense of civic life, thus allowing the city to expand, not as an amorphous undifferentiated mass of built-form, but with a coherent and rhythmic syntax. City Structure

**10.16.12** Our cities, which over the last few decades have trebled and quadrupled in size though on totally inadequate foundations, need to be restructured. City authorities should not rely on crisis management, but should generate an adequate quantity of urban land by anticipating demand, on a scale commensurate with the growth expected over the next few decades. In most cases, this would involve modulating to poly-centric structural systems which:

- (a) allow the citizens to enjoy the better quality of life obtainable in a smaller centre, as well as the economies of scale inherent in being part of the larger system; and
- (b) make more growth options available for future generations.

**10.16.13** During this process of growth, land-use allocations within the city should be continuously reviewed and readjusted so that the crushing pressure on certain critical categories, (e.g., housing and social amenities) is relieved.

**10.16.14** In order to increase the supply of urban land, work areas (and the transport network that interconnects them) should be intelligently and equitably deployed across the city. Small scale and cottage industries, shop-houses, etc, should be allowed within residential areas so as to encourage employment generation in the tertiary sector. The exclusive zonal system presently in fashion should be replaced by one which allows mixed land-use on the basis of performance criteria.

## 11. HOUSING

### 11.1 Introduction

**11.1.1** The most visible and dehumanising manifestation of India's urbanisation is the large number of squatters and shanty dwellers so ubiquitous in all our major cities. The causes of this distressing situation are deep rooted in wide-ranging factors, from building regulations to economic growth policies. The Commission, in this chapter, explores the nature of housing problems, identifies the areas of critical policy focus and recommends an appropriate policy package.

### 11.2 Analysis

**11.2.1** The stark reality of the urban housing scene in India is that more than two lakh urban households are without any shelter and as many as 45 per cent are living in just single-room houses, nearly 5 persons to a room, in a state of extreme over-crowding. Adding to their agony is the absence or inadequacy of the basic services. In 1981, nearly 37 per cent were without electricity, and about 66 per cent were without a latrine.

**11.2.2** The Seventh Five Year Plan document begins its chapter on Housing with this statement:

In fulfilling the basic needs of the population, housing ranks next only to food and clothing in importance. A certain minimum standard of housing is essential for healthy and civilised existence. The development of housing, therefore, must enjoy high priority in a poor society such as ours where housing amenities are far below the minimum standards that have been internationally accepted. Housing activity serves to fulfill many of the fundamental objectives of the plan: providing shelter, raising the quality of life, particularly of the poorer sections of the population; creating conditions which are conducive to the achievement of crucial objectives in terms of health, sanitation and education; creating substantial additional employment and dispersed economic activity; improving urban renewal and inter-personal equity through the narrowing down of differences in standards of living and, last but not least, generating additional voluntary savings.

**11.2.3** The urban housing stock which was 14.1 million in 1961 had increased to 18.5 million in 1971 and to 28 million in 1981 (18 million pucca, 6.8 million semi-pucca and 3.1 million kutcha). The increase was about 4.4 million units during 1961-71 and about 9.5 million during 1971-81. The stock in 1971 consisted of 64 per cent pucca units, 23 per cent semi-pucca units and 13 per cent kutcha units. These percentages have remained unchanged over the period 1971-81. Not only this, but the stock has not kept pace with requirement. Furthermore, the estimated age-composition of the 1981 housing stock indicates that about 21 per cent of the stock is more than 40 years old and about 10 per cent more than 60 years old. Most of these units are dilapidated and warrant attention.

**11.2.4** Policy statements in successive Plan Documents have continued to emphasise the importance of the housing sector but, in reality, investments in housing as a percentage of total

investments has declined. As may be seen from Table 1, within the total investment, the share of the private sector has been dominant, even though private informal investment is not included.

**Table 1. Investment in Housing in India Private and Public Sector**

Plan period	Investment in Housing		
	Public	Private	Total (Rs. in Crores)
(1)	(2)	(3)	(4)
First Plan	250	900	1150
Second Plan	300	1000	1300
Third Plan	425	1125	1550
Fourth Plan	625	2175	2800
Fifth Plan	1044	3636	4680
Sixth Plan	1491	11500	12991
Seventh Plan	2858	29000	31858

**11.2.5** The housing sector occupies an important place in the national economy as seen by its contribution to national income, capital formation and development generation. Table 2 shows the income from housing and its share in national income. Housing accounted for 16.72 per cent of the gross capital formation in the country in 1984/85.

**Table 2. Contribution of Urban Housing to National Income (at current prices) (Rs crores)**

Year	Income from Urban Resi. Housing	National Income (GDP at factor cost)	Col. 2 as % of Col. 3
(1)	(2)	(3)	(4)
1977/78	445	36452	1.22
1978/79	1260	87058	1.45
1979/80	1339	95511	1.40
1980/81	1364	113846	1.20
1981/82	1447	130763	1.11
1982/83	1489	145280	1.02
1983/84	1649	171713	0.96
1984/85	2059	189417	1.09

Source: National Accounts Statistics 1987, Central Statistical Organisation.

### 11.3 Urban Housing Needs

**11.3.1** According to the estimates made by the National Buildings Organisation, the urban housing deficit in 1981 was of the order of 5.9 million units.

**Table 3 Urban Housing Deficit**

Components	Number (million)
1. Shelterless households	0.2
2. Overcrowding and Congestion	
(a) Excess of households over available housing units	1.1
(b) Number of married couples requiring separate room/house	0.3
3. Replacement of Kutcha units	3.1
4. Obsolescence/replacement of 1.2 old housing units (over 80 years old)	1.2
Total	5.9

**11.3.2** This is, however, in a way, an understatement of the problem. In 1981, out of a total urban population of nearly 160 million, 32 to 40 million (or 6 to 8 million households) were estimated to be in slums alone. Thus 20 to 25 per cent of the urban population lives with multiple deprivation: (a) illegal land tenure, (b) deficient environment, and (c) kutcha shelter. This is a result of the gap between the demand and the legal, formal supply. Only around 80 per cent of the annual incremental demand is satisfied through the legal, formal supply. (However, this proportion varies considerably over various cities.) In the absence of deliberate policy interventions, the proportion of slum dwellers may continue to be 25 per cent of the total urban population in 2001. This would imply a near doubling of the 1981 slum population, to 60 to 75 million by 2001. The shelter demand, supply and resultant backlog are shown in Table 4.

**11.3.3** The term slum has been defined in legislation to include buildings and areas that are environmentally and structurally deficient.

However, this has not been consistently applied in practice. The entire walled city of Delhi has been declared a slum, but Bomay's chawls are not considered to be slums. The term slum is, by and large, confined to illegal squatter settlements. Besides slums, therefore, there exists a problem of old, decaying inner-city areas. The national dimension of this problem is not accurately known. Nevertheless, the problem is very real.

**11.3.4** The failure to provide adequate (in size and scale), proper (in location and design) and affordable (in the form of rent or hire purchase instalment or capital investment) housing manifests itself in many forms: overcrowding, congestion, high prices, formation of slums and squatter settlements, high incidence of unaccounted money, and other distortions in the housing market, and a sharp decline in the quality of the overall living environment. Rapid population growth, inadequate investment, widespread poverty, low income and savings levels of the majority, the sluggish supply rate of new, formal housing on account of legal, institutional and administrative constraints, rapid deterioration in existing housing stock due to poor maintenance and active hostility to the housing stock informally generated by the poor, are some of the principal causes of housing crises.

**11.3.5** The shelter problem thus comprises,

- (a) how to increase shelter supply,
- (b) how to improve and upgrade slums, and
- (c) how to conserve existing housing stock.

The solution however, need not follow a welfare approach. As already demonstrated, housing and infrastructure investments are productive, they are investments in an asset that yields a flow of services over time and they should be evaluated like any other productive investment.

**11.3.6** Before proceeding to seek solutions, it is necessary to emphasise that a house must include, at the least, the following attributes:

- (a) it must provide shelter from the elements,
- (b) it must provide living space along with services like water, sewerage, roads and electricity, and
- (c) its location must afford reasonable access to work-places.

## 11.4 Nature of Housing Demand

**11.4.1** Given the growth of urban population, the annual household formation is likely to increase from 1 million in 1981 to 1.7 million in 1991 and 2.2 million in 2001. (This is assuming a constant household size of 5 persons; if this drops the number of households would correspondingly increase). These are indicative of the new housing units required every year, though some may find place in existing subdivided houses. The nature of housing demand, however, varies considerably, depending upon ability to pay for shelter and access to housing finance (for owner-occupied houses).

**Table 4. Demand and Supply of Shelter, 1981-2001**

	1981	1986	1991	2001
(1)	(2)	(3)	(4)	(5)
Urban Population (million)*	160	192	230	326
Urban Households (million)	32	38	46	65
Incremental House- holds (million)		6	8	19
Formal Incremental Shelter Supply High (million)		4.8	6.6	15.6
Low (million)		4.6	6.2	14.6
Slum HH (incremental)**				
High (million)		1.4	1.8	4.4
Low (million)		1.2	1.4	3.4
Total Slum HH (million)	8.0	9.4	11.2	15.6
High				
Low	6.4	7.2	8.6	12.0

\* Seventh Five Year Plan, Vol. I.

\*\* Report of the 'Task Forces on Housing and Urban Development', Planning Commission, 1983 (Report 4)

**11.4.2** The distribution of households according to monthly expenditure and their expenditure on consumer rents in 1983 was as shown in Table 5. Consumer rents per households are derived in this table by dividing the total rent by total number of households, without accounting for the imputed rents of home-owners. The rents shown are therefore underestimates in terms of ability to pay for shelter.

**Table 5. Distribution of Households by Expenditure and Consumer Rent**

SI.	Monthly Expenditure (Rs)	% of No. Households	Consumer Rent
(1)	(2)	(3)	(4)
1.	Less than 400	7.79	4.90
2.	400 to 600	31.34	12.17
3.	600 to 800	28.96	24.23
4.	800 to 1000	17.14	43.08
5.	above 1000	14.77	68.85

Source: Derived and rounded from Sarvekshana, Vol. IX, No. 4, April 1986

**11.4.3** Distribution of household income, wealth and saving from 1975/76 is given in Annexure I. It may be observed from this table that 10 to 90 percentiles of households have income between As 200 and Rs 1250 per month. The distribution of wealth and saving is however significantly more skewed than that of income as may be seen from Table 6. This fact of skewed wealth and savings distribution is particularly important in considering housing demand. A house is a long-term asset and for its acquisition wealth and savings have to be applied on a large scale, particularly when the rental market is not active and mortgage finance is not well developed.

**Table 6. Distribution of Wealth and Savings**

Percentile	Share of Income	Wealth	Savings
(1)	(2)	(3)	(4)
10 - 50	19.7	13.10	4.95
50 - 90	48.8	32.37	38.24
90 - 100	31.5	54.53	56.81

**11.4.4** For the convenience of further discussion the 1976/77 income distribution has been translated into 1986/87 prices, assuming that no structural changes have, taken place in income distribution (though a comparison of 1967/68 and 1976/77 incomes show that the share of the bottom 50 per cent of households has increased from 14 per cent to 22 per cent. The distribution of households according to monthly income classes is shown in Table 7.

**Table 7. Distribution of Households by Monthly Income**

	Household Rs/month	% of households	Cumulative % age
(1)	(2)	(3)	(4)
1.	Upto 400	12.33	12.33
2.	401 to 600	17.32	29.65
3.	601 to 800	16.02	45.65
4.	801 to 1000	13.68	59.35
5.	1001 to 1250	10.47	69.82
6.	1251 to 1500	7.07	76.89
7.	1501 to 2000	8.43	85.32
8.	2001 to 3000	7.84	93.16
9.	3001 to 4000	3.47	96.63
10.	4001 and above	3.37	100.00

**11.4.5** As noted earlier, the rents as percentage of household expenditure shown in Table 5 are under-estimates. Further, they also reflect old rents (perhaps controlled) in old buildings. Assuming that, given the right opportunity, new households will be prepared to pay more for new houses, the ability to pay for shelter could be taken as ranging from 10 to 30 per cent of the monthly income. (A recent study in Ahmedabad indicates that owners spend 12 per cent of their income on housing.) Affordable capital for households of different income groups is shown in Table 8.

**Table 8. Affordable Capital for Housing by Income Groups**

Sr. No.	Income Group	% of Income for Shelter	Affordable Capital	% of Households	Cumulative % of Households
(1)	(2)	(3)	(4)	(5)	(6)
1.	Upto 400	10	2724	12.33	12.33
2.	401 to 600	11	4995	17.32	29.65
3.	601 to 800	12	7628	16.02	45.65
4.	801 to 1000	15	12981	13.68	59.35
5.	1001 to 1250	18	19471	10.47	69.82
6.	1251 to 1500	20	26442	7.07	76.89
7.	1501 to 2000	22	39333	8.43	85.32
8.	2001 to 3000	25	63852	7.84	93.16
9.	3001 to 4000	30	107271	3.47	96.63
10.	4001 and above	30	175137	3.37	100.00

**11.4.6** The affordable capital is based on the assumption that housing finance will be available at 12 per cent per annum, with a repayment period of 15 years. These affordability levels are largely based on income and saving abilities. Only 10 to 30 per cent of the total capital is assumed to come from wealth (or already accumulated savings) as down payment.

**11.4.7** Table 8 helps us answer two questions. One: whether at the macro-level the national economy can afford to allocate that order of resources to housing; two, at micro-level, what kind of shelter can an individual get.

**11.4.8** The present incremental shelter requirement could be placed at around 1.6 million per year. At a mean affordable capital of Rs 32,000 per unit, the total annual resource requirement could be placed at As 5,120 crores. It has been estimated that about 3 per cent GDP is being invested in housing (both urban and rural). At current GDP level, such investment could be estimated to be around Rs 6,000 crores. The investment, therefore, calls for a significant step-up in the investment by a marginal increase in its share of GDP. It may, however, be noted that the public sector outlay for the total Seventh Five Year Plan is a little over As 2,400 crores and

HUDCO's annual lending has been around Rs 324 crores. The question therefore is also of equitable distribution of resources.

**11.4.9** The cost of construction of a one-room (15 sq m in area) that conforms to all codes is around at least Rs 15,000. The NBO puts the minimum area for a house at 14.4 sq.m., costing As 18,000 for construction. This would imply that about 60 per cent of the households cannot afford such shelter. Although the level of urban poverty in terms of minimum nutrition requirement has fallen to 28 per cent, in terms of shelter it continues to be high. This is, however, based on construction cost alone. If cost of land servicing (which may be around Rs 150 to 200 per sq m of net area at conventional standards) is added, the cost of minimum shelter would further go up to Rs 20,000. This is still without the land cost. The land price represents locational advantages mainly in the form of access to jobs. Urban land values are known to be at least Rs 60 -100 per sq. m, depending upon city-size and location. The lowest 10 per cent of the households cannot, therefore, afford a piece of land of their own and would prefer to squat. The net 40 per cent of the households may afford a serviced plot but not any superstructure. This analysis is indicative of the broad policy direction that must be followed. This also unequivocally determines the emerging urban form.



## 11.5 Framework for Response

### Adequate Housing: Obligation of a Civilized Society

**11.5.1** As already recognised by the Seventh Five year Plan, it is obligatory for any just society to provide the means of meeting the basic, minimum needs of its members. These needs include food, clothing, education, gainful employment and also shelter. They are essential preconditions both for preserving the dignity of humans and for providing a basis for their development. In this context, subsidies for at least the lowest 15 percentile of population appear inevitable. However, on account of the resource constraint, such subsidies:

- (a) have to be kept to the minimum,
- (b) must reach all the target beneficiaries (the number could be about 2.5 lakhs households per year), and
- (c) as far as possible, such subsidies should be generated internally in each project or programme.

In any subsidised programme-particularly for a private good like shelter-scale of operation is of crucial significance. It is not only necessary to cater to all the target beneficiaries but also to see that higher income groups are adequately catered to. If this is not achieved, subsidies begin to move in the wrong direction, furthering the inequities. This precisely has been the problem of public housing so far. (As would be seen later sites and services approach can take care of these issues)

### Housing: A People's Activity

**11.5.2.** Most planners of housing programmes and housing agencies overlook the fact that, historically and actually, most houses have been designed and built by the people who presently live in them or by their ancestors. For generations people have been building on their own, inexpensive, durable, functional, properly designed and aesthetically pleasing houses, using local skills and materials. In the present-day context it needs to be emphasised that people have the skills

to build, or get built, and improve. What they need is removal of constraints, and addition of supports, facilities and incentives.

### Housing Crises: Result of Inappropriate Interventions

**11.5.3** The present crisis in the housing sector is largely a crisis of inappropriate interventions. Broadly speaking, the legal, administrative and institutional constraints militate against the housing initiatives of the people. Therefore the framework within which all housing action is presently confined needs to undergo drastic revision, reorientation and restructuring. Releasing people's creative energy, eliminating/reducing constraints on people's housing action and encouraging investments (in the form of time, energy and resources) should form the central theme of the restructuring exercise. A shift in emphasis from controlling to enabling, and from delivering finished products to facilitating people's action in building and improving houses, would enhance the coverage capacity of the existing agencies and problems would begin to look solvable.

### An Approach to a Solution: Access to housing Inputs

**11.5.4** The key to success in increasing housing supply, both quantitatively and qualitatively, i.e., in sheltering the millions and providing need-based, appropriate houses, lies in ensuring access to housing inputs : land, building materials, finance and services. The state facilitating land supply; all city dwellers being served equally in the matter of provision of basic environmental and social services, and strengthening the resource base of the local bodies to ensure this; creating properly designed, structured and staffed housing finance agencies which may effectively reach out to and service the poor; and making arrangements that would accelerate production of low-cost building materials and increase supply and usability of reusable, recyclable materials are the steps that must be taken.

### **Failure to Supply Land: Root Cause of the Problem**

**11.5.5** Slums as a housing type are the outcome of a major failure on the part of the state, the society and its market mechanism, to supply, in appropriate form and affordable cost, a basic need to its people. Those who live in 'ugly slums' and 'unauthorised settlements' are there not out of choice but out of compulsion. The slums are a product, not always of devious designs of the lazy and the criminal as is sometimes believed, but of societal injustice and inequalities on the one hand, and poor planning and inept management of urban resources, on the other. The State's inability to provide the housing inputs listed above, especially land, to the weaker sections at an affordable price is the root cause of the problem, which leaves no option to the poor but to squat. The illegal occupation of land is a direct consequence of the State's failure to provide legal access to buildable land. High prices push low-income people to squatting.

### **Effective State Intervention in Land Supply: The Key Factor**

**11.5.6** The State has effectively intervened in the provision of the other two basic necessities of daily life; food and clothing. Rationing, dual pricing of food grains, and food subsidies have helped the poor to exercise the spectre of hunger. The state has also introduced the janta cloth and other such schemes to help the poor get at least a minimum of clothing. But State interventions in the production of serviced land and its distribution have failed miserably. The housing crisis is mainly the consequence of this failure.

**11.5.7** The State's effective intervention in increasing land supply at prices affordable to the weaker sections and in quantities commensurate with their numbers is the key to solution of the housing problem. To generate proper housing the State must ensure an adequate and affordable land supply.

### **A Comprehensive Approach: Curative and Preventive Strategies**

**11.5.8** To ensure adequate housing for the urban poor in a reasonable time-span and at a cost affordable both to the poor and the State, which would reduce compulsions to squat, a combination of preventive and curative strategies are needed. Restructuring the city in respect of the job - home relationship and rationalising the use of its land resources through policy and planning interventions, should be the key elements of the strategy. Improving living conditions in the existing slums and other forms of degraded, dilapidated and poorly serviced settlements (like chawls) through provision of civic facilities and assistance to upgrade shelter conditions should be the main thrust of the curative strategy. And making available a large number of small, serviced land-plots at proper locations with adequate transport and communication linkages should be the central focus of the preventive strategy. Being symbiotic in nature, to be effective, these must go hand-in-hand. The growth policies, slum improvement, and sites and services projects are important initiatives in these strategies. To get results, a greater thrust, refinement, additions and an enlarged operational scale are needed.

**11.5.9** To shelter the millions living in sub-standard housing and environmental conditions in urban slums and on city pavements within the limited resources at our disposal and in a reasonable time-span, it is necessary to depart significantly from existing practices, bring about a notable change in perspective and adopt a new set of values, both for the housing client and those who make decisions on their behalf. These changes include:

- (1) a new understanding of the problem as not an insurmountable obstacle but a manageable challenge;
- (2) a major shift in attitudes towards people (not an idle burden, but a productive resource);

- (3) a new interpretation of and approach to peoples' self-initiated housing actions and self-generated housing stock (even if deficient, it is an approach to a solution, not a problem; not to be demolished but to be conserved and improved);
- (4) a new definition of a house (not necessarily a pucca or permanent status symbol but one that shelters adequately);
- (5) a new definition of the housing task (not necessarily permanent buildings but liveable, adequate environment);
- (6) a new thrust (not a few finished houses but a massive supply of serviced land);
- (7) a new role for the traditional housing agencies (not controllers or facilitators, not providers but promoters);
- (8) a new relationship between the agencies and the housing clients (not givers and receivers but partners);
- (9) a new economics (not charity but investment);
- (10) a new definition of scale (not tokenism but total coverage); and
- (11) for some, a new vision (not houses alone but overall development).

## **11.6 The Policy**

**11.6.1** In conventional housing models, residential location choice is explained as a trade-off between transport costs and shelter costs (through decreasing rents). In western societies the relatively rich prefer large suburban houses though this implies higher transport costs, whereas the relatively poor opt for high-density central city housing which reduces their transport costs. In Indian cities, however, the rich occupy central city locations (Cuffe Parade, Marine Drive and Malabar Hill in Bombay), whereas middle-income groups are forced to seek suburban locations (with transport subsidies borne by the society large). But a large section has to bypass this trade-off and seek pavements as shelter

**11.6.2** City structure, mainly the job-distribution pattern and presence or otherwise of subsidised mass transport, has an important impact on the shelter situation. The policy prescription in this area, however, has to be city-specific. The general point can however be made that a general lack of appropriate pricing policies (property tax linked to historically controlled rents, free entry and parking in the CBD for vehicles) continue to sustain excessive concentration of jobs which otherwise would have dispersed. A conscious approach to pricing public services may, therefore, be helpful.

## **Urban Land**

**11.6.3** Urban land as an input to housing has some unique characteristics. It is location-bound; one plot of land is never identical to another. Increase in supply of urban land is therefore basically through conversion of rural land on the periphery and extension of infrastructure services. Conventional relationships of price, supply and demand applies to urban land only in limited manner. Policies about urban land affect the entire spectrum of urban development, not just shelter or housing, it would, therefore, be desirable to deal with this issue independently and comprehensively. This section confines itself to urban land issues to the extent that they have a direct bearing on the shelter situation.

## **Need for Land Policy**

**11.6.4** Although to own land is no longer a 'fundamental right', land is still owned and transacted in the market. Unlike other commodities, the supply of urban land can be increased only by extending the infrastructure, for which land itself is a major input. The private land market, however, tends not to provide adequately for infrastructure like roads, parks, schools, hospitals etc. This leads to 'inefficient' land-use patterns. But this reluctance to provide infrastructure is not due to lack of appreciation of the rise in value of the asset that may accrue due to infrastructure being provided. The main cause of

this behaviour where there are a large number of owners, is the expectation of the individual owner that the others would provide the infrastructure. The legal, private land market also tends not to cater to the low-income sections, resulting in 'inequitable' distribution of shelter opportunities. Thus, to serve both the efficiency and the equity goal of urban development, it is imperative to intervene in the land market.

**11.6.5** Furthermore, since urban land is inherently scarce, there is a strong speculative tendency in the market. Such speculation needs to be controlled. Due largely to inappropriate taxation and zoning and land-use controls, there is considerable wasteful use of land - particularly by industries and institutions. Corrective measures are therefore also necessary to control such wasteful use.

### **Objectives of Land Policy**

**11.6.6** The objectives of urban land policy as outlined by the Urban Land Policy Committee appointed by the Government of India (Ministry of Health) in 1965 still broadly hold good. These are:

- (1) To achieve an optimum social use of urban land.
- (2) To make land available in adequate quantity at the right time and for reasonable prices to both public authorities and individuals.
- (3) to encourage cooperative community effort and bona fide individual builders in the field of land development, housing and construction.
- (4) To prevent concentration of land ownership in a few private hands and specially to safeguard the interest of the poor and underprivileged section of the society.

In addition, a commonly held objective is:

- (5) To use land as a resource for financing urban development by recouping the unearned income which otherwise accrues to private landowners.

To this list, the Planning Commission Task Force on Planning of Urban Development added the following objectives:

- (6) To encourage the socially and economically efficient allocation of urban land such that land development is done in a resource-conserving manner and that the magnitude of land used is optimal.
- (7) To promote flexibility in land-use in response to changes resulting from a growing city.

### **Policy Measures**

**11.6.7** Although the objectives have been neatly formulated, the policy measures which can achieve these objectives in practice still remain to be sharpened and coordinated. A large number of policy measures can be derived from a repertoire which can be classified as (a) direct governmental development, (b) legal and regulatory, and (c) fiscal

- (a) Direct governmental investment in land development for provision of infrastructure, housing or overall town development.
- (b) This is normally strengthened by statutory provisions for compulsory acquisition of land at less than market price. In addition, regulations regarding land-use zoning, development control and building codes also exist which are usually based on axiomatic norms for health and safety but give rise to inequitable shelter development and illegal land markets.
- (c) Fiscal measures in the form of appropriate taxation can also help achieve land policy objectives. For example, property tax levied on periodically reassessed properties can mop up part of the unearned income, discourage speculative hoarding of land and promote optimal use of land.

Despite such a variety of policy instruments, the emphasis has, by and large, been on direct governmental investment in conjunction with legal intervention in the land market. For this

purpose, over time, increasingly powerful legislation has been enacted to take urban land into government ownership.

**11.6.8** The Land Acquisition Act, 1894 and the Urban Land (Ceiling & Regulation) Act, 1976, have been the two principal legal instruments to obtain land. The problems of implementing the Urban Land (Ceiling & Regulation) Act, 1976, have already been discussed in the Interim Report of the Commission. Recommendations for more effective implementation of the Act have also been made in the chapter on Land as a Resource. Delhi's experience of large-scale land acquisition (through the Land Acquisition Act) indicates that:

- (i) Despite large-scale public ownership of land the distribution of land resources is not equitable, which may manifest in the form of squatter settlements of the poor.
- (ii) The lack of price signals and excessive governmental control may tend to wasteful use of land resources in favour of influential sections of the society.
- (iii) Monopolistic control on land and the temptation to build a revolving fund may induce the development agency to auction land in small quantities and then use such scarcity prices as the fair market price for further allocation of land. This, instead of controlling land prices and speculation, leads to inflation of prices.

Furthermore, a strategy that relies on large-scale acquisition of land, due to inadequate possession of land in public ownership, lags in terms of the need for service land. This gap between need and supply of serviced land may itself defeat planning objectives. For example, land acquired and developed for the purpose of low-income housing, if inadequate in quantity, would always go into the hands of middle and high-income groups. Similarly, inadequate development of land and freezing of the balance of land notified for acquisition would increase the scarcity value of

developed land (but not notified for acquisition). Thus the principal objective of helping the poor and controlling land prices could be defeated.

**11.6.9** The emphasis of policy should, therefore, be on:

- (a) increasing the supply of land to both public agencies and private individuals and not to restrict it in any form that may increase prices and affect the poor.
- (b) recovering the cost infrastructures to in the process of land development replicable and to deemphasise the recoupment incremental or so-called unearned, value.
- (c) widening the base of land ownership not necessarily increasing the govern ownership of land.

**11.6.10** Land readjustment (L R) appears to be a promising way of achieving these objectives. In a typical land readjustment scheme, land assembly and development is guided by a public agency. Land readjustment is based on the fact that land values increase significantly after provision of urban infrastructure. The increase is of such magnitude that, if a small proportion of land is sold, it recovers the cost of infrastructure and the remaining land can command an attractive rate of return over the original land value to the land-owners ever after foregoing land for infrastructure and for sale by the developing agency. It would also be possible for public agencies to retain some percentage of developed land, for low-income shelter. Land readjustment schemes, however, face the following problems:

- (a) land assembly has to be done by public agencies, which may be difficult: (b) valuation of property before and after the implementation of LR schemes can be a complicated matter, after subject to litigation: and (c) equitable distribution of 'value added' amongst landowners can be a complicated business.

**11.6.11** A version of LR scheme which is being included in the proposed Tamil Nadu Urban Development Project tries to bypass these problems by devolving the responsibility for land assembly on private initiative as described below:

In this version the emphasis is on ensuring:

- (i) Fair rerun on investment to the private owner/developer; and at the same time,
- (ii) a relatively large proportion of serviced sites for allotment to low-income families.

However, as constraints on free sale and markets are implicit in the objections, the following scheme can best work when lands are notified for acquisition or are subject to the Urban Land (Ceiling and Regulation) Act, 1976. The steps involved may be as follows:

- (a) The local planning authority, after studying the land market, prepares guidelines for development which help ensure the objectives mentioned above. The most critical amongst the guidelines would be the minimum number of low-income plots that must be developed per gross hectare of land.
- (b) The public authority could then invite draft development proposals that conform to the guidelines. As the economics of the scheme depend on past development land prices, proposals would come from locations most suitable for early development. Others will follow as urban development potential expands incrementally.
- (c) The local planning authority can sanction the draft development proposal and agree to exempt the land from the Urban Land (Ceiling and Regulation) Act or the Land Acquisition Act on satisfactory development.
- (d) The local authority can have pre-emptive rights to purchase low-income plots and social facility areas at predetermined prices.

**11.6.12** In the present legal framework such guided development is feasible only when the 'stick' of compulsory acquisition has been invoked. However, for more general application enabling provisions need to be incorporated in the town planning legislation itself. However, public sector efforts towards land development on the sites and services model should continue rigorously. This would enable:

- (a) Using limited public resources for creating maximum shelter opportunities for the entire cross section of the society with a bias toward lower income groups, and
- (b) Achieving full cost recovery at affordable prices through location and amenity pricing (and not so called - arbitrary - cross subsidies).

The second point perhaps needs some elaboration.

- (a) We generally consider the average development cost while deciding whether a particular plot is subsidised. However, on large site, development cost varies considerably. Local cost of small plots served by pedestrian pathways and modest services are found to be 30 per cent to 40 per cent of average cost. On the other hand, plots served by wider and stronger roads for vehicular traffic have cost 150 per cent of the average cost.
- (b) Similarly, the land price (an index of utility) varies considerably in a large site. Corner plots on wide and strong roads having commercial potential have a very high value whereas small narrow plots fronting pedestrian pathways have low values.
- (c) The differential costs and differential prices which are inherent qualities of land as a resource can be judiciously used in the layout design, so that low income groups could be helped with minimal or no subsidies.

(These principles are increasingly being used in the World Bank assisted projects)

Furthermore, the principles of "affordable prices with full cost recovery" prevents a sites and services project from becoming a ghetto. In most sites and services projects, households forming upto 40th percentile in the cross section constitute about 60 per cent to 70 per cent of the project beneficiaries and remaining 30 per cent to 40 per cent of higher income groups. These principles are implicit in the guided land development described above.

### **Land Information System**

**11.6.13** For any land policy to succeed, there has to be an effective information system. The present state of land data is totally inadequate. Continuously updating information about location, ownership, physical characteristics and current land use is of utmost importance (see chapters on Land as a Resource and Information System).

### **Long-term Planning**

**11.6.14** Effective land policy for a given city can emerge only in the context of a long-term plan, but this has to be different from a conventional master plan. Apart from the end-state land-use picture, it has to have a sequence of land development linked with an infrastructure investment programme.

### **Finance**

#### **Existing Housing Finance System**

**11.6.15** The existing housing finance system has two broad segments - formal and informal. The formal sources comprise, (a) budgetary allocations of central and state governments; (b) general financial institutions/organisations like the Life Insurance Corporation of India, General Insurance Corporation of India, commercial banks and provident funds, and (c) specialised housing finance institutions, like the Housing and Urban Development Corporation Ltd (HUDCO), the apex and primary cooperative housing finance societies and a few housing finance companies set up in the private sector. The informal sources

include households savings and private sector employers providing housing loans to their employees.

**11.6.16** Estimates of the annual investment flows into the housing sector indicate that in 1982/83 formal institutional funding of housing was Rs 1,071.18 crores, forming 25.6 per cent of the total investment of Rs 4,179.23 crores, the balance As 3,108.05 crores, or 74.4 per cent, coming from informal sources. If inter-institutional transfers of funds are adjusted, the real contribution of the formal sector would be still lower. Although its investment in housing has been progressively increasing over the years, the various agencies in the formal sector will have to significantly step up their allocations to housing to make a significant impact.

**11.6.17** Admittedly, compared to the huge volume of funds needed to tackle the housing problem, the resources available from the formal sector will be small. There is, therefore, need to adopt measures aimed at a larger flow of resources for housing and, at the same time, provide the stimulus and opportunity for households to undertake additional savings. At present, there is no proper institutional framework to encourage savings for the purpose of investment in housing, nor is the assisting system responsive to the characteristics of the housing market. During the past one and half decade, several expert groups have examined housing problem in depth and recommended the creation of a well-defined housing finance system through the establishment of appropriate institutions at various levels which will mobilise resources for housing and promote housing activity. Need for a Specialised Housing Finance System

**11.6.18** A Study Group appointed by the Banking Commission (Chairman, Shri R.G. Saraiya) had recommended in 1971 the creation of specialised housing finance institution to enlarge the flow of funds to the housing sector. The R.C. Shah

Working Group on Housing Finance set up by the Reserve Bank of India in 1978 also recognised the need for a specialised central housing finance institution. The Seventh Five Year Plan has also proposed the establishment of a specialised financial institution in the form of a National Housing Bank, on the lines of NABARD, in order to fill the present lacuna of non-availability of long-term finance to individual house builders. Such an institution has been conceived to play a wide-ranging role by functioning as a promotional agency for creating a diversified and extensive housing finance structure, besides mobilising and channelising resources for housing, providing facilities such as refinance, guarantee, etc.

### **Proposed Institutional Framework for Housing Finance**

**11.6.19** The institutional framework will have to be responsive to the different needs of the various section of the society. The option of providing price subsidies vs. interest-rate 'subsidies to the weaker sections will have to be carefully exercised.

### **Proposed National Housing Bank**

**11.6.20** The creation of a National Housing Bank at the apex level, and a supporting institutional set-up at appropriate lower levels, is intended to help meet the credit needs of individuals and groups in solving their housing problems and also to facilitate resource mobilisation. The limitation of the existing system is that credit at reasonable rates of interest and terms of repayment is virtually not available to potential home owners. There is need to restructure and mould the system in a way that people are motivated to save more in order to possess a dwelling unit. This would necessarily involve the mobilisation of savings/resources and putting them to proper use. The potential that people have for savings for home ownership has to be tapped. The National Housing Bank has been proposed as the apex level housing finance institution to facilitate, promote,

regulate and create at the state, regional and local level, housing-finance institutions and encourage appropriate lower-level organisations to meet the individual credit needs of potential owners and facilitate channelisation of resources into the housing finance intermediary system through a chain of economically viable housing finance intermediaries. The function of the National Housing Bank would be:

- to promote new housing finance institutions at the regional/state level;
- to promote new institutions at base level by identifying viable, reliable groups, providing seed capital to them as also professional expertise and support in the initial years;
- to formulate policies relating to mobilisation of resources and extension of credit for housing, including creation of new instruments of savings linked to housing;
- to regulate the working of the housing finance institutions at the base level (both regional and local) and coordinate their activities, as also those of other agencies in the housing field;
- to identify the impediments - legal, fiscal, physical, environmental and technical - to the active involvement of the household sector in deploying its savings in housing and to promote measures by way of changes in the law, enactment of new legislation, simplification of procedures, etc., to remove them;
- to mobilise resources for housing;
- to extend financial support to housing-finance intermediaries such as HUDCO HDFC, state/regional-level housing finance institutions, including apex cooperative housing finance societies and local-level organisations.

**11.6.21** The National Housing Bank would have to endeavour to ensure that income targeting, with a view to accommodating different categories of population and maximising the benefits, is kept in view by the housing finance intermediaries



while advancing credit for home loans. It will also have to extend financial assistance for repairs and reconstruction of existing stock, urban renewal, local infrastructure improvement and rental housing.

### **Proposed Second/Third Tier Level Institutions**

**11.6.22** For the proper working of the institutional set-up, it is necessary to have local and regional-level institutions. This would form the second and/or third tier(s) in the proposed set-up. The second tier institutions will be the bridge between the potential owners and the National Housing Bank at the apex level. The housing finance intermediaries, at the second tier level, will be primary mobilisers of savings/resources and originators of home loans. The state/regional-level institutions could be in the joint, state or private sector. For extending the system of financial intermediation to an increasing number of people, the services of institutions like the LIC, GIC, UTI, and commercial and cooperative banks, can be utilised to optimise the operational/distribution costs.

**11.6.23** The National Housing Bank will thus be a statutory body and will operate through the network of decentralised institutions at the second/third tiers catering to the needs to the regional and local levels. These institutions will function as intermediaries linking current house buyers in need of credit facilities with people who would have the money for either owning a house in the near future or for any other contingency.

**11.6.24** To mobilise resources from institutions as well as individuals at the grassroots level, the housing-finance intermediaries would have to devise attractive loaning and savings mechanisms. The present credit mechanisms available from housing finance institutions are of the conventional type and do not necessarily serve the

interests of the borrowers. Thereby they restrict the loaning capacity of the institution itself and also restrict the number of potential beneficiaries.

**11.6.25** In order to maximise the credit facilities, various types of savings instruments/ mechanisms will have to be formulated to cover individuals belonging both to the organised and unorganised sectors who have a minimum income base to meet the repayment schedule. At present, many potential home-owners are denied credit facilities simply because of lack of appreciation of their credit-worthiness and inadequacy of lending mechanisms. At the same time, the need for providing risk cover to the lending institutions has been recognised and a separate scheme for mortgage insurance has to be formulated.

**11.6.26** The state governments would need to play a catalytic role for promoting the setting up of housing finance intermediaries at the regional, state and local levels. The focus should initially be on 'National Cities', metropolises and Class I cities for setting up housing finance institutions and savings and loan assistance on the model of building societies in the U.K. In the small and medium towns, cooperatives could also be strengthened suitably for this purpose. The central and state governments could also play a useful role by providing seed capital at the initial stages to the housing finance intermediaries.

**11.6.27** Studies should be commissioned to devise strategies to accelerate the flow of finance for shelter and services for benefiting the maximum number of households especially those living in the low-income settlements.

**11.6.28** A specific institutional mechanism must be instituted to provide poor households with greater access to affordable credit and establish, with the help of voluntary organisations, linkages between the formal and informal sector. Lending mechanisms for the poor should be devised to suit their irregular income and incremental

building methods. Keeping in view the fact that a sizeable percentage of workers in organised and unorganised industries are without shelter, the owners of industries must allocate a small percentage of their capital and their annual profits for meeting specific housing needs of their workers.

### **Building Materials**

**11.6.29** The following activities have to be pursued in the field of building materials and technology:

- promotion of the use of low-cost, locally available, low-energy consuming building material and use of agricultural, industrial and other wastes;
- promotion of the use of low-costs, alternative and new building materials in housing and thereby contributing to affordability of housing (the schedule of items of work of housing agencies/PWD should include their use);
- promotion of the use of factory-made building materials and components and adoption of innovative technology (the manufacturers of such materials/components should be given preferential treatment through lump sum/turnkey contracts at comparable rates, without going through normal tender procedures); and
- promotion of the setting up of building materials manufacture and distribution centres and industries (captive markets and financial support be provided specially by housing authorities).

**11.6.30** The impact of indirect taxes and levies on the prices of building components and materials must be reviewed with a view to lowering their incidence on the cost of construction.

- (i) Institutional finance should be made available for manufacturing building materials especially at the district, sub-division and block levels.

- (ii) Building materials centres should be promoted by giving incentives in terms of cheap land and other physical and fiscal incentives to private entrepreneurs with a corresponding chain of building retailing centres to effectively distribute these products to the ultimate users.
- (iii) In order to set an example and promote the use of these building materials, they should be included in the Schedule of Items of Works of Housing Agencies and PWDs who should use them. A percentage of these materials should be used by public sector agencies in their construction activities, keeping in view the fact that public agencies should be active users of low-cost building materials.
- (iv) When considering alternative materials and technologies, the highest priority should be given to cost-reduction and applications in the informal housing supply, which caters to the majority of low-income households.
- (v) While the rational use of building materials is important, it is equally important to consider such design and sociological aspects as the way of life of the users, the distribution of space and the appropriate utilisation of building materials.
- (vi) Emphasis should be placed on improving existing methods of production of building materials. Programmes of on-the-job training with regard to specified production, technological and management skills should be implemented.
- (vii) Information about minor deposits of raw materials, including agricultural and industrial residues, should be collected and analysed and such information should be made easily accessible to small-scale entrepreneurs.
- (viii) It would be appropriate to develop standards to facilitate use of traditional materials and practices. As far as possible, women should be actively involved in the

formulation of standards that are directly concerned with areas which affect their lives and needs.

### Legislation

**11.6.31** Cohesive legislative support for housing has been lacking. In the Constitution of India, housing does not find specific mention. However, in so far as housing for industrial labour is concerned, item 24 of List III (Concurrent list) may be said to cover it because it deals comprehensively with the welfare of labour. This would place the subject in the Concurrent List, with which both the union and state governments are concerned. The residual powers in relation to the subjects not mentioned in the State or Concurrent Lists, however, vest in the union legislature. As such, the union government may be said to be directly concerned with the subject of housing in general. Legislative action by the central and state governments must address the following issues:

#### Laws related to mortgages:

- (i) These are necessary to enable Institutions to give loans on mortgages; thereby increasing the availability and flow of finance to intending home-owners. It will also be necessary to introduce mortgage insurance and provide for speedy foreclosure and develop a secondary mortgage market, thus opening vast possibilities of resources mobilisation for investment in the housing sector.
- (ii) Housing must be declared an Industry so that institutional finance and other facilities become available to entrepreneurs in both public and private sectors.
- (iii) Laws relating to registration of developers and builders will have to be reviewed and strengthened to attract entrepreneurs to the housing industry.
- (iv) To secure optimum and judicious utilisation of land, keeping in view local conditions and, in particular, the housing needs of the poor, low and middle income groups, urban

planning laws and building regulations will have to be formulated to promote low-rise, high-density development.

- (v) Local planning and building codes must be simplified and rationalised in order to facilitate imaginative designs, low-cost housing and an acceptable level of environment, keeping in view the requirements of economically weaker sections and low-income groups.
- (vi) Emphasis must be laid on corporate development including multiple ownership of plots, apartment buildings and condominiums in congested and highland-value areas. Appropriate laws will be enacted to facilitate such developments and their proper maintenance.
- (vii) Various housing-related controls must be amended to change them into facilitators rather than constraints on housing activity. (An example of such facilitative legislation is the Apartment Ownership Legislation.)

**11.6.32** Most of the actions on the legislative front, including amendment of building regulations and standards, have to be taken at the level of the state governments. In fact, the position in this regard varies considerably, and in some states, no proper legislative and promotional framework exists for housing. Systematic efforts need to be initiated by the state governments, under the guidance of the Ministry of Urban Development. Simultaneously, parallel legislative action should be initiated by the central ministries in charge of finance and agriculture to provide a conducive local environment for investments in housing by the authorities, private sector, cooperatives and individuals.

#### Rental Housing

**11.6.33** In any given time span, there will be individuals and households who are either not interested in owning a house or just cannot afford it. For such groups, rental housing is the answer. In 1981, 56.8 per cent of urban households lived

in rented accommodation. Land policy that aims at widespread land-ownership should then lead to landowners renting out one or two rooms. Such investment should also be financed by the National Housing Bank and its subsidiaries. Such rental units would also help income augmentation of low-income households. The Commission has already made detailed recommendations regarding reforms in rent control legislation.

### **Institutions**

**11.6.34** The success of housing programmes depends on the strength of the institutions involved. As recommended earlier, government's role should mainly be that of a 'facilitator', not of a 'deliverer' of housing. This change, therefore, calls for reorientation of the existing institutions and proper chartering of the new ones. We would like to quote here, with approval, the following important observations of the Task Force on Housing and Urban Development - Shelter for the Urban Poor and Slum Improvement, constituted by the Planning Commission in 1983:

Task Force noted with concern that in spite of policy commitments to self-help housing by the poor and encouragement of private initiative as well as some striking examples of successful low-cost self-help housing in recent years, Government-sponsored house construction agencies continue to proliferate. These agencies, almost universally, are patterned on the bureaucratic model and adopt a rigid brick and mortar approach to housing. While some amount of urban housing may be built by specialised agencies in the public, private, and cooperative sectors, there is overwhelming evidence to show that efforts to produce affordable housing for the poor by corporate bodies have failed. The evidence points to the fact that the bulk of housing of the poor is produced through their own efforts, legally or illegally. If public intervention in this field is to be effective, it will have to take into account

the woeful limitations of Governmental organisations, abilities to cater to the needs of low-income families in terms of costs, quality functional adequacy, location and cumbersome process.

A radical change in the orientation of public housing agencies is called for if they are to serve the need of low-income people better. Housing is considered by many as an entry point to a comprehensive programme for developing people. While it may be too much to expect Housing Boards to become vehicles of social development overnight, a happy via media could be achieved if housing is regarded by these organisations as a component of an integrated programme of services which must include health, education, recreation and sports, mother and child care and support for income-earning activities. This is well within the realm of possibility and some inspiration can be drawn from the Slum Clearance Board in Madras and the Municipal Corporation in Hyderabad.

**11.6.35** This reorientation of public agencies can be assisted by including the participation of non-governmental agencies in the provision of shelter programmes for the poor. In organising the poor for self-help, be it for construction of low-cost houses or delivery of basic environmental or social services, the nongovernmental, voluntary agencies, either nonprofessional organisations or small community groups, should be encouraged to play a specific role. Many such agencies and groups with the required orientation and skills are in existence today and many such groups are coming up rapidly in big cities. They are capable of playing multiple roles, starting from designing and implementing multi-sectoral projects to managing material banks and running a small dispensary in an improved slum locality.

**11.6.36** The staff-structure of existing housing authorities is also designed to support the bricks

and mortar approach. Consequently, these organisations are dominated by civil engineers drawn on deputation from the PWD. The organisational structure will have to be balanced to effectively pursue the thrust of the policy outlined above. In that context, every housing authority should have a Director, Land and Planning, a Director, Community Development, a Director, Finance, and a Director, Engineering - all of equal status - to advise the Chief Executive or the Managing Director.

### **Housing Through The Cooperative Sector**

**11.6.37** The cooperative movement in the housing sector has played a leading role in providing housing to many families which would not otherwise have become home owners. This is especially true of many countries in Europe, especially those in the Scandinavian group. In our own country, there are several examples of successful cooperative housing for the middle, low-income and economically weaker sections of the population. With the need to optimise the use of scarce resources - land, building materials, and finance ^W the cooperative housing sector would have to play an increasingly large role in house construction and in organising households into cooperatives for the purpose of house ownership. The following strategies are therefore recommended:

- For low and middle-income groups, the cooperative housing sector should be provided developed land and access to credit.
- The role of the cooperative sector in house construction must be enlarged to reach different income categories of population, including poor households.
- Policies should promote cooperative housing constructions and should help supplement public sector individual self-help approaches. It is a distinctive feature of the cooperative housing movement that members of cooperative societies assist each other in building houses.
- In communities belonging to economically weaker sections and where people are too poor to afford the cost of individual housing units and cannot easily obtain credit for acquiring shelter of their own, they can be assisted through setting up mutual-benefit organisations in which they pool their resources to buy building materials and contribute labour to construct each other's dwelling units, thereby leading to substantial cost savings.
- Government can play a role of facilitator by encouraging voluntary bodies to organise poor households into cooperatives, provide improved construction technology and building materials and make soft loans available to such organisations.
- The cooperative housing sector can also play an important role in starting building materials centres which will provide low-cost building materials at reasonable rates.
- Organisations like HUDCO, LIC, and GIC can also play a major role in supplementing housing by making positive shifts and promoting flow of credit to the cooperative sector.

The National Housing Bank would have to endeavour to ensure that income targeting, with a view to accommodating different categories of population and maximising the benefits, is kept in view by the housing finance intermediaries while advancing credit for home loans.

### **Role of Women and Youth in Housing**

**11.6.38** It is unfortunate that women's role in housing development has not yet been recognised. They are the ones who not only provide for the care and support of infants and children, but also provide labour and supplement family income as wage-earners. The role of women and youth in evolving shelter strategies is of crucial importance. Women in the informal sector, especially those belonging to the economically

weaker sections and the homeless, can be made to play a meaningful role in an effective shelter programme. Women are perhaps most aware of the problems and the potential and innovativeness of women and the children of destitute and homeless families could be harnessed towards this end.

**11.6.39** Women's access to shelter, essential services and community facilities should be given greater priority. Priority should be given to housing schemes for single and destitute women and migrant women labour. To supplement this, it is essential that community organisations are encouraged to develop women's cooperatives.

**11.6.40** Training programmes for upgrading the skills of women and youth designed to improve shelter and services, and also to impart income and employment generating training in low-cost consumer products of daily use, to increase their affordability, should be considered.

**11.6.41** Keeping in view the fact that children and women constitute a very substantial part of the population and a resource and a hope for the future, it is essential that non-formal education and literacy are imparted to them through community-based organisations. This will increase ability to absorb new ideas and also give them a better appreciation of the opportunities that are available and encourage them to adopt such technologies as help reduce the drudgery of women in performing their daily chores.

## **11.7 Recommendations for Strengthening Existing Programmes**

**11.7.1** Sites and services supply as an approach to improving the supply of affordable land, slum improvement as a way of conserving existing shelter, advocate themselves as the cornerstones of housing policy. Although this is being

increasingly accepted, particularly through World Bank aided projects, certain changes are desirable.

### **Sites and Services Project**

**11.7.2** Though the potential of such projects for providing affordable shelter to the weaker sections is being recognised, its potential in a wider sense, as an effective way of increasing supply of affordable, serviced land to the entire cross-section of the society needs to be recognised. Many cities are planning such projects. What is even more necessary, however, is, (a) their linking-up with employment opportunities (in terms of locational decisions and job creation activities), (b) arrangements for home improvement loans, (c) an area-development (rather than a site-development) approach, with adequate emphasis on off-site infrastructure, and (d) involvement of voluntary agencies to organise people to sustain the development process. In case of continuing migration and massive backlogs, it is also necessary to step up the size of the projects and the speed of land development and allotment. Sites and services programmes would serve as a preventive strategy only if they produce a large number of serviced plots for potential homeowners. The approach needs to be extended beyond the confines of public schemes by extending the space and engineering standards to privately developed schemes.

**11.7.3** Sites and services projects included in Madras Urban Development Projects I & II, the Bombay Urban Development Project, and the proposed Tamil Nadu Urban Development Project (and, perhaps, later projects in M.P., Gujarat and U.P.) have programmed public sites and services components on a Scale that would help meet the entire incremental demand by the last year of a 5-6 year project. However, these projects have been delayed mainly on account of

non-availability of land and, consequently, the original programme objectives have suffered to that extent. The important lessons are:

- (a) sites and services programmes implemented on acquired land alone will not be adequate;
- (b) a sites and services type of development has to be encouraged in private land assembly and development through appropriate standards of development, and guided land development as mentioned earlier; and
- (c) a part of current private sector investment should be directed to sites and services types of development.

### **Slum Improvement**

**11.7.4** The highest number of urban houses at this stage are produced in the informal sector in the form of slum dwelling. They are produced mostly by the users themselves though an intermediary in the form of a slumlord or dadas is also actively servicing this market. The slums are usually situated on encroached public or private lands (and are therefore illegal), built with discarded industrial waste materials (are therefore low-cost and hence affordable to the poor), and house the poor of the cities who constitute the bulk of the work-force in the informal sector of the economy. As slums are often built on encroached land, the builders of slum housing are seen as a threat to orderly society, and even to its law and order machinery. As the lands are unlawfully acquired and the structures are built in violation of building regulations and bye-laws, the settlements are termed 'unauthorised' and 'illegal'. Due to its unauthorised status, slum housing is beyond the tax net of the local authorities and therefore remains unserviced or poorly serviced. As they grow organically, without much planning, and as they are built with discarded, re-used materials of poor quality, they look chaotic and shabby. As they come up in violation of the zoning regulations and land-use plan of the planning and development authorities, they are considered as a curse to balanced and orderly growth of cities. The slums in Indian cities, as elsewhere, thus

represent both the solution and the problem. The process that produces an affordable shelter represents a potential solution, -even a solution to the housing problem (low-cost, recycled materials; self-help, easy and quick construction, fast supply rate, etc.). The illegal encroachment on public and private lands and unhealthy environmental conditions represent the problem.

### **(a) More projects**

**11.7.5** Improving living conditions in existing slums is the main thrust of the curative strategy. In situ improvement of slums is now an accepted approach and is being tried out in many cities with a varying degree of success. What is needed, however, are:

- more projects and wider coverage, particularly for slums on central government lands and private lands
- speed
- quality in planning and implementation
- additional resources and
- proper organisational arrangements to ensure resident participation.

Resident participation, besides facilitating the improvement process, would also provide a basis for organising people for post-improvement maintenance of installed services and effective cost-recovery. Lack of participation, poor maintenance of services, and unsatisfactory cost recovery performance are some of the main deficiencies of the on-going improvement programme.

### **(b) Secure Land Tenure**

**11.7.6** An important aspect of improving living conditions in slums, besides providing basic environmental services and civic amenities, is to eliminate the fear of eviction. This can be done by providing a secure land tenure (patta) for the residents. This basic security would motivate them to invest their resources and energy in improving their shelter and environment. More and more cities of the developing world are

finding that the way to improve conditions is not to keep the poor in a perpetual state of anxiety and insecurity but to ensure them locational stability and secure land tenure is the way of doing it. Cities like Madras, Hyderabad and Jaipur have done it on a reasonable scale and others like Ahmedabad, Kanpur and Bombay are starting the process.

**(c) Limitations of Regulation Strategy 11.7.7**

Regularising existing slums by providing secure tenure to the occupants, though necessary on humane and political grounds, and especially in the light of the utter failure on the part of the State to provide land in large enough quantities at an affordable cost, and inescapable in the present socio-economic situation, may not be the real answer to the housing problem of the poor. In the long run, it could prove counter-productive. An unqualified policy of regularisation could be an incentive for more encroachments and may become a convenient tool in the hands of the professional colonisers (slumlords) to exploit the poor. Such a policy could also become a threat to the orderly functioning of the society as it may amount to rewarding law-breakers. The haphazard, uncontrolled growth of cities, in violation of building regulations and land-use plans (however imperfect and inadequate), could become a serious handicap in the efficient functioning of the city and a threat to its health. To allow a problem to develop and assume large proportions through inaction and indifference and to accept its reality and consequences on moral/humanitarian grounds or for reasons of political expediency is to create conditions which would, in a sense, end unauthorised squatting since, in effect, all of it would be authorised. The answer lies in large-scale supply of affordable land as discussed earlier.

**(d) Home improvement Loans : A Necessary Additionality**

**11.7.8** Providing secure land tenure is only the first, though critical, step in initiating the

improvement process. Creating access to institutional resources for home improvement loans should become an integral part of slum improvement schemes. It has been found in many cities where such programmes have been taken up that people require and demand such assistance. To provide this effectively, proper institutional arrangements are needed which can provide small loans in a less bureaucratic fashion and can organise recovery arrangements at a lower cost than at present. Creating such agencies is an important design-task.

**(e) Organisational Support**

**11.7.9** The Hyderabad Urban Community Development Project has shown that, through the intervention of a properly structured, oriented and manned external agency, people's energies and resources can be mobilised for their own betterment. To ensure participation and mobilise people's resources, it is necessary to involve a UCD-type of organisation, along with engineering departments, in the improvement schemes. Expansion of the UCD scheme to all major cities is important not only for slum improvement schemes but also for dealing with the entire issue of urban poverty UCD is an important institutional innovation in the context of tackling some of the sensitive issues related to the urban poor. Monitoring its working, studying its performance, improving its design where needed, and extending it to other urban centres is an important step in the direction of evolving an appropriate institutional base.

**(f) Voluntary Agencies**

**11.7.10** The role of the voluntary agencies in these schemes also needs to be stressed. They could provide an important interface between the slum and the agencies responsible for improvement, relocation, sites and services and other such schemes. To encourage them to play an active role and to support, assist and strengthen them in their work is equally important.



**(g) Selective Relocation**

**11.7.11** The slum improvement strategy should not rule out completely a selective relocation approach, either to decongest highly congested localities or even to vacate strategically located encroached lands required for public purposes. This, however, should be done only in selected cases and should be done judiciously. Unfortunately, this selective relocation approach has been occasionally misused for justifying the ruthless bulldozing of settlements. The terms 'strategically located' and 'public purpose', therefore need to be re-examined. The city development plans and their reservations are not necessarily the correct guidelines, as in many cases they are old, based on a thin information base and sometimes removed from the changing economic base and functional role of different areas and localities. It must also be stressed that a relocation exercise should have the consent of the concerned people, a visible and acceptable alternative, and the community's active involvement in the planning and transfer process. The cost of relocation should be considered as an integral part of the project cost while judging its economic merits.

**Upgrading Inner-City Neighbourhoods**

**11.7.12** Most inner-city (or walled city) areas of Indian cities suffer from widespread decay of physical housing stock, inadequate infra structure, inadequate roads, and parking and open spaces. This has been largely the result of rent control and restrictive FSI and density regulations. Out of a total backlog of 5.9 million dwelling units, 1.2 million (over 20 per cent) is in such old buildings. This shows the importance of conservation of existing stock. In its Interim Report, the Commission has already recommended certain rent control reforms which would provide incentives for building repairs and upkeep.

**11.7.13** In Bombay, the state has made a major intervention in this area. In 1969, the state accepted responsibility for structural repairs and

reconstruction of over 1900 rent-controlled tenanted buildings. This is being actively financed from the proceeds of a cess levied on all buildings and a subvention from state and local government. However, the state's efforts have not proved adequate and legislative changes for transfer of tenure to tenants' cooperatives have been enacted — but this innovation is too new to evaluate.

**11.7.14** Despite widespread obsolescence and dilapidation in the housing sector in inner-cities, property prices there continue to be high. This needs to be seen as an opportunity. But it is important to see that this does not lead to poor sections being pushed out. For them, the location of their houses is most important for ensuring access to their jobs. The following appear to be promising ways to ensure that they are able to hold their ground:

- (a) Finances for repairs must be specifically provided.
- (b) Incentives must be provided in the form of transfer of development rights (TDR) for rehabilitation of existing tenants.
- (c) A disincentive against neglecting repairs and maintenance must be provided by stipulating that, on the collapse of a building, the land will vest with the authority and the only compensation will be by way of transferable development rights (not weighted by the price where they have originated).

**11.8 Recommendations**

**11.8.1** The shelter problem comprise.

- (a) how to increase shelter supply
- (b) how to improve and upgrade slums, and
- (c) how to conserve existing housing stock.

The solution however need not follow a welfare approach. As already demonstrated, housing and infrastructure investments are productive,

they are investments in an asset that yields a flow of services over time and they should be evaluated like any other productive investment.

**11.8.2** To deal with shelter of the millions, with the limited resources at our disposal, it is necessary to depart significantly from existing practices, bring about a notable change in perspective and values. These changes include:

- (a) a new understanding of the problem (not an insurmountable obstacle but a manageable challenge),
- (b) a major shift in attitudes towards people (not an idle burden, but a productive resource);
- (c) a new interpretation of an approach to peoples' self-generated housing stock (even if deficient, it is an approach to a solution, not a problem; not to be demolished but to be conserved and improved);
- (d) a new definition of a house (not necessarily a pucca or permanent status symbol but one that shelters adequately);
- (e) a new definition of the housing task (not necessarily permanent buildings but liveable, adequate environment); ]
- (f) a new thrust (not a few finished houses but a massive supply of serviced land);
- (g) a new role for the traditional housing agencies knot controllers but facilitators, not providers but promoters);
- (h) a new relationship between the agencies and the housing clients (not givers and receivers but partners);
- (i) a new economics (not charity but investment);
- (j) a new definition of scale (not tokenism but total coverage); and
- (k) for some, a new vision (not houses alone but overall development).

**11.8.3** The objectives of urban land policy should be:

- (a) To achieve an optimum social use of urban land.

- (b) to make land available in adequate quantity at the right time and for reasonable prices to both public authorities and individuals.
- (c) To encourage cooperative community effort and bonafide individual builders in the field of land development, housing and construction.
- (d) To prevent concentration of land ownership in a few private hands and specially to safeguard the interest of the poor and underprivileged section of the society
- (e) To use land as resource for financing urban development by recouping the unearned income which otherwise accrues to private landowners.
- (f) To encourage the socially and economically efficient allocation of urban land such that land development is done in a resource-conserving manner and that the magnitude of land used is optimal.
- (g) To promote flexibility in land-use in response to changes resulting from a growing city.

**11.8.4** Apart from the effective state intervention which is imperative in urban land market, land readjustment appears to be a promising way of achieving these objectives. In a typical land readjustment scheme land assembly and development is guided by a public agency. Land readjustment is based on the fact that land values increase significantly after provision of urban infrastructure. The increase is of such magnitude that a small proportion of land is sold, the remaining land can command an attractive rate of return over the original land value to the land-owners, even after foregoing land for infrastructure and for sale by the developing agency. It would also be possible for public agencies to retain some percentage of developed land for low-income shelter.

**11.8.5** In order to establish wide based housing finance network it is recommended:

- (a) to promote new housing finance institutions at the regional/state level;
- (b) to promote new institutions at base level by identifying viable, reliable groups, providing seed capital to them as also professional expertise and support in the initial years;
- (c) to formulate policies relating to mobilisation of resources and extension of credit for housing, including creation of new instruments of savings linked to housing;
- (d) to regulate the working of the housing finance institutions at the base level (both regional and local) and coordinate their activities, as also those of other agencies in the housing field;
- (e) to identify the impediments — legal, fiscal, physical, environmental and technical — to the active involvement of the household sector in deploying its savings in housing and to promote measures by way of changes in the law, enactment of new legislation, simplification of procedures etc. to remove them;
- (f) to mobilise resources for housing;
- (g) to extend financial support to housing-finance intermediaries such as HUDCO, HDFC, State/regional level housing finance institutions including apex cooperative housing finance societies and local level organisations.
- (c) In order to set an example and promote the use of these building materials, they should be included in the Schedule of Work of Housing Agencies and PWDs who should use them. A percentage of these materials should be used by public sector agencies in their construction activities, keeping in view the fact that public agencies should be active users of low-cost building materials.
- (d) When considering alternative materials and technologies, the highest priority should be given to cost-reduction and applications in the informal housing supply, which caters to the majority of low-income households.
- (e) While the rational use of building materials is important, it is equally important to consider such design and sociological aspects as the way of life of the users, the distribution of space and the appropriate utilisation of building materials.
- (f) Emphasis should be placed on improving existing methods of production of building materials. Programmes of on-the-job training with regard to specified production, technological and management skills should be implemented.
- (h) Information about minor deposits of raw materials, including agricultural and industrial residues, should be collected and analysed and such information should be made easily accessible to small-scale entrepreneurs.

#### 11.8.6

- (a) Institutional finance should be made available for manufacturing building material; especially at the district, sub-division and block levels.
- (b) Building materials centres should be promoted by giving incentives in terms of cheap land and other physical and fiscal incentives to private entrepreneurs with a corresponding chain of building retailing centres to effectively distribute these products to the ultimate users.
- (i) It would be appropriate to develop standards to facilitate use of traditional materials and practices. As far as possible, women should be actively involved in the formulation of standards that are directly concerned with areas which effect their lives and heeds.
- (j) To secure optimum and judicious utilisation of land, keeping in view local conditions and, in particular, the housing needs of the poor, low and middle income groups,

planning and building regulations will have to be formulated to promote low-rise, high-density development.

- (k) Local planning and building codes must be simplified and rationalised in order to facilitate imaginative designs, low-cost housing and an acceptable level of environment, keeping in view the requirements of economically weaker sections and low-income groups.

**11.8.7** In any given time span, there will be individuals and households who are either not interested in owning a house or just cannot afford it. For such groups, rental housing is the answer. In 1981, 56.8 per cent of urban households lived in rental accommodation. Land policy that aims at wide-spread land ownership should then lead to land owners giving one or two rooms on rent. Such investment should also be financed by the National Housing Bank and its subsidiaries. Such rental units would also help income augmentation of low income households. The Commission has already made detailed recommendation regarding rent control reforms in its interim report. These, when adopted, will go a long way in providing impetus to new rental housing.

**11.8.8** A radical change in the orientation of public housing agencies is called for if they are to serve the need of low-income people better. Housing is considered by many as an entry point to a comprehensive programme for development of people. While it may be too much to expect housing boards to become vehicles of social development overnight, a happy via media could be achieved if housing is regarded by these organisations as a component of an integrated programme of services which must include health, education, recreation and sports, mother and child care and support for income earning activities.

**11.8.9** The staff-structure of existing housing authorities is also designed to support the bricks and mortar approach. Consequently, the organisations are dominated by civil engineers drawn on deputation from the PWDs. The organisation structure will have to be balanced to effectively pursue the thrust of the policy outlined above. In that context, every housing authority may have a Director, Land and Planning, a Director, Community Development, a Director, Finance, and a Director, Engineering — all of equal status — to advise the Chief Executive or the Management Director.

**11.8.10** With the need to optimise the use of scarce resources, land, building materials, and finance, the cooperative housing sector would have to play an increasingly large role in house construction. The following strategies are therefore recommended:

- (a) For low and middle-income groups, the cooperative housing sector should be provided developed land and access to credit.
- (b) The role of the cooperative sector in house construction must be enlarged to reach different income categories of population, including poor households.
- (c) Policies should promote cooperative housing constructions and should help supplement public sector individual self help approaches.

**11.8.11** Women's access to shelter, essential services and community facilities should be given greater priority. Priority should be given to housing schemes for single and destitute women and migrant women labour. To supplement this, it is essential that community organisations are encouraged to develop women's cooperatives. Training programmes for upgrading the skills of women and youth designed to improve shelter and services, and also to impart income and employment generating training in low-cost consumer products of daily use, to increase their affordability, should be considered.

**11.8.12** Though the potential of sites and services projects for providing affordable shelter to the weaker sections is being recognised, its potential in a wider sense, as an effective way of increasing affordable supply of serviced land to the entire cross-section of the society needs to be recognised. Many cities are planning such projects. What is even more important are opportunities (in terms of locational decisions and job creation activities), (b) arrangements for home improvement loans, (c) an area development (rather than a site development) approach, with adequate emphasis on off-site infrastructure, and (d) Involvement of voluntary agencies to organise people to sustain the development process. In case of containing migration and massive backlogs, it is also necessary to step-up the size of the projects and the speed of land development and allotment. Sites and services programmes would serve as a preventive strategy only if it produces a large number of serviced plots for potential homeowners. The approach needs to be extended beyond the confines of public scheme by extending the space and engineering standards to privately developed schemes.

**11.8.13** Improving living conditions in existing slums is the main thrust of the curative strategy. In situ improvement of slums is now an accepted approach and is being tried out in many cities with a varying degree of success. What is needed, however, are:

- more projects and wider coverage, particularly for slum on central government lands and private lands,
- speed,
- quality in planning and implementation,
- additional resources, and
- proper organisational arrangements to ensure resident participation.

Resident participation, besides facilitating the improvement process, would also provide a basis for organising people for post-improvement maintenance of installed services and post

recovery. Lack of participation, poor maintenance of services, unsatisfactory cost recovery, performance are some of the main deficiencies of the on-going improvement programme.

An important aspect of improving living conditions in slums, besides providing basic environmental services and civic amenities, is to eliminate the fear of eviction. This can be done by providing a secure land tenure (patta) for the residents. This basic security would motivate them to invest their resources and energy in improving their shelter and environment.

**11.8.14** Providing secure land tenure is only the first, though critical, step in initiating the improvement process. Creating access to institutional resources for home improvement loans should become an integral part of the slum improvement schemes. To do this effectively, proper institutional arrangements are needed which can provide small loans in a less bureaucratic fashion and can organise recovery arrangements at a lower cost: Creating such agencies is an important design task.

**11.8.15** To ensure participation and mobilise people's resources, it is necessary to involve UCD-type of organisation, along with engineering departments, in the improvement schemes.

Expansion of the UCD scheme to all major cities is important not only for slum improvement schemes but also for dealing with the entire issue of the urban poverty. UCD is an important institutional innovation in the context of tackling some of the sensitive issues related to the urban poor. Monitoring its working, studying its performance, improving its design where needed, and extending it to other urban centres is an important step in the direction of evolving an appropriate institutional base.

**11.8.16** The slum improvement strategy should not rule out completely a selective relocation approach, either to decongest highly congested localities or even to vacate strategically located encroached lands required for public purposes. This, however, should be done only in selected cases and should be done judiciously.

**11.8.17** The following appear to be promising ways to consume existing housing stock in inner city areas:

- (a) Finance for repairs must be specifically provided.
- (b) Incentives must be provided in the form of transfer of development rights (TDR) for rehabilitation of existing tenants.
- (c) A disincentive against neglect must be provided by stipulating that, on the collapse of a building, the land will vest with the authority and the only compensation will be by way of transferable development rights (not weighted by the price where they have originated).

**Annex 1. Distribution of Households, Average Household Income and Wealth by Income Class-Urban India 1975--76**

Average Annual Income of the Household	Percentage Household	Average Income Rupees	Percentage Share in Total	Average Wealth Rupees	Percentage Share in Wealth	Gross Saving Rs. Lakhs	Percentage Share in Gross Saving
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Below 1200	1.34	874	0.2	4115	0.44	20	0.06
1200 - 2400	11.55	1864	3.0	1732	1.60	1006	0.30
2401 - 3600	18.08	2959	7.0	2846	4.13	4605	1.38
3601 - 4800	16.28	4113	9.5	5301	6.93	10735	3.21
4801 - 6000	13.78	5337	10.4	5874	6.50	18017	5.39
6001 - 7500	10.13	6752	9.7	11116	9.04	21096	6.31
7501 - 10000	11.23	8512	13.5	11416	10.30	36308	10.87
10001 - 15000	8.62	12014	14.6	29163	20.18	52499	15.71
15001 - 20000	4.20	17232	10.2	32831	11.08	49938	14.94
20001 - 25000	2.07	22453	6.6	47917	7.97	38048	11.39
25001 - 30000	1.22	27137	4.7	83213	8.16	27947	8.36
30001 - 40000	0.91	47441	10.0	113461	27.32	73929	22.12
40001 - 60000	0.37						
60001 and above	0.22						

Source: NCAER, Survey of Household Income and its Disposition, 1975-76, New Delhi.

## 12. CONSERVATION

**12.1.1** Settlement patterns in India have remained fairly consistent through its history and town planning reached a high degree of sophistication and adaptability in the pre-British era. There was a recognisable order and disorder created by the characteristic uses of public and private spaces and the emergence of clearly identifiable types of built-form suited to our climate, the social and economic needs of our people and the available material resources.

**12.1.2** However, the unprecedented demographic and spatial growth of the last four decades, accompanied by growing strains on civic services, has led to a loss of identity among the residents of our cities. The absence of effective town planning in the majority of our new urban areas, has led to the emerging physical form of India's cities providing less and less scope for the expression of their residents' lifestyles.

**12.1.3** Plans for overcoming the acute shortage of housing and for investment in civic infrastructure are going to unleash a wave of construction in our cities unparalleled at any time in our past. The impact on our cities can well be imagined.

**12.1.4** Jaisalmer's rapidly deteriorating environment provides an example of the serious consequences of development in a historic town where scant attention is paid to the requirements of conservation. The spurt in the number of tourists visiting Jaisalmer initiated a process leading to the destruction of its city waifs - undoubtedly the town's most precious assets. The many new buildings built in response to the rise in economic activity particularly hotels not only led to ugly structures, electric poles and wires sprouting everywhere, but increased the flow of water through the inadequate city drains. The resulting overflow from a drainage system, suited only to the very low water consumption of a desert town, is undermining the foundations of structures in the old quarters as well as the city walls.

**12.1.5** Will it be possible while bringing about development, to retain those characteristics of our urban settlements that have served them so well in the past; and to ensure that architectural styles and patterns of built-form, housing arrangements and traffic patterns develop in harmony with what has worked well and therefore survived from the past?

**12.1.6** Is there a legal basis for bringing the urban environment of cities and historic towns under protection and their future development under guided control? For urban conservation to be effectively carried out, it must become an integral part of urban planning and development policy.

**12.1.7** This chapter will look at those elements of the built environment that have played and continue to play a valuable role in the urban experience and suggest measures for their preservation.

## 12.2 Conservation — What and Why?

**12.2.1** Till recently, conservation was regarded as solely the responsibility of Departments of Archaeology, and aimed at the preservation of single monuments or groups of historic buildings, usually unoccupied. Since the Second World War, however, almost the world over, conservation is increasingly being seen as embracing a much wider area - that of the whole architectural fabric of town and cities, involving both greater and lesser buildings, as well as entire areas which display interesting or unique architectural, cultural and social characteristics. It is also concerned with people and their lifestyles and, therefore, with how to enhance those parts of the built environment which help to sustain social cultural patterns which people value.

### Urban Conservation Defined

**12.2.2** Each generation places a different interpretation on the past and derives new inspiration from it. It can be looked upon as capital that has been built up over the centuries, the destruction

of any part of it leaving us poorer. There is therefore an obligation to husband this legacy and to pass on what is valuable in it to the future.

**12.2.3** As the term 'Urban Conservation' is relatively new, the following definition by the (National Trust of Australia, NSW) provides a helpful starting-point:

Urban conservation seeks to retain that part of the Urban environment whose character is important to the national or local heritage. It also seeks to enhance that environmental character by ensuring that the sitting, the size and the design of any new development is complementary to it.

'Thus', the National Trust of Australia stresses, 'the basic function of any conservation programme is to identify and to retain those essential features contributing to the character of any area, and to ensure that any new development or redevelopment is in sympathy with, and contributes to, the character of that area.'

### **What Is the Built Heritage?**

**12.2.4** The architectural heritage consists not only of our most important monuments; it also includes groups of lesser buildings, many of which are in our older towns, in their natural or man-made settings. While our major monuments were, over the last century or so, protected and often well restored, this was without concern for their surroundings. It is now realised that, if their surroundings are impaired, monuments can lose much of their character and significance.

**12.2.5** Together with this concern for the surroundings of a building of architectural or historical importance, is the recognition that entire groups of buildings, even if they do not include a single example of any outstanding merit, may have a quality, an atmosphere, that gives them a value which makes them worthy of preservation.

**12.2.6** There is another, often ignored, aspect of the conservation-oriented approach to city planning. Increasingly, town planners are growing aware that it is necessary to bring back human dimensions of scale to urban life, as also the interaction of functions and the social and cultural diversity that characterised the fabric of older towns. By retaining the socio-economic character of traditional areas, residents are allowed to continue living in their houses even though these houses may be substantially renovated and upgraded.

**12.2.7** Conservation is therefore 'putting people first' ahead of abstract notions of what constitutes a new or modern environment. Not everything built in the past is of value and new buildings too can make a contribution to the environment of our cities. It is the aim of conservation to preserve the best of the past (where buildings sustain communities and urban patterns show vitality and resilience) and to provide a framework within which new buildings can make a neighbourly contribution and be in sympathy with what continues to work well from the past.

### **Conservation in the Indian Context**

**12.2.8** In the Indian context, urban conservation would be concerned inter alia with those components of the urban heritage that:

- possess architectural, historical or cultural interest;
- have a special or unique quality, or 'charm', that provides distinctiveness either because of its ambience or because of some distinctive activity centered on, or associated with the place;
- constitute a focal point in a city of importance to the social, psychological or spiritual well-being of its residents;
- are elements that enhance the physical environment of the city.



**12.2.9** Older cities in India (in particular, their central areas which may express a distinctive architectural style), offer one or more of the following elements, the preservation of which would be highly desirable for present and future residents:

- (a) a building or groups of buildings of architectural, historical or cultural interest;
- (b) an intimate or human scale in an area;
- (c) local 'set-pieces' of significance to the city or the region (e.g. Charminar, Hyderabad; Flora Fountain, and Marine Drive's Art Deco building line and water-front line in Bombay);
- (d) well-defined central area precincts, with at variety of activities;
- (e) famous individual districts;
- (f) a unique temple, mosque or other monument as a focal point to the area;
- (g) squares or major intersections with interesting corner buildings or a special ambience;
- (h) waterfront areas (sea, river, lake or tank);
- (i) urban areas associated with major open spaces, sometimes integrally planned;
- (j) a street pattern favouring the pedestrian, where the relationship of spaces, tree, etc., satisfy social and climatic needs and provide visual satisfaction or 'drama';
- (k) designed environments, (e.g., Horniman Circle, Bombay; Connaught Circus, Delhi; Tripolia Bazar, Jaipur);
- (l) old town and village centres;
- (m) major landmarks (man-made or natural);
- (n) lines of sight and other vistas of visual significance, including skylines, ridges, panoramic and other views;
- (o) well-favoured residential areas (with existing, high-grade facilities);
- (p) main centres of recreation and tourism.

### Special Areas and Historic Towns

**12.2.10** While not all old quarters of our cities contain monuments of great architectural distinction, their clusters of buildings in vernacular

style, along with their informal use of intervening spaces, provide that historic fabric which, preserved and integrated with future development, can ensure values of continuity and identity for the residents. Some examples are: the walled city with its 'pols' in Ahmedabad; the Banganga tank complex, Khotachiwadi and Bhuleshwar in Bombay; the Nizamuddin and Shahjahanabad precinct in Delhi; Fontainhas in Panjim, Goa; the inner city and its bazars in Jaipur.

**12.2.11** There are also some historic towns which almost in their entirety, guilty as conservation areas. Some obvious examples are: Orchha and Chanderi (in Madhya Pradesh); the old city of Vijayanagar; the walled city of Jaisalmer, Mandawa town and others, in the Shekhavati region (Rajasthan). Other numerous examples would include fortified towns, temple towns, riverside towns and their settlements which still retain a unique or distinctively homogeneous character, including a large number of 19th century and early 20th century cantonment areas in India.

### Why Conservation at all?

**12.2.12** Many feel that change is inevitable - not just a change in fashion, or a builder's response to economic forces, but the change that follows the construction of all the new components of a modern city. There are, however, good reasons why we should preserve our better buildings and urban areas side by side with modern developments.

The first is based on the profound psychological need of human beings for permanence.

The wholesale replacement of traditional urban areas by city redevelopment schemes in postwar years has made people realise that the past, as embodied in the architectural heritage, provide the sort of environment that is conducive to a balanced and satisfying life. The rapid and

dramatic changes in the appearances of our cities make people aware of the losses from the past, only when it is too late to retrieve them.

The urban heritage therefore needs to be passed on to future generations in all, variety and as an essential part of our awareness or our own continuity. A second reason is the realisation that old buildings often do their job better than the new ones. Consider putting a new building proposal through the test that it must perform its function better than the old one, suitably renovated, which it is replacing. How many would pass it?

A third reason — particularly relevant in our country where energy and material resources are scarce — is that we cannot afford to demolish buildings which still have plenty of life in them. Older buildings are generally more efficient in energy conservation than new ones; and traditional neighbourhoods are as much less energy intensive, being dependent substantially on natural light and ventilation.

Fourthly, rehabilitation or conversion of an old buildings is also invariably labour-intensive. It creates employment for more than large scale re-development schemes which rely more on the labour-saving techniques that only the larger builders can manage.

Fifthly, many older buildings are superior in materials, craftsmanship and aesthetic form to a great number of contemporary buildings. Repairs at a fraction of the cost of new construction, allow the city to retain housing stock of a much higher quality than can be created anew.

### **12.3 Laws Relating to Urban Conservation**

**12.3.1** Conservation of historical buildings and areas in our cities (other than archaeological monuments and sites) is not covered by any special legislation in India barring a few references in some municipal and town planning laws.

Some legislation has recently been enacted relating to Urban Art Commission but, except in the case of Delhi, these bodies have no statutory powers and their record has been disappointing.

### **Conservation in relation to the Indian Constitution**

**12.3.2** The Constitution of India, in the Directive Principles of State Policy, requires the State to protect every monument or place or object of artistic or historic interest, declared by or under law made by parliament to be of national importance, from spoliation, disfigurement, destruction, removal, disposal or export, as the case may be. Ancient and historical monuments and records and archaeological sites and remains, declared to be of national importance are in the Union List (Entry 67); ancient and historical monuments and records, other than those declared to be of national importance, are in the State List (Entry 12); and archaeological sites and remains, other than those declared to be of national importance are in the Concurrent List (Entry 40);

### **Central and State Government Laws for the Protection of Monuments**

**12.3.3** The Archaeological Survey of India was established in 1861. Fort/-three years later the central government enacted the Ancient Monuments Preservation Act, 1904, to provide for the preservation of ancient monuments and objects of archaeological, historical or artistic interest. The concept of a monument of national importance was introduced in the Ancient and Historical Monuments and Archaeological Sites and Remains (Declaration of National Importance) Act, 1951. Subsequently, the Ancient Monuments and Archaeological Sites and Remains Act, 1958, replaced the earlier acts. Under this act, the central government framed the Ancient Monuments and Archaeological Sites and Remains Rules, 1959, prescribing procedural details relating to public access to monuments and development in the vicinity of the monuments.

**12.3.4** State Governments have enacted similar legislation modelled on the central act, for the protection of ancient monuments and sites other than those declared to be of national importance.

**12.3.5** To qualify for protection under the archaeological acts, central and state, an 'ancient monument' must be of historical and artistic interest, and must have been in existence for not less than 100 years. It becomes a 'protected monument' once it is declared to be so by the government. The government is also empowered to declare archaeological sites protected areas. Neither the act nor the rules provide any guidelines concerning the criteria to be applied when considering whether any particular monument or site is of national or state importance. Nor has the Central Advisory Board of Archaeology of the Ministry of Human Resource Development (Department of Culture) or the Director-General of the Archaeological Survey of India laid down any criteria. However, the late Professor G.B. Krishna Rao concluded that the criteria usually taken into account evidently were:

- (a) uniqueness of the monument or site;
- (b) its being representative of an important epoch in the nation's (region's) history;
- (c) its association with the life of a great national leader or personality;
- (d) its being of outstanding architectural or artistic or archaeological value;
- (e) its accessibility to the public, and, preferably, its not being under intensive use by the public.

**12.3.6** Protected monuments could either be on land owned by government or on privately owned land, subject to an agreement entered into between government and the owner. However, the responsibility for the maintenance of protected monuments and sites lies wholly with the government, irrespective of whether they are situated on government or private land. Even if the agreement provides that the monument will be maintained by the owner, the expenses are

usually met by government. Compulsory acquisition of property, when necessary, is undertaken under the Land Acquisition Act, 1894, the acquisition of protected monuments being clearly specified as a 'public purpose' within the meaning of the Land Acquisition Act, 1894, in the central archaeological act of 1898. The state archaeological acts provide for acquisition under the Land Acquisition Act only when there is an apprehension that the monument is in danger of being destroyed or misused, not whenever the government considers it necessary or expedient.

**12.3.7** The Act provides for penalties in case of misuse or abuse of protected monuments. Certain activities are prohibited in them. Eviction of unauthorised occupants and demolition of unauthorised structures within a protected monument or area may take place under the provisions of the Public Premises Eviction of Unauthorised Occupants Act, 1971.

**12.3.8** The central and state acts also provide for the declaration of a prohibited or regulated area in such portion of land adjoining the site as may be required for fencing or covering-in or otherwise preserving the monument. This has generally been interpreted in the narrowest possible sense and has rarely been employed to influence or regulate activities in the larger environment of the monument so as to protect and enhance its setting.

#### **Some Limitations of the Central & State Laws**

**12.3.9** The Archaeological Survey of India and the departments of archaeology in different states are mainly concerned with preserving the remains of Indian history and pre-history with particular emphasis on pre-historic sites. Currently, the Archaeological Survey of India has brought on to its schedule for protection approximately 5000 monuments of national importance. The states and union territories have together scheduled a further 2500. This total of some 7500 monuments represents not even a fraction of the architectural

heritage of the country which is in dire need of protection and maintenance. In comparison, monuments of outstanding importance scheduled by the French government number over 30,000; while in the UK, the number of listed buildings which come under somewhat looser development control numbered 220,000 in 1975 and, in a current review, are expected to rise to close to a million!

**12.3.10** The arbitrary exclusion of buildings less than 100 years old from consideration for protection results in ignoring significant examples of buildings having valuable historical associations or high architectural merit which may be less than 100 years old. Likewise, the lack of interest in protecting the surroundings of monuments or encouraging the adaptive 're-use' of buildings that could be usefully occupied has deprived the heritage of the attention necessary to ensure its survival and usefulness to society.

**12.3.11** It is unfortunate that in recent years, even under existing laws, no efforts have been made to enlarge the list of properties under legal protection. Both the central and to governments seem to feel that their hands are already too full and have indicated their intention to denotify monuments from time to time. The protection of the urban heritage on a much larger scale cannot therefore be entrusted to the archaeological agencies.

### **Conclusion**

**12.3.12** It should be clear from the discussion above that the organisational set-up of the archaeology departments (central and states) can be no substitute for Comprehensive revisions to promote conservation incorporated in the town planning acts. Conservation of buildings and areas in the urban context calls for intervention by civic bodies and local planning authorities and it is evident that urban Conservation lies squarely in the realm of regional and city planning.

## **12.4 Urban Conservation Through Town planning**

**12.4.1** With the physical expansion of existing towns and cities and the proliferation of new ones, not only individual monuments and landmarks but entire historic quarters and towns containing unique examples of architectural styles or ways of life are increasingly exposed to the forces of urbanisation. Sprawling residential suburbs or growing business districts often engulf many such buildings or areas.

**12.4.2** The task of protecting such areas and, at times, an entire town is becoming difficult as there is at present no institutional arrangement or legal backing for their protection. The task is made all the more complex since, unlike in the case of archaeological monuments, there is currently little public appreciation in India of the need for protecting historic towns and buildings, most of which are inhabited or may not be 'ancient' enough.

**12.4.3** While archaeological monuments can be 'saved' by prohibiting development in the immediate vicinity, old historic quarters and buildings are the very flesh and blood of an urban settlement. These can therefore be protected only by suitably guiding the physical growth of the city. This requires an understanding of the dynamics of urban growth so that solutions can be attempted which facilitate conservation without making a futile or unwarranted attempt to stall, or interfere with, the forces of urbanisation. This can only be done through the process and the instruments of town and regional planning. No amount of architectural intervention can succeed in protecting monuments and groups of buildings unless these are supported wholeheartedly by regional planning, pragmatic land use, transportation policies and meticulous civic management.

**12.4.4** Monuments, historic buildings and neighbourhoods, all occupy valuable land which is a scarce resource in urban areas. In the case of

ancient monuments which cannot be made use of, the city (by legislation and later by consensus) agrees to part with this resource. In the case of inhabited buildings and old town-centres, the citizens must similarly agree to make a controlled and limited use of the land occupied by such areas. In essence, they must agree, for example, to put up with old city walls or gateways that may restrict accessibility; or with narrow and winding street patterns in a historic quarter that may restrict the unfettered circulation of traffic so that the old areas may continue to be used without destroying their essential qualities.

**12.4.5** When all these sacrifices are not made by citizens, protected monuments start providing building materials and shelter to squatters, land in the vicinity provides free areas for unauthorised construction, city-walls are razed, ancient streets thoughtlessly widened for heavy traffic that destroys the neighbourhood quality and incongruous development replaces valuable and beautiful historic buildings.

#### **Conservation Objectives Can Be Met Through Town Planning**

**12.4.6** The basic objectives of urban and regional planning are very closely related to those of conservation of historic towns, areas and monuments. Town planning in the modern context originated from the desire of people to have certain self-imposed norms and standards for the utilisation and development of land in their cities. Instruments such as master plans, zoning regulations, building bye-laws, etc., all help in achieving these objectives. This calls for the subordination, to some extent, of the immediate interest of the individual in favour of the overall interest of the community and, in the long-term interest of the same individual. The most obvious restriction placed on an individual's right is that which prohibits him from developing his land in any manner and for whatsoever purposes he pleases.

**12.4.7** Land has no value unless it can be put to use. Its value then depends on what specific use can be made of it. As town planning determines the land use, it can therefore dictate or modify land values. It is this factor which makes town planning policies so crucial for the conservation of old buildings and areas, especially those situated in the central areas of cities.

**12.4.8** The town planning process, in fact, imposes far greater restrictions on the individual's rights and carries a heavier financial liability on the part of governments than the conservation of historic buildings and areas would call for. Massive chunks of private lands are compulsorily acquired for housing, roads bus stations and civic amenities. Even permanent buildings are demolished to make way for special projects. All these can be done when there is the administrative and political will to do them. Town planning for existing old towns and areas in cities needs the application of similar will to take care of the architectural fabric in urban areas. Conservation is and must therefore be explicitly recognised to be an integral part of the town planning process that is of land-use plans, building regulations and development policies.

#### **'Special Reservations' in Master Plan**

**12.4.9** The master plan for a city must be reviewed to assess its effect on the conservation needs of the city. It must reflect and respect the form of old cities; and must explicitly recognise the social needs of communities in old quarters.

**12.4.10** An important constituent of all master plans or zonal development plans is a Proposed Land Use Map, according to which all future development must take place. The starting point for urban conservation is that this map must recognise the existence of buildings and areas to be protected. These must be clearly delineated on the map.

**12.4.11** Once a special reservation is made on the statutory land-use map by locating the historic building, it will imply that the permission-granting agency, will be bound to take note of the fact that the particular building is different from other buildings. Usually, owners want to demolish old buildings for redevelopment of the site. Such a development would not be processed in the routine course once a Special Reservation has been made.

**12.4.12** Special reservation on the statutory land-use map entails no liability on the part of the government. How the building can be saved is a separate issue that can be dealt with by a specific law for reserved buildings. So far, in Hyderabad, the one place in India where 'special reservations' have been in operation for some years, the experience has been reasonably satisfactory and many cases involving demolition of old buildings for the construction of new complexes had to be referred to higher levels in the government and were delayed and sometimes given up.

#### **Land-Use Proposals**

**12.4.13** The next task is to formulate land-use policies to create a situation that will make retaining historic buildings advantageous; or, in other words, will make new constructions on the sites vacated, due to the removal of historic buildings, less and less profitable.

**12.4.14** The land-use proposals for historical areas must seek to retain the mixture of various land uses which may be contributing to the basic character and vitality of that area. Small workshops dealing with various traditional trades, facilities for repair and maintenance, little shops of narrow facade with their very typical merchandise, local markets providing cheap food, specialised eating houses and sweet shops — all put together create the 'old city'. Some flexibility in permitted mixes of land-use is therefore required.

**12.4.15** Reservation of buildings and declaration of areas will mean that the owners of private buildings may be subjected to conditions that may affect their interest in the property. While compensation and compulsory acquisition will be an action of the last resort under detailed legislation, it is important that land-use control and zoning provide some facilities and incentives to the owners to make things easier for them.

**12.4.16** The historic buildings, already marked as special reservations, must enjoy a special status with reference to permissible use. If the owner is willing to retain the building instead of pressing for demolition or redevelopment he may be allowed to utilise it for a more profitable use which may be offices or other commercial use. Such concessions must, however, not defeat the very purpose of conservation.

#### **Floor Area Ratio and Density**

**12.4.17** Major changes in land use and floor area ratio (FAR) can radically alter the character of these parts of the city. The construction of high-rise buildings in historic central areas is the surest way to destroy or undermine their urban form. Even though every master plan in India in the 60's and 70's spoke of decongesting the centre, the density stipulation on the Proposed Land Use Map in effect achieved just the opposite goal by fixing a higher FAR and density for central core areas and a lower FAR for areas away from the centre. This policy needs to be reversed as it is in conflict with all the stated master plan objectives.

**12.4.18** Conservation requires that planning policies be directed to fixing limits to development in specified areas. In a conservation area or an area in the proximity of major monuments, rather than impose arbitrary or piecemeal restrictions on individual owners, it makes better sense to reduce the FAR and height limits uniformly, so that no individual owner is put at a disadvantage in realising the value of his property. The designation of conservation areas with a low

FAR would create a sense of stability that would in fact encourage property owners to invest in repair and upkeep, which they are inhibited from doing if there is hope of a future when speculative re-development would prove to be more profitable.

**12.4.19** Coupled with the reserved building legislation, a reduction in FAR for the area and an appropriate height restriction would thus make it possible to maintain the character of an area, without discrimination against the owner of a reserved building. This approach is no different from normal planning activity which creates restrictions at some sites (for instance green belts or near airports or beaches) and encourages a higher FAR commercial development in other areas. No compensation is payable for such restrictions.

### **Traffic**

**12.4.20** Old cities were not designed for automobile traffic. A choice therefore has to be made whether to manage traffic to suit the traditional road pattern or restructure the old city to suit the needs of traffic. In most one-walled cities the city walls have already disappeared in order to make room for 'free flow of traffic'. Further damage was caused to the traditional fabric of historic towns by massive road widening and 'beautification' schemes.

**12.4.21** Land uses that are likely to generate heavy traffic should be reserved for areas other than historic areas or old quarters. For this reason, the penetration of heavy-traffic-generating activities into heritage areas should be restricted by firm enforcement of the development plan.

### **Road Widening and New Roads**

**12.4.22** The environmental impact of the construction of new roads or widening of roads needs very careful assessment, especially in respect of the surroundings, before they are undertaken. Apart from destroying tree-cover (so vital for

pedestrians and houses along the road) and damaging the streetscape with which people identify closely, road widening is generally achieved by acquiring the frontage of private properties in return for additional FAR on the same plot. This is utilised for increasing the build-up area on the plot, which generates more traffic. The cumulative effect is to defeat the purpose of road-widening and gravely undermine the quality of life in quarters which were originally adapted to lower traffic flows.

### **Street-lines and Set-backs**

**12.4.23** Present Indian building codes do not take account courtyard-type houses abutting the street-line, nor do they permit houses in-a row, adjoining one another. These, however, are among the very characteristics of old quarters in India. The prevailing street-line of old streets and historic areas needs, to be maintained, as far as possible, for the sake of streetscape.

**12.4.24** From the traffic engineer's point of view, front set-backs are required for eventual road widening. The desirability of road widening is, however, not questioned. As mentioned a little earlier; road widening, in most cases, only brings in more traffic to the historic core and sets in motion a vicious circle of further congestion and further widening.

**12.4.25.** In many Indian cities, municipal development control (DC) rules require all new buildings to be set back around 5 metres or so from the existing building line. In conservation terms, and indeed by any aesthetic standard, this, requirement, is nothing short of a disaster for the tight urban character of old quarters. Moreover, not until every building on both sides of the street has been demolished and rebuilt can the desired widening be achieved. Set-back regulations should therefore be revoked at the earliest in all the three categories of heritage areas proposed later in this chapter. This is particularly needed in the case of, old areas where the street-line is one

of the major components of their special character and also in respect of listed buildings requiring partial re-construction or where a building on a designated, street-line, needs re-construction after damage through collapse or fire.

### **Pedestrianisation**

**12.4.26** Regulation of traffic — whether of private or public vehicles, should take into account the requirements of conservation. The existing mix of traffic needs careful study, especially in respect of heavier vehicles and, where necessary, traffic should be re-routed in favour of the pedestrian.

**12.4.27** The world over, pedestrianisation schemes have proved immensely popular with shoppers and shops in such areas having-appreciated in value. Resistance to such schemes from shopkeepers in India probably reflects a lack of experience with this concept and it is worth attempting such schemes especially in historic quarters. They require particular attention in creating an atmosphere satisfying to pedestrians through the provision of street furniture, pavement cafes, public telephones, drinking water fountains, display cases and the like. However, the traffic implications in terms of diverted traffic and the need for service/delivery vehicles to access, the area outside shopping hours, need careful study.

### **Tree Planting**

**12.4.28** Historic quartets in our cities are generally inner city areas with small open spaces and narrow lanes where trees and other elements of the landscape acquire special significance. Trees relieve the oppression of heavily built-up areas and, in our climate are a virtual necessity for pedestrians, numerically the largest users of our streets.

**12.4.29** Laws governing protection of tree in urban areas are not uniformly strong the states. Where they exist, the penalties provided for, unauthorised tree-felling are nominal as not to

deter offenders. Such legislation needs tightening up and municipalities should accord a high priority, to planting; trimming and preserving appropriate species of trees in all urban areas.

### **Controls on Outdoor Advertising & Over head Wires**

**12.4.30** Perhaps the most distressing visual element-in the old or historic, quarters of cities is the manner in which hoardings, signboards and posters deface the facades of buildings. City-walls, gates, architectural features, house walls and even protected monuments — nothing is spared from the destructive effect of completely indiscriminate use of outdoor display methods. Overhead electric and telephone wires add their inconsiderable contribution to the visual pollution.

**12.4.31** Many quarters of great architectural interest are in fact hidden from public view behind thick screens of signs, billboards and mires. Their removal and a modest clean-up of the buildings, including a coat of paint where appropriate, could, by themselves, transform a quarter from one regarded as a squalid, visual mess, to one of high visual quality.

**12.4.32** There are generally adequate provisions in existing municipal laws to regulate the use of outdoor display in areas where the streetscape should be allowed to express itself without this form of visual pollution. Signboards in commercial localities can also be subject to simple rules. Uniform dimensions can be specified in keeping with the architectural features of the buildings. Where necessary, new laws should be framed to regulate this menace.

### **Development Control Rules and Design Control**

**12.4.33** Since the demands of repair and maintenance will involve proposals for altering the appearance of buildings, the exercise of judgment on design control is a corollary to



designating reserved buildings and conservation areas. The requirements of development control (DC) rules in all categories of heritage areas will therefore have to be studied and reviewed, introducing rigidity or flexibility as dictated by the conservation requirements of the area, (e.g., FAR may have to be uniformly reduced in an already congested inner city area; on the other hand setback regulations may have to be waived to permit a reserved building under reconstruction to abut the existing street line).

### **Rent Control**

**12.4.34** Rent control in India, in aiming to protect tenants from unreasonable rent increases, has in fact insulated them from any increases at all and thereby deprived property owners of the motivation (and also the means) to carry out repairs. It is a cruel irony that rent control has been responsible both for the survival of some of our urban housing stock and, at the same time, for its being placed in jeopardy from lack of repairs over the last four decades. The commission is seized with the whole problem of rent control and should our recommendations in this behalf be implemented, considerable repair and renewal of existing tenanted buildings can be expected.

### **Training in Conservation Skills**

**12.3.35** Programmes like those described above can be implemented at an accelerating pace only if the skills required to manage them are available and in increasing quantity. Experts believe that a period of at least five years is necessary for skills and confidence to be built up at the level of municipal conservation officers. Budget provision therefore needs to be made, probably jointly by the municipality and the concerned urban development authority (where it exists), for the appointment of the required number of architect-planners with urban-design qualifications to carry out this training and monitor applications for the first three to five years, while skills are being built up within the departments. Initially, a number of municipal staff and selected

heritage committee officers may avail of short-duration courses in conservation. In addition, staff should be earmarked to study, in depth, the social, economic and housing problems in conservation areas and the proposed design zones. These researchers will also need a short period of orientation and may work in coordination with university departments or non-governmental organisations.

### **Education in Conservation**

**12.4.36** Currently, schools of architecture in India do not offer any exposure to the disciplines of preservation and recycling of old buildings; nor do our schools of town planning offer any instruction in the principles of urban conservation. It is highly desirable that conservation principles be incorporated into the basic training curricula of architecture, engineering and town planning in Indian university courses. It would also be desirable to set up in India a regional centre of The International Centre for Conservation of Monuments (ICROM) which would offer post-graduate courses in architectural and urban conservation; conservation science; conservation of mural paintings; conservation and repair of timberwork; restoration of stone and stucco sculpture, etc., addressed to architects, town planners and conservation officers primarily; but also to scientists, historians, archaeologists, geographers and even interested laymen.

### **Public Education Through Nature Awareness Areas**

**12.4.37** The Concept: The importance of furthering conservation awareness in urban schools and colleges is now fairly well established in curricula. However, this is a subject still in its infancy and there has been little attempt to make it practical or field-oriented. Thus such information as is supplied in drab text books on 'Environmental Science' or indeed through the mass media cannot possibly produce a situation

by which this information becomes internalised. In fact, children are unable to appreciate or begin to act on this information.

**12.4.38** To create an ethos in which conservation awareness becomes a part of every educated urban child requires a new approach. The creation of small Nature Awareness Areas (NM) in or adjacent to urban areas can provide a situation in which this becomes an integral part of every urban child's education through the feeling of discovery that a well-conducted field study programme produces. To achieve this it is necessary to provide, within easy reach of every urban complex, a conservation belt in an area which still supports small pockets of semi-wild terrain. This would require some form of special notification, and the area could be managed conjointly by the regional or local urban authority, the forest department and, where possible, conservation NGOs. The aim should be not to create a park, a botanical garden, or a zoological collection, but to recreate a wilderness area which replicates the naturally existing eco-system that once operated there.

**12.4.39** The management of this area must thus centre on the removal of factors that have led to the development of a man-modified eco-system, by allowing nature to take over the area. Protection thus becomes a prime factor and is integral to reverting such areas to near natural conditions. However, since left to itself, this would be a very slow process, to hasten it; some form of accelerated eco-development must be instituted. This requires a baseline study of existing conditions. The effect of human pressures on local ecology have to be identified and methods of eliminating them instituted.

**12.4.40** What would be the most suitable area? Water bodies hill-slopes and residual islands of natural vegetation are ideal starting points. For example, a child living in Bombay can be taken to Borili to look at a wet, evergreen coastal forest; and, along a small stretch of the coastline, at a

well-protected mangrove developed along the splash-zone with a cove or beach left entirely free from human interference. A child from Pune could be shown how a hill forest system operates to the west in the nearby Sahyadris; or a protected scrubland ecosystem to the east; or a protected wetland aquatic ecosystem in the river passing through his own hometown, at the Mula Mutha bird sanctuary. Similarly, a child from Jaipur can be taken to a Bishnoi settlement and protected areas such as Guda where the ecosystem of the semi-arid area operates in a more or less natural form.

**12.4.41** The closer the area to the town the more easily it could be utilised for day trips by school children. The area must necessarily have a small 'nature awareness centre', where pictures and flowcharts provide the baseline inputs that the child requires to be able to identify what he sees in the field. Booklets to guide school teachers as to what to show the children must be made available. If possible, some sort of Nature Education Officer should be appointed to supervise and coordinate activities with local schools.

**12.4.42** One must realise that this programme does not envision the need for a proper sanctuary as we understand it at present. Notifying wildlife sanctuaries is a long process and is, financially, a heavy burden. Nature Awareness Areas on the other hand would be just small 'natural islands' that support pockets of wilderness in as near normal conditions as possible. Detailed working papers on suitable locations, the inputs necessary and management techniques have been worked out by NGOs, such as the Bombay Natural History Society.

## **12.5 Recycling Old Buildings**

### **The Benefits of Adaptive Re-use**

**12.5.1** Regrettably, the case for re-use of old buildings, a tradition so evident in our older cities, is being increasingly brushed aside by today's

architects and town planners. The case for the re-use of buildings, however, is compelling on a number of grounds but the primary argument for conservation through re-use is economic.

**12.5.2** A standing building represents an easily measurable amount of raw materials and of energy consumed in processing, transporting and putting these in place on the site. These can only be duplicated by further extraction of raw materials (and sometimes the consequent loss of agricultural land) or by the import of materials and fuel. Once energy is embodied in a building, it cannot be recovered and used for another purpose. Preservation saves energy by taking advantage of the non-recoverable energy embodied in an existing building and extending its use. It therefore makes sense from a strictly economic viewpoint to publicise the energy conservation benefits of preservation so as to increase the public awareness (and especially that of the authorities) of this hidden benefit of conservation — even though the energy savings do not translate directly into rupee savings in the marketplace.

**12.5.3** The re-use of historic buildings can also help fulfill a number of prime strategic aims of local, state and central government while returning a significant economic benefit to the state.

**12.5.4** Housing: There is a growing body of examples to show that substantial numbers of new housing or commercial units can be created, not only through the rehabilitation of traditional housing but also by the conversion of other types of buildings. In Europe and the UK, where tanneries, malteries and factories of all kinds have been successfully converted into housing units of high quality, one can imagine the possibilities offered in India by the potential conversion of numerous large textile mills and a variety of nonconforming industrial units that will soon become prime residential units.

**12.5.5** There is also a growing need in our towns and cities for community facilities - sports facilities, youth centres, arts centres, theatres and all-purpose community halls. Again, numerous examples elsewhere of brilliantly successful adaptations of old monasteries and churches, railway stations and public buildings show what is possible with some of our monumental buildings that have outlived their original use but can be rejuvenated to play another role.

### **Key Factors in Adaptive Re-use of Buildings**

**12.5.6** New Uses: Considerable experience in Great Britain in recent years has led to the conclusion that in advocating alternative uses for historic buildings, the best use in most cases is the use for which it was originally intended or a use approximating closely to it (Working Party, Historic Building Council, UK). This is best achieved by an initial attempt to understand the architectural typology of the building including, for example, what determines the usefulness of the built-space or enclosures; the pattern of enclosed or surrounding spaces; the nature of vertical linkages, such as staircases; the number and location of service areas, toilets, etc.; the way in which the building derives light and ventilation from its particular orientation and internal layout; and so on.

**12.5.7** A railway station or a church is essentially a single-space structure. A house, by contrast, is essentially cellular. In the conversion of a building to a new use, it is generally undesirable to change its essence. A building comprising a series of very large rooms connected by a wide corridor on one side may be far more appropriate for adaptation as a school or hostel than as family residences which may require partitioning of the large rooms, construction of toilets, kitchens, etc., entailing a substantial remodelling of the original structure. Adaptive re-use must therefore fit into the intrinsic qualities of the building with the least intervention. (HUDA Report on Conservation of Historical Buildings & Areas in Hyderabad).

**12.5.8 On-going Maintenance:** Whatever the age of a building and its eventual use, it is vitally important to keep historic or reserved buildings in proper repair, particularly if they are temporarily out of use. It is a depressingly familiar experience to see fine old buildings, with potential for very satisfying re-use in a variety of ways, slipping into disrepair because they are unoccupied and then being pronounced fit only for demolition on the ground that they have become derelict. Had the brilliantly successful adaptation of the Convent Garden market at London for use as a recreational area and shopping mall; of the 19th century industrial complex, the Maltings in Suffolk, as an inspiring site for the annual Aldeburgh Festival; and the spectacular transformation of All Saints Church, Oxford, into the library of the adjacent Lincoln College, been closer to home, we would not have witnessed, for example, the recent demolition of Wellington Mews at Bombay; the threat to the fine Bombay Naval Dockyard buildings, and the attempts in recent years of the Atomic Energy Commission to demolish the Old Yacht Club Building in Bombay which it occupies — all indicative of lack of sensitivity to the value of conservation and an ignorance of the great potential that the re-cycling of old buildings offers.

**12.5.9 Government Must Take the Lead:** It is therefore essential that government in the states and at the centre should make it a matter of clear policy that all the very numerous historic buildings in their ownership, whether in use or not, must be maintained in good, usable condition. Government must thus take the lead in encouraging recycling of old buildings, in this connection, the unequivocal advocacy of re-use in the National Housing Policy is a welcome development.

**12.5.10 Financial Instruments:** The recent change in HUDCO, policy permitting sanction of loans for rehabilitation of old buildings is a welcome

step forward. The marked reluctance of landlords and even tenants to invest substantially in older buildings can be met in part by more such innovative forms of financial assistance which actively promote rehabilitation as a preferred option to development from scratch.

**12.5.11 Re-use Strengthens the Heritage:** As more examples of the cost-effectiveness of adaptive re-use of old buildings become known, it is obvious that both the public and government will see the benefits ^W economic, social, educational and aesthetic ^W of maintaining a housing stock embodying the energy, inspiration and inventiveness of earlier times. The espousal of today's architectural styles does not automatically entail a rejection of what went before it. Randolph Langenbach summed it up most aptly in his book, *A Future from the Past*:

Is it not better to add to the sum total of the record of human creativity than to subtract from it? Is it not better to allow people to be enriched by the products of all ages rather than just our own?

## **12.6 Government of India Agencies**

**12.6.1** While the general thrust of the Commission's recommendations is to advocate the practice of urban conservation at the level of the local or regional planning authority (municipality, metropolitan authority, or regional planning board wherever applicable), some major agencies of the Government of India directly own, control or administer significant parts of the urban architectural heritage. This section looks briefly at the role of these agencies in conservation and makes recommendations for more effective action by them in conserving those parts of the built heritage for which they have direct responsibility.

### **Archaeological Survey of India (ASI)**

**12.6.2** Established in 1861, the ASI functions under the provisions of the Ancient Monuments

and Archaeological Sites & Remains Act, 1958, some limitations of which have already been discussed in this chapter. During the last 25 years, the Government of India appointed two important committees to study the working of the Survey, both of which (e) made a number of recommendations of which the Commission feels it worthwhile to highlight some, which if implemented, could help remedy many of the deficiencies so apparent in conservation of national monuments, a large number of which are situated in an urban context.

**12.6.3 Wheeler Committee Report:** In 1965, a Review Committee under the chairmanship of Sir Mortimer Wheeler made a number of recommendations, mostly organisational, but, (g) in particular, strongly recommended that the existing Temple Survey Project be supplemented by an urgent architectural survey of selected Indian buildings, typical of their various environments, so as to build up a record of domestic period architecture which was fast disappearing. Regrettably, the ASI has shown no inclination to pursue this proposal. We urge that this recommendation be implemented.

**12.6.4 Mirdha Committee Report:** In 1984 an Expert Group under the chairmanship of Shri Ram Niwas Mirdha, Minister, Education & Culture, submitted its recommendations, the most relevant of which for our purpose were:

- (a) strengthening the survey staff at headquarters and in the circles, both professional and for physical guarding of the monuments ^W most of which were hopelessly unprotected;
- (b) strengthening the Conservation Wing by induction of qualified architects the as conservation assistants and with a system of in-house training;
- (c) attaching at least one sthapati (master craftsman) to each circle; and training and retraining stone-cutting workers in the employment of the survey;
- (d) creating a special cell to work out rates of payment for various items of conservation work and doing away with the impractical estimates prepared on the basis of rates operated by the PWD;
- (e) revising the Conservation Manual to incorporate the experience of the previous 60 years, both in India and abroad, spelling out, inter alia, norms and techniques of usage of monuments, environmental conservation, area development, etc.;
- (f) preparing popular literature on the monuments and making it widely available for sale;
- (g) constituting a Committee of Secretaries of the then Ministries of Culture, Urban Development and Environment to consider problems of common interest, such as air and water pollution, area development, land-use planning and development of tourist facilities around monuments;
- (h) amending the 'The Ancient and Historical Monuments and Archeological Sites and Remains (Declaration of National Importance) Amendment Act, 1956 Act' to provide for:
  - suitable guidelines for ensuring the historical character and environmental balance of a monument,
  - clearly laying down criteria for determining the level of importance of monuments,
  - expanding the definition of monuments and sites to conform with the internationally accepted definitions,
  - lowering the age limit of 100 years to 50 years or less for scheduling of protected buildings,
  - the competent urban development or municipal authority obtaining a mandatory No Objection Certificate from the ASI prior to sanctioning development in the vicinity of a monument.

The Commission is of the view that these recommendations still have relevance and commends them for urgent implementation.

### **Central Public Works Department (CPWD)**

**12.6.5** This is the largest and most important works department of the Government of India. It constructs and maintains both residential and non-residential buildings of the central government, except for those organisations which have a separate civil works wing of their own. Having a full-fledged Architectural Wing under a chief architect, zonal officers under the charge of chief engineers in the different regions of India, and a common Civil Works Code administered by the head office in Delhi, this well-knit body has the capability of implementing major policy and operational decisions throughout the country. Among the important buildings maintained by it are: Rashtrapati Bhavan, North and South Block Secretariats, Houses of Parliament, Hyderabad House and Teen Murti Hosue, all in New Delhi; Victoria Memorial, Metcalfe Hall and the Indian Museum, in Calcutta; and Viceregal Lodge, Simla. There is also a host of more modest but nonetheless important buildings, such as Jinnah House in Bombay (currently threatened by an insensitive proposal for high-rise construction).

**12.6.6** While, for obvious reasons, meticulous care is taken, of buildings such as Parliament House or Rashtrapati Bhavan, the standard of maintenance of other CPWD buildings is far from uniform, varying with availability of funds and appropriate expertise for specialised work. The following suggestions are made to enable the CPWD to play a more effective role in conservation of the important buildings under its control:

- (a) A special schedule of rates should be drawn up for repair and maintenance of old buildings under conservation, with special rules providing for the special materials that may be required and higher wages for highly skilled craftsmen;

- (b) The ASI should design and run specialised in-house courses for training in conservation principles and techniques, for CPWD engineers and architects at all levels who may be involved in repair/restoration of old building;
- (c) A very senior officer, preferably of the rank of Additional Director-General, should be appointed to head a small standing committee within the department, consisting of the ADG (Works), the Chief Architect and a Chief Engineer to review the proper maintenance of old buildings according to approved standards in conservation and take decisions on issues brought up from the different regions from time to time.

### **Posts & Telecommunications**

**12.6.7** These two departments have only recently begun showing a consciousness at the higher levels of the need to preserve the character and beauty of some of the outstanding buildings in their possession. However, the process of orientation of the engineers and architects concerned still has a long way to go. Only a few years ago a proposal was made to pull down the magnificent General Post Office building at Bombay in favour of a more modern building; and there were plans to build a length-wise annex to the Calcutta GPO. The proposals were shelved only after protests from the public and the CMDA.

**12.6.8** The Department of Telecommunications can also boast of some fine buildings such as the old CTO Calcutta (now housing the Dead Letter Office); the CTO, Bombay (the vista now ruined by the Overseas Telecom buildings to its north); the Eastern Court at Janpath, New Delhi; the Telephone Office (originally the European Club) at Dalhousie, Calcutta, and the CTO at Kashmiri Gate, Delhi.

**12.6.9** Our suggestions for conservation efforts by these two departments are that:

- (a) comprehensive listing of the buildings should be taken up immediately, including descriptions of the interior of the buildings;
- (b) the Chief Architect at Delhi and the senior architects at regional offices should together draw up a comprehensive long-term conservation plan, on the basis of these lists;
- (c) in-house training in conservation (which could be run by the ASI) for all functionaries concerned with maintenance of old buildings should be organised; and
- (d) a high-level conservation cell should be set up in the departments to plan and oversee conservation works.

### **Railways**

**12.6.10** A considerable number of buildings owned by Indian Railways form an immensely valuable part of India's architectural heritage. While some awareness of their importance is now evident at the level of the Railway Board, the numerous recent unaesthetic additions and alterations to railway buildings throughout the country suggest that their Engineering Departments need urgent orientation towards the conservation aspects of the buildings. In recent years, the western elevation of the Central Railway's magnificent Victoria Terminus in Bombay has been marred by the addition of a grossly insensitive administrative block and its eastern appearance all but destroyed by utterly thoughtless additions to the building; an addition (1987) to the eastern side of the Churchgate Headquarters of the Western Railway in Bombay betrayed such lack of aesthetic considerations that it aroused a strong public reaction, leading to a 'stop work' order from the minister; and at Madras Central Station an incongruous new construction was added towards the office side.

**12.6.11** A 'Model Station Scheme' was initiated in the wake of the Centenary Celebrations, under which 67 selected railway station buildings are to be repaired and restored to their former glory. However, no comprehensive guidelines have

been circulated laying down any principles for conservation and it would be reasonable to fear that over-enthusiastic action may work contrary to the intended purpose of the scheme. In the circumstances, it is ironic that the Architectural Wing of the Railway Research, Designs and Standards Organisation at Lucknow, staffed by a Director Architecture, six architects and forty-five other staff has been recently disbanded for lack of productive work opportunities.

**12.6.12** Our suggestions for the Railways are therefore in line with our recommendations for the other major government agencies, namely:

- (a) that a conservation cell or architectural wing be set up within the engineering department to plan and oversee the conservation plan for the 67 selected railway stations and other buildings requiring specialised attention;
- (b) that in-service orientation and technical training courses be run by the ASI for officers at working levels (Asst. Engineer/Inspector of Works);
- (c) that officers of higher rank (Superintending Engineers and above) be regularly exposed to courses in architectural conservation, aesthetics and environment (the Delhi School of Planning & Architecture is planning to offer such courses);
- (d) that Railway Museums be established at Bombay, Calcutta and Madras (not necessarily on the same scale as at Delhi) to provide a sanctuary for much rolling stock, railway furniture and archival material that is rapidly disappearing; and to provide a focal point for railway conservation efforts in the four major regions.

### **Defense Estates**

**12.6.13** The Defense Estates and the Defense Service Organisations, between them, control no less than 250 military stations and some 65-odd cantonments. These 315-odd urban settlements represent over 10 per cent of the number of towns and cities in the country and cover sizeable chunks

of land in fast-growing urban areas. Set up originally as isolated military enclaves, and built to a fairly pleasing pattern, with their parade grounds, shooting ranges and stratified residential quarters (from, barracks blocks and unarmed quarters to the General's house) several cantonment areas contain the last surviving examples of numerous architectural styles that are fast disappearing — variations on the standard bungalow, mess buildings (particularly those in dressed stone), barracks, churches, cemeteries, hospitals and even jails. A list would run into several thousand but a few examples, well-known to and admired by neighbouring civilian population, are Dalhousie Barracks at Fort William, Calcutta, perhaps the largest single barrack building in the world; a great variety of residential and office buildings in Barrack pore (perhaps the oldest cantonment), near Calcutta; the beautifully laid out Wellington Barracks near Coonoor; the variety of engaging bungalows in cantonments such as Mhow (MP), Dalhousie (HP), Jansi, Landsdowne and Ranikhet (UP) and Pune (Maharashtra); hospital buildings such as INHS Ashvini at Bombay and remains in the old Bombay Castle; and even such oddities as the military prison (nicknamed 'Windsor Castle') at Secunderabad, perhaps India's largest cantonment.

**12.6.14** As the Raj grew older, the physical and cultural divisions between cantonment, civil times and the old city became blurred and, after independence, many cantonments were almost engulfed by the surrounding urban sprawl. Also, much of what has been added in recent years has not been in sympathy with the overall character and style of the cantonments and military stations. There, are, alas, many examples to illustrate this but only a few major ones can be mentioned here.

**12.6.15** The new officer's mess at the National Defense Academy at Khadakvasla is not a worthy addition to the fine, overall character of the rest of the NDA. The same comments apply to the

Officers' Club in relation to the College of Military Engineering at Kirkee (near Pune) and to the additions to the Southern Command Headquarters in Pune. The new ASC Building in the Bombay Military Area, in the heart of a bungalow locality, is another construction quite out of sympathy with its surroundings. Even entirely new complexes such as the Armament Research and Development Establishment (on the Pune —NDA road) reveal a severe lack of imagination in regard to the setting and style of the incongruous new buildings, as do also the grossly unaesthetic high-rise constructions of the Navy in one of Bombay's last surviving green areas at Colaba.

**12.6.16** The concept of conservation is evidently an entirely new one for the defense authorities. Though the MES does continually repair order buildings, operating a schedule of rates modelled on the CPWD rates, the standards adopted may not be strictly in line with those approved for conservation purposes. There seems to be a feeling that a thorough spit and polish approach is all that is needed for conservation — a narrow view which ignores the specialised restoration needs of certain older buildings and lacks all concern for building the new in harmony with the old.

**12.6.17** A major issue concerning military stations is the controversy between the Defense Estates Office (Civil) and the service organisations particularly the Army, over whether or not these should be declared as cantonment areas (under section 3 of the Cantonments Act, 1924). Where the Cantonment Act does not apply, the defense authorities may not feel sufficiently empowered to deal with encroachments and regulate the municipal affairs of the shanty towns proliferating within their areas. On the other hand, the creation of Cantonment Boards, which follows the declaration of a cantonment area, involves the induction of civilians on the Board and the full play of local



politics and the pulls of real-estate developers and other vested interests which can, and do, lead to full-scale commercialisation of the area.

**12.6.18** Pune is a recent example of how an unbridled Cantonment Board promoted development on a vastly larger scale than prevailed in the adjoining municipal areas, effectively abolished ceilings on FAR for commercial constructions and even permitted the sale of land to private parties on a free-hold basis for residential and commercial development. The impact on the rest of the city in terms of congestion and civic services was disastrous, especially since the cantonment land involved happened to be in the heart of Pune.

**12.6.19** Realising the destructive effect of such developments on the character of cantonment towns, (a character which, the Defense Authorities are unanimously agreed, is imperative to preserve from the point of view of morale of the armed forces and congeniality of surroundings) the Ministry of Environment has accepted in 1986 the recommendations of the Report of the Working Group on Cantonment Areas set up jointly by the Department of Environment and the Ministry of Defense, proposing uniform norms for urban development and conservation in all cantonment areas in the Southern Command. Among the recommendations was the urgent suggestion that FAR in cantonments must be reduced to a maximum of ONE (1:1) in civil and bazaar areas and to 0.5 in the bungalow areas, with a maximum height of 18m and a maximum of ground plus two storeys. This was based on the experience of Pune and is the norm for all the 15 cantonments in the Southern Command. It should be tailored downwards for smaller cantonments such as Wellington.

**12.6.20** The future plans of the armed forces are on an unprecedentedly large scale. Some of the giant projects under active planning are a naval bases (Project Seabird) at Karwar (Karnataka),

and a Naval Training Academy in Kerala. There is also the ill-conceived decision to expand the Naval Dockyard in Bombay. The fixing of norms for environmental planning and conservation for such giant projects are now an urgent necessity. Our recommendations for cantonment towns, military stations and defense establishment in general are therefore:

- (a) The bye-laws mentioned above for construction in the Southern Command (recommended by the Special Working Group and accepted by the Ministry of Environment), should be immediately made applicable to all cantonment towns and military stations throughout India.
- (b) The Floor Space Index in the civil/bazaar areas should be restricted to one and the remaining areas of the cantonment to 0.5; with a maximum height restriction of 18 metres and the maximum number of storeys to be three, (i.e., ground plus two).
- (c) As most of these areas have neither a town planner nor architect, a small cadre of town planners/architects should be set up in the Directorate of Defence Estates at headquarters level and also at command level. These cadres should be exposed to regular orientation courses on conservation principle to ensure that development plans are conceived in conformity with the existing character and scale of the areas concerned.
- (d) Lists of buildings, precincts and areas (including parade grounds) worthy of preservation should be immediately compiled. In this task, the assistance of various NGOs can be obtained, (e.g., the preliminary list of buildings and precincts in the Defense Area of Bombay, prepared by INTACH and The Indian Heritage Society, has been accepted by the naval authorities).
- (e) Headquarters should promote the concept of a conservation plan based on these lists and budgetary provisions should be made at the command level for its implementation.

- (f) In cantonment towns, the post of the Cantonment Executive Officer (who, in effect, plays the role of a municipal commissioner) must be immediately upgraded — both to make his functioning more effective and to introduce accountability.
- (b) Economic Capacity is the number of visitors that would optimise a return on the investment;
- (c) Perceptual Capacity is that limit which is determined by peoples' perception to be the maximum number of visitors, beyond which the destination would be adversely affected.

### Department of Tourism

**12.6.21** While the tourism industry is undoubtedly one of the major contributors to the foreign exchange earnings of India there is a growing awareness in India and abroad of both the desirable and the less desirable impacts of tourism. While it is generally economically beneficial in its impact, the environmental, cultural and social effects of tourism can be mixed.

**12.6.22** There is paradox inherent in tourism activity: the more it develops, the greater the danger of its becoming a self-defeating activity. As Garret Eckbo puts it, 'by making alike all those places that once attracted by their differences, it could cancel out the very reason for its existence'. People travel because they wish to see something different and to experience what is special in the places they visit. But as visitor numbers swell and the tourist infrastructure expands to accommodate them, the special character of tourist destinations is often diminished, sometimes destroyed. The question therefore arises, do we protect the heritage for tourism or do we protect the heritage from tourism.

**12.6.23** Carrying Capacity: A key concept in the management of tourism activity so that its adverse effects are minimised is that of the carrying capacity of an area of tourist importance. The concept is fraught with difficulties of definition but we need not be overly technical. Put simply:

- (a) Physical Capacity is easily understood. On Friday, the day of free admission, visitors to the Taj Mahal exceed 35,000 ^W a new visitor after every second of the day. Can the monument and its setting survive the ensuing wear and tear?

In short, in the words of Mathieson and Wall, 'carrying capacity is the maximum number of people who can use a site without an unacceptable alteration in the physical environment and without an unacceptable decline in the quality of the experience gained by the visitors'.

**12.6.24** Measuring carrying capacity and the factors that determine it is not an end in itself. It is a means of identifying changes in arrangement at tourist destinations which could increase the carrying capacity of the area. As a concept it has the potential to indicate the degree and direction of change and to aid in the assessment of the extent to which such changes are acceptable. For example, the number of visitor per hour permissible in the caves at Ajanta, without damage to the frescoes, would be one determinant of carrying capacity. At another site, availability of parking space for tourist coaches may suggest another limit on the number of visitors.

**12.6.25** Tourism's Concern for Conservation: The Department of Tourism, Government of India, in its Seventh Five Year Plan (1985-90) laid the following emphasis on the architectural heritage:

... the major thrust of the department has been the preservation of the environmental and natural setting of archaeological complexes, to ensure that the surroundings are not spoiled by unplanned and unregulated growth.

As a first step towards development of these centres, preparation of master plans

of some of the above centres was undertaken through the T & C P O, including the physical planning of the area, the location of tourist facilities to be provided there and measures for environmental improvement to ensure pleasant surroundings....

**12.6.26** In a path-breaking series of studies, of Fatehpur Sikri, Mathura — Brij Bhoomi, Kushinagar and Shravasti, the National Institute of Design, Ahmedabad, adopted a multi-disciplinary approach, cooperating also with the Department of Archaeology, Government of India, in producing a series of micro-level master plans for these tourist facilities, paying attention to traditional architectural forms and designs, local environmental features, details of the interiors based on local arts and crafts, signage, tree plantation and choice of appropriate species, landscape planning, car-parking areas, location of the tourist facilities (to be out of sight from the site), and design the tourist facilities in a sympathetic architectural style. The exemplary approach of these studies currently being adopted for areas around the National Heritage Projects, should serve as a model for master planning of other tourist centres where the impact of growing visitor numbers needs to be assessed and planned for. We recommend that similar studies be undertaken for all major tourist sites in the country.

**12.6.27** Areas for Cooperation between the Department of Tourism and other Agencies: Since the tourism industry can contribute to urban conservation in other ways also, the Department of Tourism has a key role to play both in initiating the preparation of integrated plans for conservation of heritage sites and in coordinating with other segments (public and private) involved in tourism. For example:

**Preserving the heritage:** The tourism industry can be an important ally in halting demolition of important buildings.

*The Planning Process:* Apart from the micro-level land-use plans referred to above, the tourism industry should be involved in decisions on siting of new activities or industries which may have an impact on the urban environment.

*Marketing:* Agencies managing historic properties do not usually have strong skills in promoting public awareness of their property/conservation projects. The tourism industry possesses these skills and can help.

*Maintenance:* The tourism industry is sensitive to development in the neighbourhood of monuments, even though it may itself be responsible for some adverse developments (such as increasing traffic in the area and the construction of hotels, shops and eating places). Local planning authorities should be encouraged to invite inputs from the state and central departments of tourism in this area.

*Economic:* It is possible to consider a small levy on tourist services (say 2 per cent on hotel accommodation), the proceeds of which could be credited to a national revolving fund for conservation, thereby generating funds required for conservation projects recommended by the National Urban Heritage Committee.

A study by the World Bank in Nepal. (relevant also to India) revealed that investments in repair of monuments, and restoration of historic quarters in cities, was capable of yielding a return on investment of 14 per cent — arising from expenditure of visitors to the monuments.

**12.6.28** It is usually difficult to disentangle the effect of tourism from those initiated by other forces of economic development. The impact will keep altering with changes in the economic and social goals of tourists and their hosts, with changes in the physical environment and with variations in the nature of the tourist activity.

**12.6.29** There is thus a large area of common interest and scope for joint activity between the Department of Tourism, the tourism industry and those responsible for urban conservation. It is urgent that this potential for support and co-operation is recognised at the earliest stages in the planning of areas which receive tourists; and to mobilise the energy and resources of the tourism industry in support of conservation. This has to be carried out at both the state and the central levels, integrating the tourism inputs in the town-planning process, while ensuring that conservation aspects are given due importance.

## 12.7 Conservation Legislation

**12.7.1** A study by the commission's working group on conservation, 'Conservation Policies and Practices in India and Abroad', shows that the evolution of legislation relating to conservation followed a remarkably uniform pattern all over the world, though developments differed in time across different countries. The sequence was generally as follows:

- (a) Interested people produce surveys of monuments. Some attempt protection by purchase.
- (b) Government departments are established which eventually produce inventories or 'lists' of buildings warranting protection.
- (c) Legislation is introduced to protect the listed sites.
- (d) Funds are provided by central and/or local government for the purchase/repair/restoration of these buildings.
- (e) Legal provision is made for compulsory purchase of buildings when they are neglected.
- (f) Provisions are extended to cover whole areas of buildings and their surroundings.
- (g) Conservation measures are linked to a pre-existing planning framework, so as to fit repair and selective retention into comprehensive programme which may require some re-development to take place.

- (h) Conservation is explicitly associated with tourism and, with it, with regional planning.

**12.7.2** The past fifteen years have seen a radical extension of the scope of what is considered as needing protection. The public and authorities are no longer exclusively interested in preserving palaces, temples, churches, town halls, etc., but also and equally, private homes, groups of buildings, street-lines, planned open spaces and gardens, etc. Provision has been made for the protection of the immediate environment as well as the actual building — and, subsequently, this protection has been extended to groups of buildings.

**12.7.3** The design of new buildings in a historical context is a problem to which there is no ready-made solution. Continuity of scale, building materials and texture of new buildings, undoubtedly play a major role in harmonising with the older surroundings.

**12.7.4.** In India, in the matter of conservation, as in so many others, there is no question of our waiting for a 'natural evolution' of conservation legislation as has occurred in some western countries. Therefore, a new comprehensive and effective legislation may be enacted. It is to suggest such a frame work that the rest of this chapter is devoted.

### Lacunae in Present Laws

**12.7.5** The town and country planning acts of only a few states in India contain specific provisions for the protection of historical buildings, landmarks and other structure/areas of interest in towns and cities. However a number of such acts do provide, in the sections relating to the preparation of master plans or development plans, for special 'reservations' in one form or another. In most such cases, these can, almost with immediate effect, be interpreted and applied in a broader sense than hitherto, to provide for preservation of specified buildings, landmarks

and conservation areas. However, necessary rules would have to be framed and existing building bye-laws modified to specify the operational aspects for preservation of buildings and areas indicated as reserved in the statutory plans.

**12.7.6** It is an irony that, since independence, the main thrust of town planning in India has generally operated against conservation. City improvement boards, development authorities and other similar bodies have been primarily motivated by aims of clearing out old quarters, promoting entirely new housing and commercial developments, setting up new markets, widening roads (with attendant tree-cutting on a large scale) and so on. This new-look-for-our-cities orientation has generally regarded conservation as a backward-looking exercise which works counter to the new image-building approach.

**12.7.7** It is no accident that our town planning legislation, modelled so scrupulously after post-war British T & CP laws, carefully omitted any reference to the provisions relating to listing and protection of buildings and areas, as well as those relating to preservation of trees in urban areas. Conservation has not become one of the vested interests of town-planners in India today, and legislative changes are therefore called for. Two detailed studies carried out by the Ministry of Urban Development of the Government of India in Andhra Pradesh (1984) and in Maharashtra (1987) have resulted in the framing draft regulations (Maharashtra) and legislation (Andhra Pradesh) on conservation. These have been submitted to the respective governments, under whose consideration the matter currently rests. Barring adaptations necessary to meet differences in details from state to state (differences in the built heritage, the existing scope of the state's town planning acts, etc.) both of these may be considered as workable models for legislation in all the states of India. What follows are summary

comments on the salient features of the proposed legislation and related regulations, to indicate their scope and the manner of their operation.

### **Major Features of the Proposed Legislation and Rules**

**12.7.8** The first requirement is to amend the definition of 'development' in the existing state regional planning acts, where applicable, to include the action of demolition or alteration of a reserved building as being covered by the term 'development'. The second is to add a supplementary chapter to the relevant planning act of each state providing for protection of reserved buildings and conservation areas, and other related measures. The third is to amend the development control rules relating to listed buildings, landmarks and conservation areas. Only a few of the most salient features are highlighted below.

**12.7.9** Definition of 'Development': For the planning authority to equip itself with the power to control demolition or significant alteration of listed buildings, the term development which in current regional and town planning laws already has a fairly broad definition, must be given the added meaning of:

... making any material change in any building, including redevelopment, change in the appearance of a building, demolition, any addition, alteration and repairs (measures of renovation including painting, alteration to the interior, etc.) to any listed building notified under the relevant Section of this Act.

### **12.7.10 Listed Buildings**

- (a) 'Lists' of buildings and artifacts worthy of preservation will have to be drawn up on the basis of a survey and after consulting an expert committee.
- (b) The criteria for selecting buildings and artifacts (the latter term to include such items as fountains, wells, commemorative pillars, gates, city-walls, old street-lights, milestones, etc.) will be based on:

- (i) the age of the building or artifact;
  - (ii) its value for architectural, historical, or cultural reasons;
  - (iii) its relevance to social or economic history;
  - (iv) its association with well-known persons or events;
  - (v) its representation of a distinct architectural style, historic period or way of life having sociological interest;
  - (vi) the uniqueness of the building or artifact (or of any object or structure fixed to the building or forming part of the building or comprised within the cartilage of the building) — including architectural curiosities or freaks, or being part of a chain of architectural development that would be broken if it were lost;
  - (vii) its representing a stage of technological development;
  - (viii) any other factor relevant to urban conservation
- (c) the 'Authority' under the proposed act shall give public notice of its intention to notify buildings and artifacts. Objections and suggestions received will be examined by an expert committee. The 'List' of notified buildings, along with the Committee's recommendations will be sent to government for approval.
- (d) After approval by government, the list must be published in local newspapers for information. At this stage the owners of buildings listed will be individually informed. Deletion from the list will require going through the entire exercise all over again. This is to avoid arbitrary or male fide action.
- (e) If any archaeologically protected monuments are de-protected by the departments concerned such monuments will automatically get the status of 'listed buildings'.
- (f) The owners of listed buildings cannot demolish or make any alteration in them without prior permission of the authority.
- They must apply for Listed Building. Consent to the Authority which the Authority may either grant or refuse.
- (g) In the case of demolition or major new additions or alterations, the applicant must give two month's notice to the city/state's Urban Heritage Committee and the Department of Archaeology to enable them to express their views, if any, within that period. The application to the Authority for such a case shall be accompanied by the views, if any, of these two departments. Thereafter, the Authority must give one month's notice in the newspapers to the public, calling for objections and suggestions. Any applicant not complying with these provisions commits an offence which is punishable by imprisonment.
- (h) Causing damage to a listed building is punishable with fine or imprisonment.
- (i) In case there is a building of importance which is not listed and is likely to be pulled down or damaged, the Authority may issue a building preservation Notice which gives the building the status of a 'listed building' for a period of six months. This is something like an ordinance to give time to all the parties to conduct a dialogue. In a case of urgency such a notice can even be displayed at a conspicuous place or some prominent point on the building.
- (j) If the Authority feels that a listed building is not being maintained properly and needs repair etc. the Authority can serve an Enforcement of Repair Notice on the owner/occupier after giving him a show-cause notice. The owner/occupier can appeal to the Board of the Authority. (It is implied that other notices are issued by the Vice-Chairman.) The Board's decision will be final. Violation of an Enforcement of Repair Notice is punishable and the Authority can themselves carry out the repairs and recover the cost from the owner.

- (k) Listed buildings will be of two categories:
    - (i) listed local monuments (implying first grade), and (ii) listed historical buildings. Both categories receive the same degree of protection, the only difference being that around the 'listed local monuments' a minimum area of 100 metres radius is declared as a 'controlled area' in order to protect its setting.
  - (l) Listed buildings can be compulsorily acquired under the Land Acquisition Act, 1894, by the Authority or by government. A departure is made here from the archaeological acts which enjoin compulsory acquisition of a monument only if it is in danger. In the case of listed buildings such a requirement is done away with. The notification of the List for public objections and suggestions and the official notice in the Gazette that it has been listed are respectively given the status of Section 4 and 6 under the Land Acquisition Act.
  - (m) In a case of proven, deliberate neglect of a building by the owner, acquisition can be made with minimum compensation.
  - (n) The act should provide for differential compensation to the owner if a 'conditional listed building consent', or refusal of such consent, affects the owner's rights partly.
  - (o) If 'listed building consent' is not granted the owner can also serve a Purchase Notice on the Authority, requiring it to acquire the building.
- 'Controlled Area'. The area may be enlarged in keeping with the character of the building and its surroundings, to any area beyond 100m radius. It shall be enforced simultaneously with the notification of the monument/buildings concerned. In such areas there will be control on demolition of buildings, cutting of trees, and posters of advertisements. However, permission for repairs, additions and alteration to buildings will be granted subject to prior clearance from the state/city Urban Heritage Committee.
  - (ii) *Conservation Areas*: Areas which may contain a number of listed buildings, useful housing stock and a townscape worthy of preservation shall be declared Conservation Areas. The Authority shall take up improvement and conservation proposals for these areas.
  - (iii) *Design Zones*: Areas where the overall character, scale and quality need to be maintained, but where a larger degree of new development may take place, may be notified as Design Zones. All new buildings in design zones must be subject to prior approval from the point of view of scale and design control by the state/city Urban Heritage Committee.

#### 12.7.11 Conservation Areas (or Heritage Areas)

Areas of archaeological, historical, architectural, scientific or cultural importance can be declared Heritage Areas under the following three categories: (i) Controlled Areas, (ii) Conservation Areas, and (iii) Design Zones.

- (i) *Controlled Areas*: The area within a 100m radius of protected archaeological monuments and listed local monuments (first grade listed buildings) can be declared as a

In all the three types of areas, collectively called 'heritage areas', it is necessary to consult the state/city Urban Heritage Committee before their delineation on the master plan. It is necessary to make a newspaper notification calling for public objections and suggestions. In all the three areas, outdoor advertisements are to be strictly controlled, cutting of trees is to be prohibited; though provision will be made for trimming them so as not to obscure sightlines, vistas and important buildings. The Authority is empowered to prepare special zoning regulations for these areas.

**12.7.12 Finance from Local Bodies**

The local bodies functioning within the development area will be required to contribute a designated percentage of the property taxes from listed buildings to the Authority. The Authority may also receive grants, contributions and loans and create an Urban Conservation Fund which can be used for improvement to listed buildings by the Authority.

**12.7.13 Grants and Financial Incentives to Owners**

The Authority, in consultation with the state/city Urban Heritage Committee, may sanction grants and loans to the owners for repairs of the listed buildings. The state government may exempt the owners of the listed buildings from payment of property and other state taxes.

**12.7.14 Planning and Regulation Incentives**

The Authority will be competent to grant exemptions in land use, floor area ratio, and other regulations in order to facilitate conservation of listed buildings.

**12.7.15 Housing Funds for Conservation**

It will be possible to use housing improvement funds (such as HUDCO loans) for undertaking recycling and rehabilitation of listed buildings.

**Implications of Legislation on Urban Conservation**

**12.7.16** The draft legislation, could take the form of an additional chapter in the relevant state Regional and Town Planning Act. It follows that the List of buildings and conservation areas to be protected would be annexed to the development plan (DP) and run on that these would have to be delineated on the DP maps/land-use plans/master plans for the area in question.

**12.7.17** In cases where legislation exists relating to special areas or metropolitan areas and appropriate planning authorities have been created under statute to prepare and implement

master plans/development plans for these areas, a set of special rules for operating the provisions of the conservation legislation needs to be framed and the draft bill modified accordingly.

**12.7.18** It may be necessary, for instance, to reduce the floor area ratio for a specified conservation area, or impose a height restriction so as to preserve the skyline. Conversely, it may be desirable to relax the existing FAR or set-back rules for a development proposal relating a listed building either to preserve a street-line or to provide an incentive to the owner to maintain the structure or scale of the building in line with conservation requirements.

**12.7.19** Above all, it is a prerequisite of the entire process and activity that, once the 'list' of buildings and conservation areas is prepared, after a survey and consultation with an expert committee, a Conservation Statement should be prepared and attached to the relevant master plan/development plan. This Conservation Statement must specifically describe the architectural, historical and other special characteristics of the buildings/areas sought to be preserved; it must make specific comments relevant to the architectural style, appearance and scale of buildings, the character of the townscape, the street-lines needing preservation, the local history and which of the urban landscape reflect or represent it; together with any other statements that justify the designation of buildings/areas as protected. This statement will serve as the base of reference for the Authority/Urban Heritage Committees while taking a view on development proposals received from building owners or initiated by the Authority itself.

**12.7.20** The need to set up Urban Heritage Committee and guidelines relating to their functioning is discussed in the last section of this chapter.



## 12.8 Fiscal Incentives

### Conservation Needs a Stimulus

12.8.1 The success of urban conservation depends to a great extent on a public consensus that such efforts are worthwhile. The greater the consensus, the more likely the participation by property owners, enlightened citizens, various government departments and legislators. Experience elsewhere has shown that, in the initial stages, many private property owners consider listing of their buildings an encroachment on their property rights; and others may find it financially difficult to maintain their properties in good condition even if they wish to do so. Over a period of time, as urban conservation leads to better maintenance and upgradation of buildings, values of property in conservation areas will appreciate considerably. Further, ownership or occupation of a listed building confers prestige on the occupant and listed properties become sought after as status symbols.

### The Carrot and the Stick

12.8.2 Such a favourable situation does not, however, come about overnight. A combination of restrictive legislation (to prevent destruction of the heritage) and financial incentives (to encourage upkeep and improvements) offers conservation the best chance of success. The justification for financial assistance to property owners is based on two considerations: the loss of potential market value of the listed property by restrictions on further development and the inhibiting effects of the Rent Control Act which deprive the owners of the financial means to support the property.

12.8.3 Depending on the ownership of listed property, its use, the economic position of the owner and his level of awareness, a wide spectrum of possibilities exists with the two extremes as follows: (a) an owner in a strong economic situation with high attachment to the cultural

legacy, leading to a total commitment to conservation; and (b) economic inability, on the part of the owner with a poor level of awareness, leading to neglect of listed properties.

### Measures to Stimulate Conservation

12.8.4 In the latter case the options before the Urban Conservation Authority are: (a) compulsory acquisition, (b) decontrol of rent, (c) taxation relief, and (d) grants and loans.

12.8.5 Compulsory acquisition is probably the best way to ensure preservation of listed properties, especially if these are under immediate threat of demolition. It also avoids the legal complications of enforcing conservation standards on an unwilling owner/occupier and gives the authority a free hand to carry out the necessary work. On the other hand, it is an expensive approach and therefore impractical in the urban context where hundreds of buildings in dense occupation are involved. Moreover, it may assume political overtones because of vested interests involved or an unsympathetic view of the social cost.

12.8.6 Decontrol of rent is an obvious approach in the case of selected properties and imaginative changes in the Rent Act could provide an adequate incentive to owners for ongoing repairs. But this involves legislative changes and the impact of any de-control measures on the economic ability of the tenants and owners and on population dispersal needs to be carefully assessed in advance.

### Fiscal Incentives Through Tax Relief

12.8.7 Tax reliefs are possible in a number of ways. They will serve the desired purpose only if the quantum of exemption is not less than the estimated expenditure on maintenance and repairs of the listed buildings. Where the quantum of tax exempted is lower, it may be necessary to apply tax incentives in combination with grants

and loans. Tax relief could be granted from property tax, gift tax, wealth tax, vacant land tax and income tax.

**12.8.8** Property tax is the most obvious candidate for tax relief, but considering its, low incidence and the possibility that old buildings, with their low market value, have exemption from this tax, property tax exemption, though desirable, is unlikely to have a significant impact.

**12.8.9** Income tax relief (not less than 100 per cent) may be granted in a variety of ways. Firstly, by adopting a system of graded exemptions (the higher levels being given for cash donations to various conservation funds or conservation-oriented projects identified by government for the purpose), funds can be mobilised from the public for conservation works. Secondly, business houses or private charitable trusts adopting well-defined projects for the restoration and maintenance of historic buildings, sites, gardens, etc., involving a 'public amenity' aspect, may be considered for appropriate exemptions in their income-tax status. Such identified projects may be approved by the nodal agency for conservation, the National Heritage Committee, which may also assume the responsibility for inspection and monitoring.

**12.8.10** A variation of the income-tax relief proposal is a radical suggestion (made in a Consultancy report prepared for HUDA by the Regional Centre for Urban and Environmental Studies, Hyderabad), that commercial activities in a listed building should be deemed as being in a quasi Free trade zone. This would involve exemption from sales tax, entertainment tax and, possibly, income tax for the activity/owners and create a high motivation for private parties to acquire and maintain such listed buildings.

**12.8.11** Exemption from gift tax and wealth tax can be considered for owners of listed properties by the central government. Until recently, estate

duty was a compelling reason for the disposal (and; consequently, destruction) of many outstanding buildings in Indian cities. Should it ever be reintroduced, exemptions should certainly apply in the case of any listed properties in an estate. The state governments may consider exemption on transfer fees levied on listed properties when they are sold or gifted.

### **Grants & Loans**

**12.8.12** The urban conservation authorities should also evolve a scheme of grants and loans for different categories of recipients. Grants or loans may take two broad forms: (a) for repairs or restoration of the fabric of historic buildings, (b) for improvement of the facilities in the property to upgrade living standards and to support continued proper use; or for recycling the buildings for a new use approved by the National Urban Heritage Committee.

**12.8.13** The first category would require the local authority to extend financial assistance for repair and restoration. The second would require the endorsement of the proposal by the state/metropolitan Urban Heritage Committee. Government and public agencies would obviously have to be treated differently from private individuals and institution in the grant of loans, etc.

**12.8.14** For purpose of qualifying for grants and loans, it would be helpful to categories potential recipients in, say, three grades as under:

Grade I: could get the highest priority, meriting loans/grants or tax relief or a combination of them. These would be mostly private owners.

Grade II: could get lower priority, meriting loans/grants depending on the age or condition of the property. These could be either private or public owners.

Grade III: could be those cases in which the centre or the state may grant a loan matching the local grant. These would relate mostly to buildings belonging to the government.

### **Revolving Funds**

**12.8.15** The central and state governments should make a Revolving Fund available to each local authority with the right to accept donations from individuals, corporate bodies or charitable trusts to enhance it. At the state and city levels, a specified percentage of the property tax should be credited to a conservation fund, from which grants or loans should be made available to owners of listed buildings, if approved by the state Urban Heritage Committee.

### **FSI and Transfer of Development Rights**

**12.8.16** Finally, attention needs once again to be drawn to the key element in providing motivation for conservation: protecting an owner from the loss of potential market value by the restriction imposed on development of his listed property. Here the floor space index can be utilised as a valuable tool in two ways. In the first instance, in drawing up zonal/land-use plans for urban conservation, the idea of a non-incentive FSI may be kept uppermost in mind. In a conservation area where it is desirable to maintain the existing urban character, it is desirable to establish a low FSI uniformly for the area, so that no individual property owner feels deprived of an economic gain (by non-development of the plot) compared to his neighbours. This would also ensure that he has no incentive to demolish and rebuild, since he cannot increase his floor space by this means. Secondly, where the development of an individual property has to be restricted in comparison to a higher FSI in the neighbourhood, for purposes of conservation, a scheme of transferable FSI — known elsewhere as Transfer of Development Rights (TDR) — may be adopted to compensate the owner for the FSI forfeited by him. TDR should, however, be employed only in accordance

with clearly stated objectives for such a scheme in the city's master plan/development plan, by transferring out FSI from a conservation area to an area earmarked on the plan for growth and specifically designated to receive the unutilised FSI by way of the TDR.

**12.8.17** The use of fiscal and other incentives is strongly recommended to balance the restrictive nature of conservation legislation. These also provide motivation to owners to invest in the repair of their existing housing stock (a national priority) and, by enhancing its market value, help to make the activity a self-generating one over a period of time.

### **12.9 Institutional Arrangements**

**12.9.1** The existing legislation relating to conservation in India was discussed and many of its shortcomings were analysed. A proposal for new legislation at the State level, within the ambit of present urban planning laws, was therefore put forward. The novelty of this approach is that it introduces, for the first time, a responsibility for conservation at the level of local government where programmes for urban development are framed and implemented. The exercise of responsibility entails the need for certain resources, skills and institutional arrangements. In this section, we shall propose the setting up of Urban Heritage Committees at the state level, as well as an Urban Heritage Committee at the national level. These would function within the respective Departments of Urban Development at the state and central levels. This new arrangement would have a vital role to play in the successful implementation of the conservation measures we have proposed.

### **The Role of the Centre and States**

**12.9.2** At the level of the Government of India, the Allocation of Business Rules indicate that urban conservation would be primarily the concern of the Ministry of Urban Development, the

Department of Culture (Ministry of Human Resources Development), the Ministry of Environment & Forests, and the Department of Tourism. Considering the complex nature of urbanisation, a host of other ministries (like Transport, Commerce, Railway, Communications, etc) is obviously also directly or indirectly concerned. At the state level, the corresponding departments would be education/culture (including archaeology), urban development, tourism and environment.

**12.9.3** However, it would not be an exaggeration to say that, till about a decade ago, hardly any ministry viewed urban conservation as its direct concern and practically the entire conservation effort was confined to the work of the ASI. Considering the growing recent concern about the need for urban conservation, the question arises: What should be the role of the Government of India in providing leadership, guidance and assistance to the states in this area, even though Town and Country Planning and Urban Development are state subjects?

**12.9.4** An answer is provided by a comparison with the circumstances which led to the Government of India assuming leadership in the protection of the environment and the enactment of the Environment Protection Act, 1986, by Parliament. Very similar circumstances obtain in the case of urban conservation. Even though some legislation has been enacted in those states which have shown a higher level of concern about these issues, progress has at best been halting and haphazard.

**12.9.5** We therefore recommend that a national policy decision of relevance to urban conservation be framed and announced to give a sense of direction to the states and encourage them to make appropriate institutional arrangements to support conservation on a sustained basis.

### **Urban Heritage Committees**

**12.9.6** Though Urban Art Commissions exist at present in Delhi, Bangalore and the states of Andhra Pradesh and Orissa, their record has been uneven and their role (except arguably in Delhi) less than effective.

**12.9.7** The DUAC was set up under the Delhi Urban Art Commission Act, 1973 (No. 1 of 1974), and is clothed with statutory functions and powers in respect of approval of plans for development in Delhi; in respect of any proposal which affects the skyline or the aesthetic quality of the surroundings; and also (under section II of the Act) in respect of re-development of certain areas and the conservation and beautification of monumental buildings, public parks, etc. It has received somewhat cavalier treatment at the hands of the Delhi Development Authority and has also for a variety of reasons been unable to play the wholly independent role it was intended to perform, despite its decisions being binding on the concerned authorities according to the statute.

**12.9.8** In Karnataka, the Bangalore UAC does not appear to be covered under any separate legislation and, apart from taking a firm stand against the demolition of the 18th century Kutchery building (the old Law Court building), its most notable success, its otherwise ineffective performance may in part be due to its lack of statutory powers.

**12.9.9** The Andhra Pradesh Urban Arts Commission was constituted under the A P Urban Areas (Development) Act, 1975, and unlike the Delhi UAC, it is a purely advisory body. So far, it has confined its activities to the Hyderabad metropolitan area and here too, only in respect of development proposals falling within notified conservation areas.

**12.9.10** The Commission therefore proposes a simultaneous strengthening of UACs at the State and, where appropriate, city level; together with

the creation of the counterpart national Urban Heritage Committee at the centre, where it would ideally form a division or committee in the proposed National Urbanisation Council in the Department of Urban Development.

#### **A National Urban Heritage Committee**

**12.9.11** At the national level, such a committee, with the proposed name, NATIONAL URBAN HERITAGE COMMITTEE (a broader and less technical term than 'urban arts'), will provide the overall thrust and direction for urban conservation throughout the country and act as the nodal agency for the different ministries of the Government of India, not only for the purpose of serving as a clearing house for proposals involving urban conservations issues, but also for:

- giving advice at the minister's level;
- spearheading a national programme for the preparation of 'lists' of buildings, artifacts, landmarks, precincts historic sites, etc;
- taking decisions on identified areas of responsibility, including the listing programme and various other conservation-related programmes;
- organising and, where necessary, funding research and education programmes;
- identifying needs and organising training in conservation crafts and skills;
- coordinating with the state-level Urban Heritage Committees in all aspects of their work, including evaluating their requirements for financial assistance from the Government of India and co-coordinating these with the concerned ministries and the Planning Commission;
- presenting an annual report on the urban conservation effort throughout the country.

#### **Urban Heritage Committees at the State Level**

**12.9.12** At the state level, the above functions, mutatis mutandis, together with very specific functions relating to granting approval of development proposals for listed buildings, landmarks, conservation areas, etc., may be carried out by a

high-level statutory State Urban Heritage Committee, to be set up under the provisions of the relevant state regional and town planning acts and to operate within the state department of urban development.

**12.9.13** Such committees should be comprised of persons having a special knowledge and interest in the fields of archaeology, architecture, history, design, the plastic and visual arts; and also include representatives of civic and environmental groups. It may have, in addition, three ex-officio members, namely: the Secretary, Urban Development; the Secretary, Environment; and the Secretary, Culture (or Education, as applicable).

**12.9.14** The powers of these committees will have to be defined in the act (the Delhi Urban Arts Commission Act provides a model) and the decisions of the committee must be binding on the agencies concerned. The immediate tasks of the committees will be:

- to undertake a crash programme of 'listing' in all urban areas in the respective states;
- to notify these lists and ensure they are incorporated in the respective master plans/development plans for the cities;
- to prescribe whatever modifications to the development control (DC) rules are necessary for additional development control;
- to oversee the preparation of conservation plans for all notified conservation areas and frame guidelines for regulating new developments;
- to provide advice and guidance to any local body in respect of any project or development proposal which affects the character of the area or the architectural integrity or setting of a listed building, or the streetscape or skyline;

- to interact closely with NGOs, such as INTACH, local history groups, etc., and to mobilise their talents for the purposes of listing, documentation, research, education and public awareness;
- to liaise with the proposed National Urban Heritage Committee for guidance and support from the centres.

## 12.10 Recommendations

**12.10.1** Considering the limitation of the central and state Archaeological Acts from the point of view of conservation, these cannot be substitutes for comprehensive provisions at the town-planning level to promote conservation in urban areas. Conservation must be explicitly recognised as an integral part of the town planning process, that is, of land use plans, building regulations and development policies.

**12.10.2** In a conservation area or an area in the proximity of major monuments, planning authorities should reduce FAR and height limits uniformly across these areas, so as to create a greater stability in land values, encourage property owners to invest in repair and upkeep, discourage piece-meal development of plots in the area by big builders (thereby destroying the character of the area) and prevent discrimination against any individual property owner.

**12.10.3** As historic quarters in many of our cities were not designed for automobile traffic, the Commission strongly recommends that solutions to traffic problems must be found through sensible traffic management policies.

**12.10.4** The Commission advocates a policy of retaining the original street-lines which is one of the most important components of the character of the urban streetscape. Local planning bodies

should introduce schemes for pedestrianisation of selected roads and street in conservation areas and historic quarters.

**12.10.5** The Commission recognises the need for qualified personnel on the one hand and education in conservation on the other and for this it recommends:

- (a) the appointment by municipalities and urban development authorities of architects, planners with urban design qualifications to carry out in house training and monitor applications of conservation plans for the bodies concerned;
- (b) the introduction in schools of architecture in India of courses on the preservation and re-cycling of old buildings and on the principles of urban conservation;
- (c) the setting up, in India, of a regional centre of the International Centre for the Conservation of Monuments (ICROM) which would offer post-graduate courses in architecture and urban conservation, conservation skills and sciences and related subjects for the benefit not only of architects, town planners and conservation officers but also scientists, historians, archaeologists and the student community at large;
- (d) the setting up of Nature Awareness within easy reach urban centres to stimulate conservation awareness among urban children. These nature awareness areas would be small conservation belts supporting pockets of semi-wild terrain representative of the local eco-system that operated prior to urbanisation.

**12.10.6** The Commission strongly recommends a nationwide policy of re-cycling old buildings through repair and suitable upgradation for new

uses, wherever necessary and possible, in place of schemes involving costly demolition and re-development of old quarters.

**12.10.7** While commending the Archaeological Survey of India for its outstanding work, the Commission has also identified certain key measures of legal reform and re-organisation of this body and recommends their early implementation.

**12.10.8** Considering that some of India's most outstanding buildings are under the ownership or control of the Central Public Works Department, the Departments of Posts and Telecommunications, the Railways and the Defense authorities to mention a few, the Commission has made numerous specific recommendations in respect of each of these government agencies for the better maintenance and protection of their buildings.

**12.10.9** In studying the effects of tourism on the built heritage, the Commission has observed both the adverse environmental effects of tourism and the potentially beneficial results of integrating tourism development policies with urban development policies at the planning stage itself. It is recommended that integrated Master Plans be prepared for all sites of touristic importance.

**12.10.10** In 'order to overcome the initial resistance to restrictions imposed by conservation legislation on owners of listed properties, it is recommended that a wide range of fiscal and other incentives be offered to encourage better maintenance and upgradation of buildings. The Commission has put forward a number of

proposals for reliefs in income tax, wealth tax, property tax, gift tax and stamp duties/transfer fees; as well as proposals for schemes of grants and loans for different categories of recipients.

**12.10.11** It is also recommended that alongside the uniform reduction of FSI and height limits proposed for conservation areas a scheme of transferable FSI or Transfer of Development Rights be introduced to compensate property owners for FSI forfeited in the interests of conservation. The Commission strongly urges, however, that such TDR should only be employed in accordance with clearly stated objectives.

**12.10.12** In order to assist the implementation of the recommendations made above, the Commission recommends:

- (a) the creation of a national level Urban Heritage Committee (UHC) to operate within the proposed National Urbanisation Council;
- (b) the creation, at the level of cities with a population exceeding ten lakhs, city-level Urban Heritage Committees.

It is recommended that the Urban Heritage Committees would, inter alia, undertake a crash programme of listing, preparation of conservation statements and frame guidelines for regulating new development, expedite notification of properties and areas listed, propose modifications for the city level DC Rules as appropriate, advise local bodies on conservation issues, interact closely with NGOs (such as INTACH, etc.) and organise training in conservation skills. The UHC at the centre will, in particular, coordinate with the state UHCs in all aspects of their work.

**PART V**  
**13. TRANSPORT**

### **13.1 Overview**

#### **Introduction**

**13.1.1** While an estimated 325 lakh person-trips were made daily in the early eighties in the four mega-cities of Calcutta (116 lakh), Bombay (95 lakh), Delhi (62 lakh) and Madras (52 lakh), the annual growth rate of urban travel in these cities was respectively 2.2, 4.6, 9.5 and 6.9 per cent. The travel in these four mega-cities is likely to grow by the turn of the century to an estimated 550 to 600 lakh person-trips per day and this is equivalent to a 50,000 bus fleet. Although the magnitude of passenger and goods traffic in urban areas has multiplied manifold during the period of planned economic development, there have been no definite policy guidelines on balanced urban transportation. Recently, however, urban transportation has been attracting the attention of the government. Admittedly, development of urban transportation requires advance planning and action in achieving the national goals relating to population distribution, economic development and land-use, but due to incredible public apathy and governmental indifference, urban transportation in general (and particularly, urban mass transportation) has not received sufficient attention. A notable observation in this respect is made in the report of the Transport Policy and Co-ordination committee (1966) which considered, inter alia, the transport problems of metropolitan cities. This committee noted that in metropolitan and large cities, it was necessary to take an integrated and long-term view of transport needs, both for passengers and goods, and to plan road development, public transport service, and, where necessary, suburban rail transport as part of a comprehensive and integrated scheme. The committee also emphasised that urban transportation was closely related to long-term planning, including land-use planning and location of

industrial activities. Although the committee stressed long-term and integrated development, in practice the accomplishments have been marginal. Metropolitan and large cities have continued to grow and expand and experience increasing congestion progressively and transport problems have intensified, leading to a crisis situation at many locations.

**13.1.2** The Metropolitan Transport Team of the Planning Commission, set up in 1965, initiated comprehensive traffic and transportation studies for the major metropolitan cities and provided technical guidance to the traffic cells. This team was wound up in 1974. Subsequently, regional, metropolitan and urban development authorities have been set up and planning of urban transportation networks per se is a major task of these authorities. Nevertheless, urban transportation has continued to remain the single most neglected function of development authorities.

**13.1.3** In 1984, the Planning Commission set up the Committee of Experts on Metropolitan Transportation to identify alternative modes of mass transportation in cities with a population of one million and above. Like all other committees, this expert group has also submitted its report to the government.

#### **Resources**

**13.1.4** As seen in Figure 1, *[not included here]* the plan outlay for the total transport sector has gone progressively over the plan periods and there is no separate sub-head for urban transport. The outlay for urban development has been generally in the range of 3 to 4 per cent of the total plan outlay (whereas the contribution of urban centres to the national GDP was estimated at 44.4 per cent in 1981). On the one hand, resource constraint is often cited as the main difficulty in developing adequate urban transportation (including a public



transport system). On the other, the urban transportation plans do not relate to budgetary constraints. The glaring fact, however, remains that the manner in which the transport needs of the population are being met leads to wastage of the scarce resources available to the community.

**13.1.5 Revenue:** Both the central and state governments raise considerable revenues from road transport through levies and taxes. An indication of the extent of contributions made by the road transport sector is the fact that, during the Sixth Five Year Plan period, the increase in total taxes paid by this sector was as much as 58.3 per cent of that during the preceding plan period. In the nationalised passenger road transport sub-sector alone, the growth in contribution during the same period was 41 per cent, corresponding to an increase of 16 per cent in the number of vehicles in the sub-sector. Currently, the proportion of taxes paid by the road transport sector in India is the highest in the world. The taxation system is also cumbersome due to multiplicity of taxes and levies. The central levies comprise import and excise duties on motor vehicles, components, tyres and tubes, batteries, motor spirits, HSD oil, and lubricants. Levies in the state list include taxes on motor vehicles, taxes on carriage of goods and passengers, and sales tax on motor vehicles, body parts, motor fuel, tyres and tubes and lubricants. Local bodies, too, tax road transport through octroi. At present, the taxes on road vehicles are determined on an ad hoc basis, without relating them to the use of the road network by respective vehicles and the damage they cause to the environment and road system. There is also a wide variation in the incidence of taxes on buses among the states. Figure 2 [*not included here*] shows that during the period 1974-75 to 1980-81, the annual expenditure on road improvement, as a proportion of road taxation, ranged from 33 to 50 per cent.

### **Administrative Frame**

**13.1.6** Paradoxically, at all levels of government, central, state and local, no single agency has the authority, powers or institutional framework to ensure planning, coordination, budgeting, programming and phasing of urban transportation projects and controlling vehicular traffic. Multiplicity of agencies, linked with a multi-model urban transportation system, has been repeatedly identified as an issue of serious concern at numerous forums, but consideration, even in this respect, has been lacking. The National Transport Policy Committee (NTPC) (1980) *inter alia* recommended strengthening of transport facilities in metropolitan and medium and small-size cities and considered issues like traffic management, institutional set-up, multi-model system, environment and energy conservation. The NTPC also recommended the establishment of a National Transportation Commission and unified urban transport authorities. Without exception, the inevitable need for a unified urban transport authority has also been identified in every city development plan, though no concrete action has been taken to this end. In the absence of an integrated policy and coordinated approach, urban transportation has grown in response to demand in a haphazard manner, without any realistic goal or perspective. From 1987, the Ministry of Urban Development has been entrusted with the responsibility for urban transportation. The Ministry, however, does not possess the necessary expertise to direct urban transportation planning. As of today, fragmentation and overlapping of responsibility and authority has made planning and management of urban transportation a complex task. To illustrate this, the agencies involved directly in the urban transport sector in Delhi are listed below. As many as 16 agencies directly influence the provision of transportation infrastructure, its operation and regulation.

Agencies involved directly or indirectly in the transportation sector in Delhi.

Ministry of Transport.

Railways

Ministry of Urban Development

Directorate of Transport

Delhi Police

Land and Building Department

Deputy Commissioner, Delhi

Delhi Energy Development Agency

Municipal Corporation, Delhi

New Delhi Municipal Committee

Cantonment Board

Delhi Transport Corporation

State Public Works Departments

Statutory bodies

Delhi Development Authority

Other private and public sector agencies

**Automobile Industry 13.1.7** As seen in Figure 3, *[not included here]* though vehicle ownership in India is quite low compared to that in developed countries, the problem is complex due to the wide range of vehicle types. The rise in production of two wheelers, and cars during the last ten years has been phenomenal. As seen in Figure 4, the production of the automobile industry in 1985 was 2.6-times that in 1980, only five years earlier. The steep rise in the number of two-wheelers (Scooters/Motor Cycles) is also seen in Figure 4. *[not included here]*

**13.1.8** With the technology import liberalisation policy of the government, and the establishment of several international collaborations, the automobile policy in 1985 allowed the manufacturers to produce any type of vehicle, from passenger cars to heavy commercial vehicles (HCV) with no constraint on engine size or any attempt at obtaining an appropriate mix of vehicles from the viewpoint of fuel efficiency, pollution, axle load, chassis configuration, road damage and minimisation of total transport costs. The liberalisation policy has thus lead to fragmentation in production and lack of standardisation. For

example, Delhi, with approximately 1 per cent of the total population of the country in 1981, accounted for 10 per cent of the total of registered vehicles in the country. About 30 per cent of all vehicles were registered in the 12 metropolitan centres.

### Energy

**13.1.9** The dramatic increase in two-wheeler and private-car population is making unrestricted claims on valuable road space and energy resources only to the 'dis-benefit' of the urban masses, on the one hand, while the vehicle mix has aggravated congestion/air pollution, on the other, specifically production of buses and their design for urban mass transportation has not received adequate attention in national automobile policy and this has led to channelisation of resources mostly to acquisition and production of cars and two-wheelers which are mainly absorbed in the urban areas. The rapid increase in the quantum and mix of urban vehicles is not matched by a corresponding increase in road space. Even at the fag end of the 20th century, traffic heterogeneity continues to dominate in most urban centres, including primitive, energy-inefficient (manually and animal-propelled) vehicles. These latter modes not only impede traffic flow but also adversely affect the safety of road users. Thus the prevalent transportation systems in most Indian urban centres continue to be energy-intensive. In terms of energy, the surface transportation system in the country consumes 13 to 14 per cent oil, and 2 to, 3 per cent electric power. About 25 per cent of the total energy consumption in the transport sector is linked with urban transportation.

### Urban Growth and Traffic

**13.1.10** While the trend of population growth indicates that larger cities are growing rapidly as compared to smaller cities, the noticeable phenomenon in Indian cities, as seen in Table 1, is that the average per capita trip-rate is higher and trip-length longer in large cities than in small ones.

**Table 1. Variation in Trip-Rate and Trip-Length by City-Size**

City	Population (lakhs)	Average per Capita trip-rate	Average trip-length (Km)
(1)	(2)	(3)	(4)
Calcutta	91.7	0.96	12.7
Bombay	82.3	1.01	13.5
Delhi	57.1	1.40	13.5
Madras	42.8	0.87	12.7
Bangalore	29.1	0.87	-
Pune	16.9	0.43	5.5

Source: Report of Working Group on Transportation.

**13.1.11** Urban Development plans do not generally reflect rational density patterns viable from the viewpoint of travel optimisation. While city centres and work-places are dense, the urban sprawl generates an uneconomic pattern, involving tidal flows. A volume count on urban streets over a period of time has indicated that in certain areas the increase in traffic density over a ten-year period is of the order of over 200 per cent, despite the dominant role (as seen in Table 2) played by walking and public-transport trips. The travel speeds have fallen and travel time and costs increased.

**Table 2. Modal Split\* of Person-Trips in Indian Cities**

No.	City	Per cent trips by			
		Mass Transport	IPT**	Personalised (fast mode)	Others
(1)	(2)	(3)	(4)	(5)	(6)
1.	Delhi	55	10	15	20
2.	Bombay	80	13	7	-
3.	Calcutta	79	-	9	12
4.	Madras	67	-	6	27
5.	Bangalore	55	11	18	16
6.	Ahmedabad	48	3	12	37
7.	Pune	23	7	25	45
8.	Vadodara	36	26	17	21

\* Modal split figures for cities around 1980.

\*\* Intermediate Public Transit modes. Others include walking and cycle trips.

**13.1.12** Traffic Management: Traffic management strategies are heavily oriented towards serving private vehicles and are confined mostly to prestigious areas. As a consequence, the benefits of such schemes are not equitably distributed to urban communities. Most of the traffic improvement schemes are adopted in a laissez-faire manner and follow an ad hoc municipal pattern of budgeting and programming. The licensing practices are also not related to transport-system capacity. Further, the prevalent overcrowding of buses and suburban trains and jam-packed bus stops reflect the low level of equity and very low level of service provided by the public systems. As seen in Table 3, the number of buses per lakh population in metropolitan cities varies from 6.93 in Lucknow to 84.27 in Delhi, despite which the bus transport system in Delhi is not efficient due to longer trip-lengths, and erratic urban structuring.

**Table 3. Buses Per Lakh Population in Selected Metropolitan Cities**

City	Buses per lakh Population	Passenger triplenght (km)
(1)	(2)	(3)
Calcutta	12.75	13.7
Bombay	28.41	13.2
Delhi	84.27	11.2
Madras	49.22	9.2
Bangalore	36.39	7.3
Hydrabad	39.52	6.7
Ahmedabad	26.26	6.7
Kanpur	8.88	4.8
Pune	20.71	4.8
Nagpur	7.70	3.1
Lucknow	6.93	3.1

\* CSTC buses only.

Notes: A review of the urban transportation system in operation has been prepared by the Working Group on Transportation. In all, 57 state road transport undertakings with a fleet strength of 87,000 vehicles cater to the needs of 510 lakh passengers every day in the country.

**13.1.13** Encroachments: The road space and off-street space for packing in activity areas has not increased. In addition, the encroachment on the public right of way by unauthorised constructions and forcible occupation by informal

and petty traders affect the capacity and safety of the already strained urban road network. An estimated 50 to 70 per cent of urban employment is in the informal sector. These activities usually grow in an unorganised manner in the public right of way and pedestrian areas. Pedestrians are invariably deprived of footpaths in congested areas by encroachments, hawkers and vendors. Frequently, advance reservations for expansion of city roads are taken over by the politically sheltered.

### **Road Safety**

**13.1.14** Road safety in urban areas has become an issue of critical concern. As seen in Table 4, a total of 3077 fatal accidents were recorded in 1981 in six metropolises. These comprised 11.3 per cent of the total fatal accidents in the country. In Delhi alone 18.8 fatal accidents were recorded per lakh population. Likewise, 18 per cent of the personal injury accidents took place in the six metropolises. However, it should be noted that 29.9 per cent of the total accidents were recorded in these six metropolises and this generally reflects the severity of the problem in urban areas. Driver behaviour and traffic heterogeneity are major contributors toward accidents and, at an average cost of Rs 15,000 to 20,000 per accident, the net losses due to accidents are enormous - of the order of some 30 to 40 per cent of the annual expenditure on roads.

### **Planning and Priorities**

**13.1.15** Drastic change in the intensity of development and land use in the central areas of cities has further aggravated the problem. While development should normally follow planning, it is the other way round in Indian urban areas. This is clear from the fact that, even in the metropolitan cities (excepting Calcutta), there has been no serious concern demonstrated by the government to develop a high-capacity transportation system. Committees and expert groups have been formed from time to time, only to be unceremoniously wound up, without much action. Failure to

interrelate planning with implementation is an ubiquitous issue in urban transportation projects. Rather than matching supply with demand, taking advance action to meet supply in response to the projected demand, the approach adopted in Indian urban centres has been to wait for the demand to pile up and then attempt to meet it with inadequate supply. Increased emphasis on enveloping mass transportation services in the public sector has led to virtual monopoly, dis-economies of scale, frequent suspension of bus transport services, huge time and working hours losses and captivity of the commuting public. Reportedly, the Calcutta Metro suffered a loss of Rs. 2.43 crores during 1987-88 and a limited strike by DTC employees cost the government Rs. 1.23 crores.

**13.1.16** In the given set-up, therefore, need-based urban transportation has yet to rank as a priority item with government. Summing up, the current status of urban transportation can be described as being well below minimal level of service, lacking the backing of both policy and institutional framework and a funding mechanism.

## **13.2 Basic Considerations and Policy Options**

### **Physical and Economic Linkages**

**13.2.1** In addition to geographical setting, dynamic processes of growth, relative accessibility and planning control, which determine city structure, physical and economic linkages play a vital role in establishing the regional importance of an urban centre. Very large metropolitan centres Bombay, Calcutta, Delhi and Madras, besides being highly generative and absorptive, possess strong physical and economic linkages, not only at the state and regional levels but also at the national level. Similarly, metropolitan centres like Bangalore, Hyderabad, Ahmedabad, Kanpur and Pune have a diversified socio-economic and infrastructure base with strong physical and economic linkages at the state and regional level. At a lower level, Nagpur, Lucknow and Jaipur are closely followed by Coimbatore,

Patna, Surat, Madurai, Indore, Varanasi, Jabalpur, Baroda, Dhanbad, Bhopal and Ulhasnagar. In Figure 5, [not included here] the dominant influence of metropolitan cities is depicted. The overlapping of several geographical influence zones gives rise to transportation corridors. All the cities depicted in transportation-influence zones are high-growth urban centres containing about one-third of the total urban population in 1981, and this level will remain more or less the same in 1991, though the magnitude of the population will increase substantially. As the urban centres continue increasingly to attract population, not only from rural centres but also from small and medium-size urban centres, the physical and economic linkages of these centres become stronger. The influx of population from rural to urban centres would involve movement of some 60 to 70 million people by the year 2000 AD, necessitating regional development measures to curtail and restrict migration and exploit the potential physical and economic linkages.

### **Emphasising Regional Services**

**13.2.2** Transportation services introduced in a region can be instrumental in location decisions of industrial, warehousing, commercial and even medium and high-cost housing township projects and stimulation of agriculture. Such transportation services can also aid in curtailing migration from rural areas and small towns of the region to large metropolitan centres. The need, therefore, is to establish potential commuter sheds (within, say 50 to 60 km radius) and evolve economically viable integrated land-use-transportation strategies. In the spatial context, the physical Manifestation of this approach lies in the transportation-influence zones through travel optimisation and balanced regional development.

**13.2.3** The regional structure emerging out of the transportation planning inputs reflects the pattern of future services. The existing form of large cities is likely to generate linear regional transportation corridors which must be supplemented with

intra-urban transportation services. Stated another way, the solution to urban transportation lies in developing the regional transportation services, optimal placement of activities in the commuter shed, and integration of inter-urban transportation services with regional transportation services.

**13.2.4** Shift in Regional Movement Pattern: A fundamental transportation planning consideration worth examining is deliberate planning of movement 'patterns'. While it is difficult to reverse the existing trends of nodality of the large metropolitan centres generating centripetal movement, the national goal of balanced urban-regional development would be best achieved, inter alia by centrifuging and balancing passenger and freight movement on the link and node (poly-nodal) concept in the metropolitan peripheral areas. In doing so, the relative accessibility to the peripheral areas would be increased and the strong pull of the metropolitan city centre would be reduced.

### **Urban Transport Demand Optimisation**

**13.2.5** The process of comprehensive development planning during the last three decades has been rather disjointed. While land-use planning and development control have been partially effective, especially in urban extensions, comprehensive traffic and transportation plans have made virtually no impact. Concurrently, not much attention is given to be orderly development of transportation land-use and, as a consequence, the existing transportation is not efficient. There is, therefore, a need to devise an urban transportation structure integrally with the land-use plan. To an extent, the transportation structure should be resource-generative and ensure travel optimisation. There is also need to place emphasis on balanced distribution of trips and reduce dependence on city centres by interconnected, poly-nodal and multi-nuclear development in peripheral areas, with transportation inputs providing the basis for such developments.

### **Low-cost Transportation Planning**

**13.2.6** Having been based on planning models evolved for the automobile-oriented economies of the developed countries, our comprehensive traffic and transportation plans naturally proposed capital-intensive solutions which, generally, did not find ready approval with government. There is a need, therefore, to evolve transportation planning strategies suited to our prevalent socio-economic conditions. Long-term plans are rigid and do not respond to critical issues such as environment, energy conservation and progressive plan implementation. Accordingly, long-term and capital-intensive urban transportation plans should partly give way, to the extent possible, to medium and low-cost transportation plans, and this necessitates an unqualified reorientation of plan formulation and priority identification criteria.

### **Emphasis on Mass Transportation**

**13.2.7** The mobility of the urban masses is an issue of fundamental concern in the Indian context. Accordingly, an effective mass transportation system is a basic prerequisite for the efficient functioning of any town or city. Recognising the importance of mass transportation, there is a need to develop an urban road (transportation) network as an integral part of a balanced urban mass transportation system for different categories of urban centres. As the problems of urban centres vary, depending upon their geographical and physical setting, economic base and range of urban services provided by the urban centres, differential and rational strategies should be adopted for bringing about a viable balance between prospective transport demand and potential supply capacities.

**13.2.8** In this context, there is a need for examining the transport services and introducing a new system, if necessary. While the hierarchy of activities and networks are taken care of in most of the cities, the service system needs to be

strengthened at the hardware levels. In this connection, the recommendations of the Study Group on Alternative System of Urban Transport, Government of India (1987), are appropriate.

They suggested the introduction of the following new systems:

- Urban bus
- Medium Capacity Rapid Transit System (MCRTS)

Urban bus is a modern well-designed, diesel-engine bus with low floor-height, wide doors, efficient engine at low speeds etc. This vehicle is most effective in reducing costs, oil consumption, pollution etc. An MCRTS is recommended for high-capacity corridors. Initially, exclusive right-of-way is required for use by the urban bus and later extended and converted into a Medium Capacity Rapid Transit System. The MCRTS electric train system is, however, needed for high-capacity corridors. It is, therefore, necessary to introduce both the systems for healthy growth of urban centres.

### **Optimisation of Transportation Resources**

**13.2.9** Transportation networks (roads and railways) are major transportation resources in urban areas. These available transportation resources should be optimally utilised through application of low-cost transportation system management (TSM) which essentially entails viewing transportation planning in the medium and short range rather than long range. TSM should be improvised to optimise movement of people and goods rather than vehicles and minimise inequities and inefficiency by ensuring a better balance between supply of facilities and traffic demand management.

**13.2.10** The transport system of Delhi has been identified as consisting of more than one mode, namely light-rail transit, bus and rapid-rail transit, and other conventional modes. It will be a long time before new modes are developed and

become available for use. We should, therefore, attempt, without loss of time, to utilise the major transport resource provided by the Ring Railway and detailed planning should be initiated immediately for this purpose. The stand taken by the freight lobby of the Indian Railways, that the Ring Railway is principally a goods-avoiding line and is used to full capacity, is understandable but needs rethinking when the transportation options and activity-restructuring possibilities offered by the Ring Railway are considered for meeting the transportation demands of the city population.

### **Pricing Accessibility**

**13.2.11** It has been recognised that accessibility and environment normally do not go together. If the two have to go together, the price to be paid is the enormous construction and operating cost for transport systems. If the full price is not paid, either accessibility or environment, or possibly both, will be affected in the urban areas, thus endangering the very quality of life. Thus accessibility is a function of investment made in development of urban transportation. The urban economy thrives basically on accessibility and urban transportation systems provide differential accessibility levels in different situations. To a considerable extent, the land-use and development and intensities are determined by relative accessibility levels. Accordingly, accessibility should be appropriately priced to enable generation of resources for development and improvement of urban transportation systems.

### **Traffic Impact Assessment**

**13.2.12** In order to interrelate activity-structuring and accessibility, development intensities in different situations should be determined on the basis of adequacy of transportation networks, and traffic impact assessment should form the basis of according development permissions. A proposed new development or intensification of an existing development can have a strong effect on transportation facilities. It must, therefore, be recognised that any proposed development must

be scrutinised on the basis of a well-structured procedure that is clearly defined and exhaustive. The traffic impact assessment should aim at analysing the adequacy of the adjacent or surrounding network to absorb the generated traffic by the proposed development or changes. There is a strong need, therefore, to formulate guidelines and methodology to evaluate and prepare detailed traffic impact assessments.

### **Land-use Transport Policy Directives for New Developments**

**13.2.13** Since the journey to work and back accounts for more than 50 per cent of the trips, it is obvious that proximity of work-places to residential areas will substantially reduce transport problems. While planning new urban centres/urban expansion of an existing city, this factor should be considered.

Predominance of one central business district and lack of secondary centres leads to long trip-lengths. Multiple district centres with business/commercial land-uses, therefore, have to be developed in the urban areas.

Proper care has to be taken regarding freight movement. Traditionally, the wholesale markets were located at the city centre. Now there is a need for dispersal of wholesale markets, creating truck terminals on the outskirts of the city and achieving material distribution in the city through smaller vehicles.

Multi-nuclear urban forms have the advantage that they will generate traffic flows in the arterial roads in both directions. A strong single-nucleus urban centre will generate one-way tidal traffic which leads to inefficient utilisation of road space.

More generally, population groupings of 75,000 or more can, in principle, if planned to integrate employment and residences, form communities within a city. With a large degree of self-sufficiency. By reducing demand for transport to other city areas, overall transport needs would be substantially reduced.

The role of provision and use of transport facility to promote the growth of urban areas in desired directions should be appreciated.

#### **13.2.14 Prevention of Encroachments:**

Encroachment and unauthorised construction/occupation within the public right-of-way of the transportation system is an ubiquitous urban scene. Adequate enforcement legislation is, therefore, a basic prerequisite for preventing such mushroom growths. Encroachment by traders warrants immediate attention not only to increase the capacity of the transportation network, but also to ensure smooth flow of pedestrian traffic. Such encroachments that usurp valuable public right-of-way and force pedestrians on to the road must be penalised heavily on a recurring basis. For any encroachment, even after the penalty has been imposed, the license of the premises should be immediately forfeited. Encroachments at prime locations are so frequent that there is no way out but to impose strict penalties. This norm should also be applicable to change of use in premises which cause environment and traffic hazards and adversely affect quality of life.

#### **Urban Transportation Perspective**

**13.2.15** Each urban area has its own form and structure, with different needs and development objectives. A set of transportation solutions to serve its needs and objectives should be evolved within the framework of locally determined goals and regional and national objectives. This implies that urban transportation policy should be an integral part of a coordinated and comprehensive approach to urban and regional needs, with emphasis on securing an optimal mix in the public and private sectors. The basic concern in the Indian context being the movement of masses, development of a reasonable level of service for public transportation is, therefore, a fundamental prerequisite. Also, as the road system in urban areas is generally inadequate, optimal utilisation of the existing system is another fundamental prerequisite. To a considerable extent, there is

ubiquity in transportation problems of cities in the same size categories and, therefore, solutions must be devised by city size, taking into account both the common and specific problems.

**13.2.16** City size and Transportation: When a city grows in population and size, average trip-distances lengthen. Various analyses indicate that, for a given population density, trip distance increases roughly in proportion to the square root of the radius of the city. The growth in city population from 1 to 2, 4 or 8 million, with population density remaining constant produces an average increase in trip distance of 20, 40 or 65 per cent respectively from initial levels. Decreasing population density also increases trip length. As shown in table 1, as city population increases, the per capita trip generation rate also increases and there will be a huge increase in the amount of travel metropolitan cities. Further, if there is an intensification in land-use in the city core, there would be a reduction in road space for movement and parking. If despite all the transportation problems created, some authorities still want huge population agglomerations, they must realise that there is a price to pay. Recently the Planning Minister informed the Consultative Committee of Parliament that, in the years to come, the economic growth and demographic pressures would continue to strain the transport system in the country. The minister stressed the need to initiate measures involving rational land use, balanced regional growth and adoption of cost-effective transport technologies.

**13.2.17** Long-term Solutions: The long-term solution to transport problems is to anticipate travel demand due to increase in population and balance the supply-demand relationship, either by expanding transportation facilities or by restricting city size. These solutions may have to be re-evaluated in the light of urbanisation planning projects for the metropolitan-cities which have established beyond doubt that



high-capacity; mass rapid-transportation systems must be provided if these cities are not to come to a standstill.

**13.2.18** Alternative Systems: The Study Group on Alternative Systems of Urban Transport has made these recommendations:

- In cities below one million in population, the STANDARD BUS should be used.
- In cities above one million in population, the URBAN BUS should be used with contractual operation gradually switching from the standard bus to the urban bus.
- Corridors carrying more than 15,000 persons per hour (pph) in medium-sized cities should have an exclusive grade, separated bus way. (In large cities, the load may reach as much as 25,000 pph.)
- A corridor with a peak demand of over 40,000 pph should extend the existing guide way for a medium-capacity railway system to ensure economies of scale and optimisation.

**13.2.19** It must be appreciated that, in most large cities, the transportation corridors have been established and, therefore, the need is to evolve action-oriented plans and initiate implementation without delay. Pending commissioning of long-term solutions, in the interim period, medium and short-range strategies to solve transportation problems may be adopted and select privatisation of public transport systems considered in metropolitan-cities and other urban centres.

**13.2.20** Medium and short-range Solutions: A remedial approach to the transport problem in all cities is to analyse it in terms of demand and supply, and since demand usually exceeds supply, the solution should be in terms of:

- increasing supply
- reducing/shifting demand
- improving the efficiency of system utilisation

**13.2.21** Bus-stops and terminals in large urban areas carry heavy loads and can be integrated with shopping and business complexes which provide other basic services also so that multi-purpose trips could be performed and, to a considerable extent, transport demand reduced. By adopting a combination of remedial and land-use measures, transport, demand can be contained in the short-range. In this respect, while structural change in land-use planning is imperative, transportation systems management (TSM) provides strategies and tools to devise economic solutions.

#### **Transportation System Management Techniques**

**13.2.22** In order to ensure a better balance between transport demand and transport supply, TSM provides a variety of techniques for application under various situations. The objectives would be realised if dependence on and usage of private vehicles is reduced. The acceptance of this approach is controversial in view of the restrictions and the limitations it would impose on use of private vehicles. The basic approach in the context of Indian cities, especially -mega-cities would thus aim at improving the public transport system by adopting select measures to reduce vehicular volumes. Some of the techniques are listed below:

- (a) Optimising the use of the railway and road-based infrastructure in an integrated manner.
- (b) Maximising movement of people on the road network by optimal use of total vehicle fleet within the urban area.
- (c) Imposing partial restraint on the use of private vehicles in select areas.
- (d) Encouraging ride-sharing in hired vehicles and increased occupancy rate in cars.
- (e) Adopting a rational road-pricing system to encourage large-occupancy vehicles, including subscription buses and jitneys.
- (f) Improving pedestrian and bicycle facilities.

- (g) Developing the telecommunication system as a substitute for travel and servicing dense residential areas by mobile shops, post offices etc.
- (h) Giving preferential treatment to buses and large-occupancy vehicles by designating bus-only-roads and providing bus-only-lanes and priority treatment to buses at intersections.
- (i) Restricting low-occupancy vehicles in central business districts (CBD) and in congested areas, especially old city areas and sub-centres.
- (j) Reducing parking supply to act as disincentives to personalised modes and developing park and ride systems.
- (k) Installing parking meters to cover roadside parking space.

**13.2.23** The capacity of the urban network can also be increased by application of low-cost traffic engineering measures like improvement in the geometric design of roads and junctions, improved traffic control devices, restricting on-street parking, and clearing encroachments. The inherent weakness and inadequacy of the arterial road system is evidently the most critical issue. Computer controlled area-wide traffic control schemes and traffic synchronisation on arterial roads, like the Rs 75 lakh scheme envisaged for Delhi, covering critical stretches of certain arterial roads with cable less synchronisation of traffic signals to ensure better flow and control of traffic, are inevitable.

**13.2.24** Mother issue of concern is the traffic mix. Excepting Bombay, all the large cities have slow-moving vehicles and these must be phased out on a priority basis. Alternatively, these vehicles must not be allowed to ply in city, sub-city and district centres and may be allowed to ply only in the suburban areas. Specifically, these vehicles should not be allowed entrance into

the major road network. On certain urban arterials, even auto rickshaws and scooters should be segregated from mainstream movement by directing them on to other streets.

**13.2.25** Scale of TSM Schemes: By establishing management zones of manageable size, in the large metropolitan cities, traffic management schemes may be devised and a phased programme of action detailed for implementation. These traffic management schemes may be spread for implementation by phasing them with the five year and annual plans of the central, state and local governments. These schemes may be interwoven to cover the entire area of the city on the basis of city-within-city. The size of traffic management zones would vary from place to place and would be determined on the basis of road configuration, other transportation networks, population size, and vehicular population, socio-economic characteristics of the resident population and the quantum of non-residential uses. Another factor which has to be kept in mind is the relationship of each traffic management zone with the CBD and other activity nodes. The city arterial road configuration would be helpful in delineating traffic management zones.

**13.2.26** Shopping Streets: Shopping streets is an existing phenomenon in small urban centres. When these urban areas grow into large cities, the shopping streets not only continue to exist but also become the main thoroughfares of the area. The criss-cross pedestrian traffic of shoppers leads to accidents and congestion. Urban transportation planning should recognise this phenomenon and restrict through traffic on shopping streets. The concept of 'pedestrian mall' or bicycle only-streets should be considered. While planning urban growth, a separate arterial network for east-west and north-south through move-men from one edge of the city to another should be planned so as to maintain the character of the shopping streets.

**13.2.27** Cycle Traffic in Delhi, an estimated 15 to 17 lakh person-trips per day are made by bicycle. Cycle traffic inevitably loads the main urban arterials and generates conditions of extreme congestion and disorder. Accordingly, in large cities, movement of bicycle traffic, like that of other slow-moving vehicles, should be contained. In traffic management schemes, bicycle traffic should focus on activity nodes. As the city population increases, the main distance of travel increases. In cities of less than one lakh population, walking is the dominant mode and in cities of 1-5 lakh persons, the bicycle is the dominant mode. As city-size increases, the importance of the bicycle decreases due to long journey-distances.

**13.2.28** The concept of arterial bicycle tracks is not relevant for metropolitan cities. Bicycles have a role in medium and small-sized cities. Provision for bicycle parking at bus terminals and railway stations will help in promoting park and ride options for this group. The role of the bicycles in medium-sized cities is equivalent to that of scooters/mopeds in large cities. Helmets for scooter/moped users; and lights and bells for bicycles should become mandatory. Intersection designs should recognise bicycle traffic and ensure its safety.

**13.2.29** Urban Expressways: As stated in the previous section, an issue of serious concern is the inadequacy of the arterial road system in urban areas. Once traffic management schemes at disaggregate level have been devised and collated, limited-access, tolled urban expressways may be required. These expressways would interconnect major activity nodes in the city and would also be linked with the regional road network at select points. Provision of urban expressways in metropolitan cities is a capital-intensive proposition. Since it can be argued that such high-cost schemes will benefit only a minority of car-owning population, who belong to the affluent class, such schemes must be approached with an element of

caution. Possibly, such a scheme can be integrated with a road-based mass transit scheme, which would have free access to an expressway. The cost of such a scheme can be recovered through toll charges on the private modes only. The financial status of the local authority and the expected return will decide whether such a project can be operated by the public authorities or private organisations. To be effective, a toll road in an urban area should show a travel time saving of at least 15 to 20 minutes. Possibly, mega-cities like Bombay, Calcutta and Delhi can justify such schemes.

**13.2.30** Pedestrian Facilities: It must be appreciated that in any urban area, 30-35 per cent of the total trips are exclusively pedestrian trips. While short-distance pedestrian trips are performed by all sections of society, long-distance walking trips are made mostly by economically weaker sections of the community. If urban transportation is the most neglected component of planned development provision of pedestrian facilities is the most neglected aspect of transportation infrastructures. Footpath surface and lighting levels are generally sub-standard. The use of footpaths is often hampered by wires, dustbins, hawkers and public urinals. There are many instances in which a road is widened at the cost of the footpath - which is self-defeating as people are forced to walk on the road and the purpose of widening to provide more vehicle capacity is lost. A zebra crossing for pedestrians is good in theory, but it has been observed that most drivers do not give right-of-way to pedestrians. Enforcement legislation is necessary to ensure the safety of pedestrians. It is also necessary to use pedestrian-actuated signals on roads having moderate traffic and subways and over bridges on heavily trafficked roads. A substantial part of the financial resources required for subway construction can be generated by providing for advertisement panels and shops in subways. The subways could also provide locations for pay public toilets. The possibility of

converting roads which are dominant commercial spines into pedestrian malls (at least during specified days/hours) should be explored. Footpaths are left either unpaved or are paved with uneven stone slabs/bricks. In order to ensure smooth and uniform surfaces for uninterrupted pedestrian movement there is a need to develop high-quality pedestrian facilities.

**13.2.31 Environmental Management:** Noise and air pollution from motor vehicles, particularly in mega-cities and large metropolitan cities, has crossed the tolerable limits set for them. Carbon monoxide, sulphur dioxide, oxides of nitrogen, hydrocarbons and suspended particulate matter constitute a significant proportion of air pollutants. It has been estimated that over 68 per cent of carbon monoxide and 46 per cent of hydrocarbons in Bombay are due to automobile emission. Suspended particulate matter contributes over 40 per cent of the total emission of pollutants in Calcutta and it has been established that sulphur dioxide and oxides of nitrogen also add to air pollution significantly/ The urban transport sector accounts for 25 per cent of the total energy consumption of the transport sector in the country and its contribution to environmental pollution is very significant. It is the considered view among the environmentalists that air pollution due to automobile traffic causes almost dub-human living conditions in the mega-cities. The phenomenon of inversion is commonly discernible in dense areas. Added to this, the long steel bars carried by animal-driven vehicles, loose loads transported by trucks and the noise from engine exhausts and moving vehicles parts also adversely affect the urban environment. In Delhi and other cities, the low-frequency noise and exhaust emissions from auto rickshaws damage the environment considerably. The stipulated norms and tolerance limits set in respect of emissions, noise and road-user behaviour must be made mandatory with immediate effect. As part of transportation studies, environmental impact assessment should be undertaken. Environmental

management plans aimed at minimising vehicular flow in designated environmental areas should be prepared by putting a restraint on flow of automobiles in these areas. This is a low-cost strategy and must be introduced in parts of old cities and historic areas. In small and medium towns, cycle-rickshaws play an important role while auto-rickshaws supplement the transport services in medium and large, and even metropolitan cities. For a variety of social and environmental reasons, there is a need to motorise cycle-rickshaws and improve the performance characteristics of auto-rickshaws.

**13.2.32 Non-transport Measures:** Once it is recognised that the urgency of urban travel arises out of the need for information, idea/data transfers, material transfers, and requirements of physical presence to carry out various business/commercial/work/educational and recreational activities, some non-transportation solutions can be considered. Viewing the level of demand for transportation as a function of the physical and economical arrangement of land-uses, suggests solutions based on a reduction of the magnitude and spatial spread of needed trips. Consideration is specifically needed in the following areas:

- Giving priority to development of telephone services to eliminate personal trips to collect information.
- Development of the telephone network for computer data transmission through use of satellite.
- Document transmission, through facsimile/computer/telex networks.
- Further developing a wide-spectrum TV service which will cut down recreational trips.
- Communications can sometimes stimulate trips where none existed before.

These devices, as transport substitutes, already exist and possess immense potential for future development, provided they become freely available.

### **Parking policy**

**13.2.33** Provision of adequate parking facilities, is an issue of serious concern in view of the progressive rise in the level of vehicles in urban areas, specially metropolitan cities. While parking provision should relate to modal split and development intensity, the need for establishing standards commensurate with the existing and targeted levels of modal split and capacity of the road networks has to be examined for every zone in an urban area. Due to the nodality of city centres and shortage of road as well as other space available for parking, bold and innovative policies have to be adopted. It has been acknowledged by various forums that there is need to put a restraint on the use of automobiles in dense-activity zones. Accordingly, options such as car-pooling, seat-sharing taxis, mini-buses and subscription buses-wherein the beneficiaries participate in meeting the transport and parking, demand prompt consideration; especially the system of park-and-ride which warrants consideration in depth. By providing a parking facility at the periphery of the CBD (a congested area) and integrating it with a point-to-point transit of appropriate level of service, much of the congestion in the CBD can be alleviated. This approach is applicable to users of cars, scooters and bicycles. Vehicles desiring entrance into the 'zoned' CBD must pay for the use of the road as well as parking.

**13.2.34** There is also a need to optimise turn-over at parking facilities by installing meters and effecting improvements in the layouts and management. Parking charges should be fixed on the basis of the prevalent rental values in 'zoned areas' so that the local body or the proposed urban transportation authority can generate part of the funds required to provide park-and-ride facilities.

The existing parking facilities, even in corporate developments, should be appropriately priced to generate an urban parking fund.

**13.2.35** A critical deficiency in our planning standards is that they do not relate to parking demand. In-depth analysis in this respect is inevitable if we are to inter relate supply and demand through transport demand management. A thorough traffic-impact assessment based on scientific analysis is thus a basic prerequisite. Any change in land-use or building intensity should be supported by a parking adequacy statement. Any violations in the provision or use of parking space should be subject to heavy penalty on a recurring basis. All this makes it imperative that an integrated and comprehensive parking, circulation, transport-demand management, pricing management and pricing mechanism should be instituted, not only for new developments, but also for existing congested areas. While on-street parking should be metered (or otherwise appropriately priced), off-street, underground or over ground, parking structures with multiple activities should be developed in mega-cities. Parking management should be effected by enacting appropriate regulatory and enforcement measures and deploying trained traffic wardens. Parking control is a basic prerequisite to control traffic and implementation of transport policy and must be ensured at all levels of development.

### **Privatisation of Bus Service**

**13.2.36** recently, widespread concern has been expressed on the financial performance of public sector undertakings, and public transport undertakings and corporations are no exception in this respect. Though public sector transport undertakings enjoy unlimited protection and shelter from state and central governments, their performance has been far from satisfactory in terms of quality of service. The Delhi Transport Corporation (DTC), for instance, employs well over 40,000 workers for an on-the-road bus fleet of some 5,000 buses. The Calcutta State Transport

Corporation employs 17.5 workers per bus while the Pallavan Transport Corporation employs 8.9 workers per bus. Frequently the bus services are disrupted or threatened with disruption. Nationalisation of bus services, though conceptualised with overall developmental objectives, has evidently had only limited success. The ever-mounting losses of public sector bus transport undertakings and their low level of performance have warranted frequent attention of government. The private sector, however, has made a substantial contribution to public transport in Delhi by providing a limited range of services like airport bus services, partial school bus services, intermediate public and chartered and subscription bus services. Private sector bus transport operators have the requisite potential and capacity to supplement public transport services. In order to ensure a high level of service there is a need, therefore, to bring about a judicious balance between public and private sector operation of bus services (in a ratio of, say 51:49). There are very strong economic and performance indicators in support of such a policy rationale to break the monopolistic barriers of the public sector. The privatisation of a select number of routes should, therefore, be considered by the authorities. The modalities of such an operation should be based on performance criteria and productivity. Considering the resource crunch in the public sector, to provide efficient and economic services, privatisation on a selective basis must be ensured. The operation of subscription buses in Delhi has been successful and such services can be extended to other metropolitan cities. In many instances, employers arrange to transport employees by hiring or providing buses and thus participate in transport demand management. High-occupancy, small passengers transport vehicles, operating informally on a fare-paying basis, are often a valuable supplement and, in some places, an alternative to regular bus transport service. High-occupancy intermediate public transit (IPT) modes namely minibuses, vans, pick-ups, jitneys, ride-sharing taxis and other modes, therefore,

provide an effective means to solve public transport problems in central areas where roads and streets are narrow. These should be in the form of minibuses operated on a point-to-point basis or a seat-sharing taxi mode. In certain corridors, where the demand is not adequate to operate conventional bus transport services, e.g. peripheral townships and industrial areas, intermediate public transit modes should be assigned on selected routes. However, it has to be appreciated that effective pricing and level of service criteria have to be fixed from time to time to ensure reliability and viability of service.

**13.2.37** In heavy-demand transport corridors, high-occupancy IPT modes should be considered for supplementing the conventional public transport services at higher levels of comfort and service. In small and medium-sized urban centres, IPT modes should be encouraged to cover places and areas in which, adequate services are not available. A certain component of urban transportation especially integrated with development and operation of a park-and-ride system should be entrusted to the private sector. This will entail development and operation of parking facilities linked with provision of IPT and bus transport services in congested and heavy-demand areas.

### **Road Pricing**

**13.2.38** Private automobiles require a disproportionate amount of road space per passenger as compared to other modes of transport. In Bombay, private automobiles account for 7 per cent of person-trips, while in Delhi, the corresponding value is 15 per cent. Some 20 per cent of these trips are made during the two-hour period when 40, to 50 per cent of the city's vehicular fleet, including buses, is on the same road network. As a result, in congested areas, private automobiles inflict heavy cost on other road users as well as non road users. This leads to inefficient utilisation of road space. Accordingly, usage of personalised cars during peak hours and in congested areas must be priced. Private vehicle

owners intending to use urban arterials should be required to pay a price for their use. In general, assuming that, at an average occupancy of 1.2 persons, a private car is used for 10,000 km per year, and a standard urban bus is used for 250 km per day, the car to bus pricing ratio would be 40 to 1. If a bus is exempted from road pricing, the net pricing index rating applicable to a car would be 39 times the utility value of a bus in the overall urban transportation system. Appropriate methods and modalities can be devised in this behalf. The objective here is not to unduly tax the vehicle owner but to ensure that the potential capacity of the road system is optimally utilised as the issue of concern is not movement of vehicles but movement of people and goods. Consequently, the capacity of the mass transportation system would have to be increased to meet, inter alia, the shift away from personalised modes. Some of the tools that would help to achieve this are:

- Vehicles tax *vis-à-vis* subsidised public modes to shift movement from private to public modes. The effect would be to dissuade people from buying private vehicles.
- Higher petrol price and lower diesel price to shift movement from private to public modes. The effect would be to reduce the use of private vehicles.
- Parking charges to reduce access of private vehicles in critical areas.
- Access control charges to ensure efficient utilisation of private vehicles and shift movement from private to public modes. This requires vehicles to be used at full capacity (Singapore model).
- Price differential (different fares) between peak and non-peak hours in mass transit systems (UK model) shifts non essential trips from peak to non-peak hours.

**13.2.39 Differential Pricing of Public Transport:** Price differentiation between peak and non-peak travel is necessary. Peak-hour pricing is physically manifested in congestion, reduced speed and reduced level of comfort. The practice of

increasing fares during peak hour may drive the poorer sections of the community to walking and cycle trips; on the other hand, reducing fares during non-peak hours is likely to increase travel opportunities for many citizens who cannot afford the normal fares. Similarly, fares can be reduced on holidays. A telescopic fare-structure is more cost-effective than a flat-fare system. Though a flat-fare system has the advantages of reduced time for ticket issuing and accounting, it encourages long-distance travel and hence indirectly contributes to urban sprawl. A desirable policy is to have a flat fare-system in small/medium cities and a graded, telescopic fare in large cities (e.g., a single fare in cities with less than 5 lakh population; a two-stage fare for cities with 5-10 lakh population; a three-stage fare for cities with 10-20 lakh population; and a four-stage fare for cities with more than 20 lakh population).

### **Freight Transport**

**13.2.40** Freight transport has yet to receive adequate attention. There is a need to optimise location of truck terminals and wholesale markets/warehousing facilities so as to facilitate distribution by light commercial vehicles. In view of heavy truck traffic on narrow roads in urban areas, there is a need for designating truck routes in urban centres, imposing restrictions on movement of trucks during peak periods and banning their movement in congested areas. There is also need to establish transport service centres and service yards to bring about order in the movement of commercial traffic. Further, keeping in view that about a third of fatal accidents involve trucks, there is a need to formalise training of truck drivers through driving schools.

**13.2.41** It will thus be appreciated that there is no single solution to transport problems of urban areas. A range of policy options have been listed and it is imperative that an appropriate combination of these options be adopted for application in a given urban situation. Notwithstanding the prevalent trends and lackadaisical attitudes —

specifically discernible in urban transportation — flexible and progressive targets to cover aggregate urban transportation influence zones must not only be set but implementation must be so phased as to achieve the single, most significant objective of mass movement at reasonable cost. By keeping this objective in view, the benefits of improved urban environment, efficient in form and structure, energy efficiency and equity would automatically become achievable.

### 13.3 Finance For Urban Transport

#### Basic Issues

**13.3.1** During the last four decades of planned economic development, finding adequate funds for urban transportation has been an area of critical concern. It has been time and again concluded that the needs are so enormous that, not only will radical changes have to be effected in financial allotments, but all possible options of resource mobilisation will also have to be tapped if even basic schemes are to be implemented. Budget allocations from the central government constitute the most important source for funding major urban transportation projects. The state governments and local bodies, no doubt make fragmentary financial provisions for development of roads and road transport and the railways make marginal allocations for the improvement of suburban railways systems. However, no comprehensive and integrated mechanism has so far been set up to plan and implement coordinated and multi-modal development plans for urban transportation. It would not be out of place to mention here that though the solution to urban transportation problems lies in developing and propagating mass transportation, our urban planning and automobile industry policy have not been directed towards this end. As a consequence, development of personalised transport has been attracting attention and financial inputs and our national programmes have not been geared to development of mass urban transportation. In our socio-economic set-up, with a majority of urban

population living much below the poverty line, gearing our policies towards and finding adequate resources for development of transportation for the massive population concentrations in urban centres assumes importance and must be assigned highest priority. And this will be possible only when adequate funds are available, not only to plan capital works but also to operate and maintain the transport system.

#### Central Urban Transportation Fund

**13.3.2** An Urban Transportation Fund should be instituted to assist urban authorities in preparing perspective transportation plans. The disbursement of this fund should be the prerogative of the National Urban Transportation Board (NUTB) (detailed later in this chapter). Allotment from the Urban Transportation Fund should be assessed on the basis of the needs of urban areas and on such variables as national urbanisation goals and policies.

**13.3.3** Planning and Project Assistance: A fund mobilised locally by an urban transportation authority should be available for capital-intensive projects as well as for transportation system management schemes for the area under the jurisdiction of the authority. As a precondition, central and state-level assistance would require a comprehensive project report and, since unqualified support is to be given to TSM schemes, the urban centres should be provided central and state-level assistance on a matching basis, even for preparation of such schemes, say, for example, as follows:

LEVEL	PER CENT SHARE	
	Small and Medium-size Centres	Mega, Metro politan & Large cities
(1)	(2)	(3)
Central	40	40
State	40	30
Local	20	30



For long-term urban transportation projects which must focus on public transport, the central, state and local assistance should be provided, for example, on this basis shown below:

LEVEL	PER CENT SHARE	
	Project Report	Project* Funding
(1)	(2)	(3)
Central	40	40
State	40	30
Local	20	30

\* This formula is suggested for the east-west LRT corridor in Delhi Assistance from the central fund would require preparation of TSM schemes by local authorities with in-house expertise and/or with the help of consultative organisations in the public or private sector. Other modalities and criteria may be detailed by the NUTB. Normally, the central fund would be drawn from general funds, while state and local funds may be either from general revenues, or from property taxes, municipal taxes and cesses, petroleum and road tax, lottery proceeds, tolls, terminal tax, development tax and other such taxes. At the local level, the transportation structure should be so devised that it is resource generative. To this end, some innovative and bold approaches are called for.

### Generating Finances

**13.3.4** It is a recognised fact that long-term solutions to urban transport problems are highly capital-intensive. Just one component of a transport solution, e.g. provision of one light rail transit corridor in Delhi of 35 km length is expected to cost Rs 750 crores. When other components of the transportation system such as flyovers, road-widening schemes, augmentation of the bus transportation fleet, and relocation costs are also considered, the total cost becomes enormous.

**13.3.5** In addition to the capital expenditure, finance is also required on a recurring basis towards operating costs and maintenance expenditure. The cost of servicing capital and provision for replacement and renewals have also to be considered. On the revenue side, fares cannot be increased beyond a certain level for fear that the mass transit system may fail to attract an economic level of traffic. A key problem is, therefore, to find methods for transport project financing. Though loans at soft interest rates can be raised from national and international agencies, the question of how the loans will be repaid has to be answered.

**13.3.6** This problem has two components. One is economic: the costs and benefits to the total community or nation. The second is financial, calling for analysis at the operator level, considering the cash flows.

**13.3.7** In this connection, it is pertinent to note the conclusions of the Railways Reforms Committee (1983):

All the world over, Transport Undertakings for commuters and intra-urban traffic is subsidised and India can be no exception. The extent of subsidy may have to be decided periodically, even from period to period, taking into account the levels of efficiency that should be attained both in construction and operation.

Not only the running of such systems has to be subsidised, their capital cost has also to be met principally by the Government (Central as well as States) and urban authorities concerned.

**13.3.8** An analysis at the national level would probably show that the savings obtained by shifting a substantial number of passengers from private modes to public modes, justifies the loss incurred in operating the public modes.

### **Beneficial Participation**

**13.3.9** The World Bank has suggested that the following principles may be used as a guide for framing the urban transport policy:

- Economic Viability
- Financial Viability
- Efficiency

**13.3.10** The World Bank further suggests, that 'transport improvements should be self-sustaining' and, towards that end, 'the users of urban transport facilities should usually pay the cost incurred'. However, one has to take care that, while fixing user charges under this principle, the cost of the inefficiency of the organisation is not passed on to the consumer. This becomes all the more important when we consider that transport supply in a metropolitan area is usually a government monopoly, or the monopoly of a government-controlled agency.

### **Project Financing Framework**

**13.3.11** A major lacuna in the existing transportation planning process is that 'project financing' is not considered a part of the planning process. Instead of considering this aspect an integral part of a project report, only a demand analysis and a cost benefit analysis is carried out to justify a project. There are a number of these technically justified projects gathering dust due to lack of finance.

**13.3.12** A framework for raising the necessary financial resources for a project mainly from its beneficiaries has to be worked out. Considering the consortium approach which seems to have found favour nowadays, the share of contributions to capital cost from central government, state government, local authority and beneficiaries has to be specified as part of the project report. The identification of the beneficiaries, the quantum of resources that can be raised through them and the time framework has to be one of the first tasks to be undertaken.

Though it is not difficult to identify the beneficiaries, the estimation of benefits and their paying capacity is a complicated task.

**13.3.13** A suggestion that has been made is that the capital cost of setting up the system, including the provision of rolling stock, should be met entirely out of funds which do not have to bear any interest or dividend liability. This could be adopted if the agencies have sufficient funds. Since they don't, and even the state and central governments have to borrow from international agencies and pay nominal interest charges, these have to be considered as part of the costs.

**13.3.14** There is one more problem in raising financial resources from beneficiaries. This is due to the time lag between incurring costs and getting returns. While the costs are incurred during construction, the full benefits accrue only when the system is in operation. However, part of the benefits due to land-value increases may accrue even before the construction starts, i.e., as soon as the plans for a project are finalised, due to anticipated benefits.

### **Operation Financing**

**13.3.15** The Commission feels that the operating costs of a transport system should be directly recovered from system users through recurring changes in fares, advertisement revenues, rentals of shops and other commercial spaces, etc.

### **Capital Recovery**

**13.3.16** Capital costs can be recovered through:

- (a) One-time betterment levy on owners or residential property lying along transport system routes. A graded charge, depending on the distance from the system and plot-size can be levied.
- (b) Development of properties in the vicinity of station locations: Commercial and business complexes can be planned at these locations which will have high sale and rental value.

Some of these can be given to private developers while some can be operated by the urban transportation authority.

- (c) **Business Community:** Since the city centre and other areas becomes more accessible, the business community in these regions will gain an added advantage. This gain can be tapped through certain types of cess.
- (d) **Local Authority:** Since a rapid transit system (RTS) or urban expressways will reduce pressure on the existing road system and thus reduce maintenance expenditure, the local authority should also contribute. The local authority can raise funds through an appropriate transport cess on all properties.
- (e) **Vehicle Owners:** Owners of private vehicles will get an alternative, more efficient and effective system. Even if they do not use the new system, they are benefited by reduction of congestion and traffic diverted from the existing system. A one-time levy on private vehicles and goods carriers is therefore justified.
- (f) **Employers:** Employers in private and public sector industries often maintain huge fleets to transport their employees from their residences to work-places. A classic example is Bangalore where industries like ITI, BEL, HAL and HMT maintain for this purpose a large fleet of buses. With an efficient public transport system, these industries need not maintain huge fleets which do not operate optimally. Industries which do not maintain a fleet will also benefit as their employees will spend less time and effort in journeying to work and this may well increase productivity. Industries should, therefore, also contribute to transport improvement.
- (g) **Central Government:** The Government of India should reserve and apportion to urban centres for transport improvements a portion of excise tax collected on the sale of petrol and diesel in the cities. In this case,

the users will have already contributed to the exchequer and a part of it could well be ploughed back for their benefit.

- (h) **Encroachment Penalty:** Any encroachment on public right of way and unauthorised construction affecting transportation should be heavily penalised (at a graded rate of three to five times the current value) on a recurring basis and the proceeds should go to the transportation fund. The idea here is not to generate funds but to discourage and penalise encroachments, particularly on roads and pedestrian paths.

### **Employer's Role in Transport Demand Management**

**13.3.17** Recognising that, to the extent possible, an urban mass transportation system should be self-sustaining, employers in the organised sector should contribute to sustaining the system. This can be organised by employers issuing travel coupons to their employees. These would be priced on the basis of the total actual cost of operating the system. Usually, transport allowance is included in take-home pay packets. The system could be appropriately modified so that the users are given the desired level of access to the transportation system rather than travel allowance. The practice of paying travel allowances and related perks needs in-depth examination to evolve a system for movement of people and goods rather than vehicles. This approach requires the fullest cooperation of employers. It is necessary that the benefits and financial implications of transportation plans should be made known to the public through discussions, seminars and mass media, so that citizen participation will be at the maximum. Mobilisation of public opinion in the right direction is as important as the mobilization of resources.

## **13.4 Administration of Urban Transportation**

### **Basic Issues**

**13.4.1** To achieve a meaningful and effective

breakthrough in urban transportation, adequate attention has to be given to two critical components, namely administrative machinery and funds within an institutional framework. In this context, it is understood that the Planning Commission is working on a scheme to provide central government assistance to states and local governments on a matching basis for development of transport infrastructure in metropolitan cities. This consideration by the central government is timely and appropriate.

**13.4.2** As a matter of policy, every urban area should have an integrated land-use-transportation plan on the basis of which functional medium-range and long-range plans should be detailed. Accordingly, central assistance would precondition formulation of functional plans and detailed project reports. Central assistance should be provided on a predetermined, matching basis for plan preparation and projectisation, to all urban centres. A detailed transportation plan, including existing characteristics, projections, standards adopted, transportation system management plan and financial analysis should form part of the statutory requirements of the master plan. The relevant planning legislation can be modified to this effect.

**13.4.3** The emphasis in the foregoing paragraph on central assistance is relevant if urban transportation is to make an impact in urban areas. In addition, an effective and dynamic set-up is essential to make a breakthrough in urban transportation. As identified by the NTPC (1980), there is need to set up a three-tier structure, at the national, state and urban level, with adequate vertical and horizontal linkages. At the national level, would be a body responsible for framing policies, securing funds, examining and processing transportation projects, and issuing guidelines on urban transportation systems. This body would be a wing of the Ministry of Urban Development (MOUD). It would have zonal wings to advice on and monitor the activities of

state urban transportation departments. State-level activities would comprise, inter alia, executing the transportation policy guidelines and directives integral to district development plans presently contemplated by the government. At the city level, a strong organisation capable of bringing the diverse elements together and welding them into a single, powerful instrument of urban transportation planning and development is a fundamental requirement.

**13.4.4** Three-tier Set-up: This would comprise:

- (a) National Urban Transportation Board (NUTB)
- (b) State Urban Transportation Authority (STA)
- (c) Urban Transport Authority (UTA)

#### **National Urban Transportation Board**

**13.4.5** The National Urban Transportation Board (NUTB) as part of the Ministry of Urban Development (MOUD), would work in close cooperation and coordination with the proposed National Urbanisation Council. This board would frame policies, secure funds and issue necessary guidelines for balanced development of urban transportation.

**13.4.6** A central transportation fund drawn from general funds is to be established to support the activities and R & D programmes of the NUTB, which would consist of qualified and experienced urban traffic and transportation planning experts with an eminent transportation planner as its chairman. The constitution of the board may be based on the pattern of the Railway Board. As stated already, the board would have zonal wings to help frame and monitor urban transportation projects in addition to ensuring implementation of policy guidelines.

**13.4.7** The National Urban Transportation Board should initiate an evaluation and projectisation of perspective transportation plans in the metropolitan and other large urban centres. It should

also formalise the guidelines for developing the TSM schemes in the metropolitan, large and small and medium-size urban centres. Thus the transportation planning process for urban centres should be formulated in the long-range as well as the medium and short-range at the following scales:

Long-range as well as medium-range plans for

Mega-cities

Metropolitan cities

Large cities

Medium and short-range plans for:

Small and medium-sized urban centres.

The zonal wings of the board and the state urban transportation authorities should concentrate on small and medium urban centres and initiate TSM schemes for them by the end of the Eighth Five Year Plan period.

### Function of the NUTB

**13.4.8** The National Urban Transportation Board within the Ministry of Urban Development and linked with the National Urbanisation Council is to discharge, specifically, the following functions in the orderly development of urban transportation:

- To initiate, formulate and control policies for all modes of urban transportation system in the light of the NUC policy perspective.
- To develop plans (strategies and programmes) for transport investment, operation, expenditure, pricing and regulation in close liaison with zonal wings and State Transportation Authorities (STA).
- To monitor, through zonal wings implementation of policies and plans.
- To establish priorities in plan implementation, transport assistance programmes, pricing and regulation in coordination with zonal wings and STAs.
- To initiate and direct projects and R & D programmes in all aspects in urban transportation.

- To conduct, in association with STAs, and UTAs, negotiations with national and international banks and funding agencies, concerning projects, loans, project aid and technical assistance funds.
- To liaise with STAs and UTAs on all matters of urban transportation policy and planning, including all necessary assistance to the STAs and UTAs in the preparation of projects for international funding.
- To frame policies and monitor progress in urban transportation in close association with the National Urbanisation Council and liaise with government agencies like the Planning Commission and Ministry of Transport on all matters concerning urban transportation.
- To issue codes of practice and monographs on all matters relating to urban transportation.

### State Urban Transportation Authority

**13.4.9** As emphasised in the Report of the Working Group on Transportation, the functionaries involved in urban transportation at the city level report to their respective departments at the state level. The problem of bringing about, at the state level, the requisite unity of direction and command, both in planning and execution of urban transport projects as well as in their operation and maintenance therefore remains an outstanding one. Every state has to establish a separate nodal point for urban transport functions. This gap is to be bridged by creating a State Urban Transport Authority as a separate and distinct entity at the state level. This could well be a wing under the Department of Urban Development of the state. What is necessary is that there should, be built up, at one point in the state government, the requisite knowledge, experience and expertise in the field of urban transport planning policy and development. Thus only will urban transport receive the in-depth and constant attention without which it is well-nigh impossible to achieve any substantial breakthrough in the field.

### Urban Transportation Authority

**13.4.10** In the large and metropolitan centres, the NUTB may establish urban transportation authorities, controlled by local administration, bringing together the diverse agencies like the railways, transport directorates, traffic police, local bodies, bus undertakings and planning and development authorities to function from a common platform. The UTAs should translate into action policy guidelines stipulated by the NUTB as relevant to the area under its jurisdiction. On the basis of the set-up suggested by the Task Force on Mass Rapid Transport System for Delhi, it is recognised that the UTAs should have the following objectives and functions:

- (a) formulation and adoption of plans, policies and programmes for coordinated development of traffic, and transportation services and facilities, in conformity with the master plan for city and the projected requirements;
- (b) planning and coordination of existing and future mass transit services, including sub-urban rail services;
- (c) development, construction and operation of mass transit services, excluding suburban rail services;
- (d) planning and coordination of various private and intermediate modes of transport, with a view to integrating them with public transport services;
- (e) planning for integration of the transportation system of a city with the transportation system of the region in general and with that of the metropolitan area towns and the priority towns in the region in particular;
- (f) laying down, from time to time, a rational and integrated pricing policy and fare structure for different transport services operated by different bodies under their control;
- (g) planning and development of transport systems, keeping in view environmental and aesthetic considerations;
- (h) promoting research and development with a view to improving the efficiency of transport services;
- (i) monitoring the implementation of transportation plans formulated by the Authority;
- (j) allocation of resources and responsibilities to different bodies under its control;
- (k) levying tolls, fees and charges;
- (l) making efficient arrangements for smooth and speedy interface between one mode of transport and another;
- (m) Coordination with different organisations related to transport, such as traffic police, transport directorate, etc.

The UTAs would have to be clothed with the requisite power and authority to enable them to play their assigned role effectively. They would have to be given a statutory basis with authority, powers, and funds. They would be set up under a state act. Unless UTAs are given strength and empowered to undertake the major responsibilities of planning, coordination and generating funds and implementing transportation projects, nothing will ever be realised. It must be appreciated that the UTAs should have the requisite expertise.

**13.4.11** Composition of the Urban Transportation Authority : In order to ensure that effective and need-based urban transportation system programmes are launched, implemented and monitored on a continuous basis, it is essential that the UTAs comprise representatives at the highest level from the Ministries of Urban Development, Surface Transport, Railways, Environment and Energy; regional and urban development authorities, local bodies, state transport directorates, police, local administration and professionals from the government as well as the private sector. The composition of an 'Authority' should be determined as follows:

\* Number of members: N (odd)

\* Number of non-professional members:  $\frac{N+1}{2}$

\* Number of professional members:  $\frac{N-1}{2}$

**13.4.12** The Executive Committee of a UTA should be headed by the Chief Executive (an eminent professional or technocrat), and consist of officials from the UTA, the development authority, railways, electric supply undertakings, bus undertakings, police, transport directorate and professionals from the UTA. The composition of the Executive Committee should be determined on the same lines as that of the UTA. The UTA would have powers to establish departments, initiate, execute and monitor projects, levy transport rates and raise finance. It will have powers to make rules and regulations. Other modus operandi are to be detailed according to local needs and problems. It would be structured on the pattern of an urban development authority. To be effective, a UTA should be staffed with adequately-trained and experienced urban transportation planners, transportation engineers, economists and other expert and support staff. Such personnel are available within the country.

**13.4.13** City Traffic Management: Functionally, an efficient traffic system is determined by a well-laid transportation system/road network, vehicles and road-users. The overall traffic system in a given set of conditions is, therefore, influenced by a legal and enforcement framework.

**13.4.14** In respect of road networks, there is a need to organise an institutional framework to achieve consistency in road furniture and geometry, and management aspects conforming to stipulated standards or norms. Special attention is needed in areas like road-cutting, lighting, pedestrian and cycle facilities, signs and markings, roadside advertisements, street-naming and building-numbering, location of bus stops and, above all, encroachments. In respect of vehicles, adequate attention has to be paid to ensuring that they are

roadworthy and that emissions from vehicles are within the acceptable range of norms set for the purpose.

**13.4.15** Given an efficient road network and a vehicle fleet satisfying the stipulated fitness norms, a smooth and safe traffic system will be ensured, provided road-users are trained and disciplined and observe the rules. This necessitates that special attention be paid to training of drivers in respect of their physiological and psychological responses and to developing road discipline among them. Even pedestrians have to be trained to use road facilities properly and observe road discipline.

**13.4.16** In order to educate road-users, the mass media, inter alia television and radio, have to be used effectively to put across to them the importance of discipline on and around the road. No doubt, road safety weeks are organised periodically, but there is a need to inculcate a sense of community resistibility. Road safety education must be imparted to children as part of their curriculum. Many drivers indulge in rash and negligent driving and are not acquainted with driving behaviour norms concerning lane-switching, yielding right of way and displaying simple road courtesies. Therefore, a system of control over driving schools must be introduced. Traffic police must be imparted purpose-oriented training in traffic management. As a matter of fact, traffic police must be separated from the mainstream force and a full-fledged traffic police department must be set up in mega-cities. The public transport authority and intermediate paratransit manpower must be imparted intensive training before confronting road, vehicles and road users. The need, in a nutshell is to build a road-user character. Concurrently it must be appreciated that the road network and transport facilities do not satisfy the road user's requirements. For instance, why don't people stand in queues at bus stops? Why can't experienced bus-drivers stop at stipulated place? Why do

pedestrians stay away from zebra crossings or grade-separated facilities? How are licenses issued to drivers who do not display road sense? These are some basic questions and a focused drive is required to discipline road traffic. A major lacuna in the management and regulation of urban transportation modes relates to enforcement and education. While enforcement is effected by traffic police drawn from the general ranks of the state police force, it has been seen that placement in the traffic department is not welcomed by police personnel. Driving licenses and vehicle fitness approvals are issued by transport directorates who have their own inspectors. Driving schools are generally located in large cities. There is a need to reorganise all these activities, preferably as one distinct wing of the Urban Transport Authority. This wing, namely the City Traffic Wing, should look into all problems of road users and their requirements.

### **Training, Research and Development**

**13.4.17** There are in the country training facilities which focus primarily on post-graduate transportation planning degrees. With some additional inputs, education and training programmes can also be organised on transportation systems management accordingly, adequate graduate and under-graduate level training programmes have to be introduced with immediate effect, preferably in the existing institutes and polytechnics, to meet manpower requirements.

**13.4.18** Current teaching methods, aids and materials rely heavily on imported ideas and philosophies. A change is needed on a priority basis in the direction of methods and materials to suit Indian conditions. Considerable research in the field is promoted by the Ministry of Transport and other Government agencies. However, there is need to give adequate attention to the practical values of indigenous R & D programmes. This can be promoted by the NUTB with the involvement of existing educational as well as

consultative organisations to cover a wide spectrum of problems. At the national level, objective and continuing urban transportation research covering all mega and large cities, with emphasis on short-range and medium-range strategies should be initiated. This programme may be devised and monitored by the NUTB to start with and later by state and urban authorities. There is also a need to develop simplified models for planning of transportation systems in medium and small-sized urban centres. These programmes could be initiated by the state authorities, following the framework developed by the NUTB. Tentatively, a reasonable provision should be earmarked by MOUD for research and development work on urban transportation.

### **National Institute for Urban Transportation Studies**

**13.4.19** A National Institute for Urban Transportation Studies (NIUTS) should be established to train professionals in formulation and successful implementation of urban transportation plans. Although there is a large number of institutes and colleges in the country, one on the pattern of the Staff College for Railways, to train urban transportation planners, will greatly aid in developing high-quality professionals. This institute would impart intensive training to engineers and planners on relevant methods of transport design, planning and management. This institute would supplement the research work carried out presently by the Central Road Research Institute and the Central Institute for Road Transport. This NIUTs should prepare norms and standards, test alternative traffic engineering and traffic management designs and techniques. It should organise funds and carry out research in traffic engineering design, traffic impact assessment and develop a data bank on urban transportation.

### **Codes of Practice**

**13.4.20** There is need to develop codes of practice to ensure high quality detailing of transportation



schemes. The Indian Road Congress has published several codes, and these may be studied from the urban planning and management viewpoints. The NUTB, through the NIUTS and its R & D wing, should also launch on preparation of codes of practice. An integrated land-use-transport planning approach should be kept in view while detailing manuals and codes. Specifically, emphasis should be laid on traffic-impact assessment, traffic design, site development, transport systems management, and traffic problems and management in old parts of cities and historic areas.

### **13.5 Recommendations**

**13.5.1** Notwithstanding the prevalent trends and lackadaisical attitude discernible in planning and development of urban transportation, the Commission emphasises that flexible and progressive targets to cover aggregate transportation influence zones must be set for phased implementation for attainment of the single, most significant objective of mass transportation at reasonable cost. From all angles, planning and investment in urban mass transportation is a matter of prime consideration in all urban centres. Keeping this objective in view, the benefits of improved urban environment, efficient form and structure, energy economy, and equity must be realised.

**13.5.2** The Commission notes, therefore, that urban transportation is the most important single component instrumental in shaping urban development and urban living. The Commission recognises that urban transportation systems can be developed optimally only when transport and land-use planning are related in a rational manner and appropriate emphasis is placed on medium and short-range solutions, while long-term solutions are also being implemented. It is the considered view of the Commission that urban transportation can be made effective only when

there is institutional backing within an appropriate policy framework and funding mechanism. Specifically, the Commission makes the recommendations set out below.

**13.5.3** In view of the contribution of the urban areas to the national GDP; and the intense generative and absorptive capacity of mega and large cities, it is essential that urban transportation problems are considered in the regional context. It is recommended that centripetal movement to CBDs of large cities must be de-emphasised and this can be done by putting into practice the concept of polynodal and multinuclear forms of development. Emphasis should be placed on centrifugal movement patterns by developing regional services and adopting appropriate land-use planning strategies.

**13.5.4** Admittedly, comprehensive traffic and transportation plans have made no impact and not much attention has been given to the orderly development of transportation land-uses. In order to optimise demand, it is recommended that steps should be taken to devise efficient urban transportation integrally with the land-use plan.

**13.5.5** Since the journey to work and back accounts for more than 50 per cent of trips, the demand for transport can be reduced substantially by locating work-places in the proximity of residential areas. It is recommended that multi-purpose centres with commercial, cultural and business uses should be developed, specially in urban extensions or new developments. Wholesale markets and other traffic-intensive uses should be developed in the periphery of urban areas to ensure separation of through traffic and distribution of commodities by smaller vehicles. Multinuclear urban forms should be evolved to ensure efficient use of arterial roads by optimal traffic distribution. The potential of transport facility to promote the growth of urban areas in the desired direction should be utilised optimally.

**13.5.6** Encroachment: It is recommended that encroachments of public right-of-way or pedestrian paths should be heavily penalized on a recurring basis in proportion to the market rental value. Stringent action should be taken against any violations or change in land-use.

**13.5.7** All urban areas have transportation resources like road and railway networks. It is recommended that plans should be formulated to utilise these transportation resources optimally by adopting sound land-use and appropriate restructuring policies. For example, the Ring Railway in Delhi Urban Area has a potential of generating floor space for over one million workers through development of vacant pockets adjacent to the Ring Railway and permitting air rights developments. Thus, many of the transport problems of Delhi's Urban Area can be solved if the transport resource provided by the Ring Railway and SPURs is optimally used.

**13.5.8** Trade and commerce and other activities thrive in urban areas as accessibility to the location of such activities is high. And accessibility is high because certain investments have been made by local bodies. Accordingly, it is recommended that the beneficiaries should pay for deriving benefits of accessibility.

**13.5.9** A proposed new development or change in land-use or intensification of building intensity should be preconditioned by traffic impact assessment studies. It is recommended that development intensities should be formulated on the basis of potential capacity of adjacent transportation networks to ensure that congested conditions are not generated.

**13.5.10** While long-term transport projects which are capital intensive are taken up in mega-cities and metropolitan areas, the importance of medium-and short-range remedial measures should be recognised. In the long-range, alternative modes of transport should be considered.

The suggestions made by the Study Group on Alternative Systems of Urban Transport which include options like a standard bus, urban bus, bus-ways and tracked medium-capacity systems, should be implemented. It is also suggested that the city-within-city approach should be adopted in Indian cities, and to the extent possible, a viable balance should be struck between long-term options and medium-and short-range options. It is also recommended that advance reservation for transport corridors should be made in urban centres.

**13.5.11** Recognising the importance of mass transportation, it is recommended that urban road networks should be developed as integral parts of balanced urban mass transportation systems. Efforts should be directed at ensuring mobility of urban masses by bringing about a viable balance between prospective demand and potential supply capabilities.

**13.5.12** It is recommended that long-term and capital-intensive plans should give way, to the extent possible, to low-cost transportation plans. Indigenous planning models which take into the account socio-economic conditions should be devised. In the medium and short-range, Transportation Systems Management (TSM) techniques offer low-cost solutions through optimal utilisation of urban transport plant capacity. The techniques recommended include:

- \* Preferential treatment to buses
- \* Restraining the use of personalised modes
- \* Using modes to their optimal carrying capacity
- \* Encouraging high-occupancy vehicles
- \* Putting a price on the use of personalised modes
- \* Introducing parking meters
- \* Improving cycle and pedestrian facilities

**13.5.13** It should be appreciated that the basic consideration in TSM schemes is to ensure maximum movement of people rather than of

vehicles. Therefore, a combination of the measures outlined and relevant in the context should be considered while devising TSM schemes. It is recommended that TSM plans should be prepared for zones of manageable size, usually defined by arterial roads, and these should be aggregated to cover the entire urban area. In large cities, bicycles should be confined to TSM zones and pedestrian facilities should be developed to match pedestrian volumes and needs.

**13.5.14** In order to conserve the character of shopping streets, it is recommended that through traffic should be restricted on them. The concept of pedestrian mall should be considered for application.

**13.5.15** It is noted that, in large cities, due to increased trip length, the provision of arterial cycle tracks is not a viable proposition. In cities of less than 5 lakh population, bicycle tracks should be planned.

**13.5.16** Though capital-intensive urban expressway projects benefit only a minority of car-owning population, generally belonging to the affluent class, it is recommended that such projects should be integrated with road-based, mass transport schemes. The cost of an urban expressway project should be recovered through toll charges on private modes. In mega-cities like Calcutta, Bombay and Delhi, such schemes can be justified.

**13.5.17** In view of the large proportion of pedestrian traffic in urban areas, it is recommended that exclusive pedestrian facilities should be developed in areas and roads carrying heavy pedestrian traffic. Subway construction should be made resource generative by provision of 'pay' public toilets and other remunerative uses. High-quality pedestrian pavements, ensuring uninterrupted pedestrian movement, should be provided.

**13.5.18** With a view to improving the urban environment, it is recommended that practical environmental measures be affected to reduce levels of atmospheric pollutants to permissible levels. In addition, environmental impact statements should be prepared as part of transportation studies.

**13.5.19** It is recommended that parking problems should be resolved by developing underground or multistory parking facilities. Parking adequacy studies must be made mandatory for all proposed developments, before planning of building permission is accorded, on the peripheral limits of CBDs, parking structures or lots should be developed. Such schemes should be linked with park-and-ride systems. The private sector should be encouraged to participate in such schemes.

**13.5.20** Parking standards for different uses in different locations should be evolved on the basis of the likely modal-split levels and traffic demand management.

**13.5.21** Any violations in the rules concerning provision of parking space or change of use should be heavily penalised on a recurring basis. The local bodies should prepare comprehensive parking plans and participate in development of terminal facilities. Parking meters should be installed in addition to adopting other management measures.

**13.5.22** While intermediate public transit modes should be used to full capacity, it is recommended that high-occupancy vehicles like mini-buses should be encouraged to provide and/or supplement public transit services. Seat-sharing taxis should be formalised to provide point-to-point services in selected areas. Private operators should be assigned routes to appropriately supplement public transport services. An appropriate balance between public and privately operated transit services under the total control of the proposed urban transportation authority should

be ensured. At interchange points or terminals, multi-purpose centres should be developed to optimise travel demand by encouraging multi-purpose trips and thus minimise travel demand.

**13.5.23** As private vehicles require a disproportionate amount of road space per passenger compared to other modes, the available road system is not efficiently utilised and private vehicles inflict heavy cost on other road users as well as non-road-users. It is recommended that the use of private vehicles should be priced in proportion to the benefit derived by their users.

**13.5.24** It is also recommended that a flat-fare system in small and medium-sized urban centres and a graded, telescopic fare in mega and large cities should be introduced to contain urban sprawl and optimise urban travel.

**13.5.25** Budget allocations from the central government constitute the most important source of funding for urban transportation projects. Highest priority must be assigned to development of urban mass transportation and this is possible only when adequate resources are made available not only to execute capital works but also to operate and maintain transport plant.

**13.5.26** It is recommended that a Central Urban Transportation Fund should be established to assist urban transportation authorities to prepare perspective, medium and short-range transportation plans. Such plans and project reports should be essential for sanction of central assistance, grants and loans. The central, state and local governments would participate in assistance programmes on matching basis.

**13.5.27** Long-term transport solutions are cost-intensive and finance is also required on a recurring basis to meet operation and maintenance costs. While loans can be raised at

soft interest rates through national and international agencies, appropriate measures should be indentified to pay back the borrowed money.

**13.5.28** The World Bank has suggested that transport improvements should be self-sustaining and the users of urban transport facilities should pay for the cost incurred. This is a very significant policy consideration and should receive attention from the. Concerned agencies.

**13.5.29** A major lacuna in the existing transportation planning process is that project financing is not a part of the planning process. It is recommended that a framework to raise the financial resources, mainly from the beneficiaries of the project, should be worked out as part of the plan.

**13.5.30** The Report of the Working Group on Transportation has noted that the capital cost of setting up the system, including the provision of rolling-stock, should be met entirely out of funds which do not have to bear any interest or divided liability. As the state and central governments may have to borrow from international agencies and pay a nominal interest charge, interest charges have to be considered as part of the costs.

**13.5.31** It is suggested that the operating costs of systems should be directly recovered from system users through recurring revenue which would include fares, advertisement revenue, rentals of shops and other commercial spaces.

**13.5.32** Capital costs can be recovered through:

- \* One-time betterment levy (graded levy depending upon distance from system) on property.
- \* Development of properties in the vicinity of station locations by private agencies and transportation authorities.
- \* Cess on business establishments.
- \* Transport cess levied on all properties.

- \* One-time levy on owners of personalised vehicles.
- \* Tax levied on private goods carriers.
- \* Contributions from public and private-sector employers.
- \* The central government's apportionment of revenue collected from sale of petroleum products.

**13.5.33** It is suggested that employers should play an active role in transport demand management and contribute to the development and operation of urban transportation projects. The concept of transport allowance should be reviewed in this regard and an objective contributory scheme should be installed.

**13.5.34** The failure to combine planning with implementation is a common complaint, especially in urban transportation projects. Multiplicity of agencies has complicated matters. An effective and dynamic set-up backed by a functional and practical land-use-transport strategy is essential to make a breakthrough in urban transportation. As also identified by the NTPC (1980), it is recommended that a three-tier structure should be established at national, state and urban levels.

**13.5.35** At the national level, a National Urban Transportation Board (NUTB) should be established. The NUTB would be responsible for framing policies, arranging funds, examining and processing transportation projects, and issuing guidelines from time to time. The NUTB should be part of the nodal agency — the Ministry of Urban Development (MOUD) — and work in close coordination with the proposed National Urbanisation Council (NUC). The NUTB should have zonal wings to help frame and monitor urban transportation projects, in addition to ensuring implementation of guidelines relating to perspective plans, in mega and large cities, and TSM schemes in all urban centres, including small and

medium-sized centres. The constitution of the Board may be based on the pattern of the Railway Board.

**13.5.36** It is recommended that every state should establish a separate nodal point for urban transportation matters in the state by creating a State Urban Transportation Authority (STA) as a wing under the State Department of Urban Development.

**13.5.37** The Urban Transportation Authority (UTA) should be established by an Act of the state. The UTA will be responsible for all matters related to planning, programming, coordination, city traffic management and other functions. The UTA should be given powers to establish departments, initiate, execute and monitor projects, levy transport rates and raise finance. The UTA should be structured on the pattern of an urban development authority. The Executive Committee of the UTA should be headed by an experienced professional or technocrat.

**13.5.38** Recognising the need for alleviating the evil of rash and negligent driving and educating road users, the media should be effectively utilised to acquaint them with their role and behavioural norms on roads. City traffic police should be given adequate training and a separate cadre of traffic police should be established, preferably as part of the City Traffic Management Wing of the UTA.

**13.5.39** Training facilities which focus primarily on post-graduate traffic and transportation planning degrees are available in our country. In addition, adequate graduate and under-graduate level training programmes should be introduced to meet manpower requirements. Attention should also be given to the practical value of indigenous R & D programmes. This task should be promoted by the NUTB by involving the existing educational, research and consultative organisations, to cover the wide spectrum of

problems. Manuals and codes relating to TSM and other relevant topics should also be prepared. It is recommended that a National Institute for Urban Transportation Studies should be established (on the pattern of the Staff College of the Railways) to train urban transportation planners, with the focus on developing professional, practical and project-Management capabilities.

#### 14. WATER AND SANITATION

##### 14.1 Water Supply

**14.1.1** The Seventh Plan document estimates that, by the end of the Sixth Plan, approximately 81 per cent of the urban population would have been covered by some form of protected water supply. The same document goes on to state that:

Although the average coverage in the country is above 81 per cent, it is below 50 per cent in certain states. The above figures also do not reflect properly either the inadequacy of the water supply or the deprivation of the urban poor. ... The high rate of incidence of death and disease in urban poor settlements can be attributed largely to the poor quality of water and sanitation facilities. (Seventh Five Year Plan, Volume II, Chapter 2, para 12.61).

**14.1.2** In the very next paragraph, the document states that only 33 per cent of the urban population would be covered by any form of sanitation by the end of the Sixth Plan. Whilst recognising the need to remedy this appalling situation, the Plan allocates only 1.6 per cent of the total outlay to urban water supply and sanitation, with no contribution being made by the central government. When we consider that in the Sixth Plan the shortfall of expenditure against the proposed plan outlay of As 1757.56 crores was over 20 per cent, with no weightage being given to price escalation, it brings home the low priority accorded to urban water supply and sanitation by the state governments and the zero priority assigned to them by the central government. The sheer helplessness of

the Planning Commission in this behalf is brought out in paragraph 12.60, Volume II of the Plan document, in the following words:

Although the constraint of resources still continues, it is felt that the needs of the towns with regard to water supply and sanitation facilities can no longer be ignored. Therefore, augmentation and improvement of water supply facilities in the urban areas, especially in medium and smaller towns, will also have to be attempted during the Seventh Plan to The extent possible.

Considering the allocation actually made, the extent possible has been minimal indeed.

**14.1.3** Statistics regarding coverage of the urban population by public water supply and systems of hygienic conservancy do not give the whole picture. The states of Haryana, Tamil Nadu, West Bengal, Uttar Pradesh, Karnataka, Rajasthan, Gujarat, and Madhya Pradesh have a generally below average supply of water to urban centres. In much of Tamil Nadu and in large parts of Andhra Pradesh, especially in large cities such as Madras and Hyderabad, the water sources are totally inadequate to meet the demands of even the domestic sector, with the result that there is very limited piped supply and substantial recourse to alternative sources on an individual or community basis. Even in the capital city of Delhi there have been major water constraints and in many of the suburbs the water supply is either inadequate or of very poor quality. In most of the older urban centres, the supply systems are well past their normal age-span and require major overhaul. In the document presented to the Commission by the Government of West Bengal, it has been clearly stated that almost the entire distribution system of Calcutta requires replacement. Distribution is so inadequate and inequitable that while, on the one hand, those who have storage facilities are able to corner a major chunk of the water supply, a large proportion of the city

population has to make do with public hydrants, intermittent piped supply or even drawal from non-municipal sources. More than the lack of water it is inequitable distribution which causes real problems.

**14.1.4** It is estimated that the average water supply to class I cities, including metropolitan cities, is 145 litres per capita per day. About 60 per cent of the urban population lives in Class I cities. Converting litres into cubic metres, the total supply of water to Class I cities may be estimated, very roughly, at 6351, say 6500 million cu.m. per annum. For the rest of urban India, while many of the smaller towns have no public water supply or a very rudimentary system, we could still assume an average per capita supply of 100 litres per day. This gives an additional supply of approximately 3000 million cu.m. of water per annum to the rest of urban India. One could, with a certain degree of exactitude, assume a current supply of approximately 9500 million cu.m. of water to all the urban settlements combined. This is based on a population figure of approximately 20 crores in 1988. The urban population is expected to increase by about 70 per cent by the year 2001, which means that the urban requirements at an average per capita supply of 145 litres per day in Class I cities and 100 litres per capita per day in the rest of the urban centres, would come to approximately 16,000 million cu.m. of water by 2001. If we are to maintain even the present totally unsatisfactory supply and enable the system to meet requirements at the present level, we would need an additional 6,500 million cu.m. of treated, piped water supply. The cost of creating storage, drawal of raw water, treatment and distribution is estimated, at current prices, at about Rs 30 crores per million cubic metres (Rs 3 lakhs per million litres). Even at current prices, and with no weightage for escalation, we would need to invest As 1.95 lakh crores in water supply alone by the year 2001. This calls for an annual

investment of As 15000 crores. The total outlay for urban water supply and sanitation in the Seventh Plan is only Rs 2935.64 crores, i.e., Rs 587.128 crores per annum. This represents less than 4 per cent of the required outlay. If we were to achieve a per capita level of approximately 300 litres per day, which is the norm which planner prescribe (for Delhi the per capita norm is 363 litres/day), we would need about 38,000 million cu.m. of water, or about 28,000 million cu.m. more than we are supplying today. The investment required then would be about As 8.5 lakh crores in the next 13 years.

**14.1.5** It is therefore absurd for us to even hypothesise a situation in which the urban population would be covered, in the foreseeable future, by a piped water supply system which equitably delivers at least the minimum water requirement to city dwellers. Therefore, the Commission has attempted a review of the norms of supply and has tried to see whether new norms cannot be evolved. The table below makes some suggestions in this direction:

**Table 1. Norms for use of Water**

Purpose	Absolute minimum	Desirable LPCD
(1)	(2)	(3)
Cooking and drinking	10	15
Bathing, flushing, etc.	30	40
Washing utensils and clothes	30	35
Total	70	90

LPCD: Litres per Capita Per Day.

**14.1.6** Even in the worst of drought conditions and even in the poorest colonies it is imperative that at least 70 litres of water be delivered per capita per day so that human life can be sustained at a minimum standard of hygiene. The commission has noted with concern that despite the postulation of a per capita supply of 323 litres per

day in Delhi, with 225 litres per capita being earmarked for daily domestic supply, with no residential area getting less than 135 litres per head each day, large areas are left virtually uncovered by any form of acceptable water supply and this has led to a serious epidemic of cholera and other gastroenteric diseases. Had equity been ensured in Delhi and if, instead of aiming at impossibly high levels of supply, at least a minimum supply, combined with some attention to hygiene, had been maintained, there would have been no epidemic.

**14.1.7** In addition of domestic supply, the Commission estimates an additional 25 to 30 per cent of water for such non-domestic purposes as industrial consumption, fire protection, gardening, etc. This means that, under conditions of minimum supply, provided distribution is equitable, a total per capita supply of between 90 and 100 litres per day should suffice for all the city requirements. A slightly more desirable scenario demands between 110 and 120 litres per head per day. The Commission recommends that, taking into account the resource constraints, these are the new norms which should be prescribed. This, however, would be subject to overhaul of the distribution systems in such a way that even the poorest colony is ensured at least 70 litres of supply per head per day on a regular basis.

**14.1.8** In order to achieve equity in distribution it would be necessary to create storage in those areas where, at present, the supply system fails to deliver an adequate quantity of water at the level of the individual or household, because supply is intermittent and during the period of supply the households are unable to store their full requirement. In such areas it may be necessary to build community-level reservoirs which may be periodically charged and from which more frequent supply may be arranged so that, during the

course of the day, several opportunities are available to poor households to fill their water containers. This system has, for example, been tried with some success in the bustees of Calcutta and in the poorer areas of cities such as Bhopal and Indore. The programme for improvement of the distribution system on these lines could form a part of the Minimum Needs Programme and could be funded substantially by the Central Government on a cost-sharing basis. In fact, the resource situation itself would considerably improve if an offer of participative financing is made to local bodies which themselves invest in improving the distribution system as suggested above.

**14.1.9** While the distribution system has to be suitably altered to bring about more equitably distributed supply, there has also to be an effort to reduce leakages. Our supply systems, because of age and lack of maintenance, leak like sieves and there is a line loss of approximately 30 per cent. If the distribution system is suitably repaired the line loss could be substantially reduced, this would both increase the water availability and prevent contamination through leaking joints. The Eighth Finance Commission, through a study conducted by the National Institute of Urban Affairs, estimated that the local bodies needed an additional Rs 800 crores per year at 1979/80 prices, to maintain services at the then existing levels. Most of this investment was needed for maintaining the water supply system. By now this requirement would have doubled. If the Ninth Finance Commission could be persuaded to recommend an additionality of Rs 1000 crores per year, to be given directly to the local bodies for use exclusively for the maintenance of water supply system, there would be a dramatic improvement in the supply situation. For example, one estimate is that, in the city of Baroda, a marginal investment in improving the supply



system would obviate the need to augment the supply till the turn of the century. The Commission strongly recommends such assistance to local bodies as a low-cost solution to water supply problems in the immediate future.

**14.1.10** What is needed is protected, safe water supply rather than just conventional, piped supply from a centralised mains System. Many outlying colonies and new developments do in fact have their own supply Systems, withdrawal of water being either on a house- hold basis from individual dug wells or shallow tube wells, or from a community-level System, again based on percolation or ground-water sourced. The advantage of such localised systems is that the cost is not borne by the local body or government but by individual households or groups of households. The disadvantage is that, in the absence of adequate sanitation, especially in the disposal of waste water, these sources are liable to pollution and can create a health hazard. The Commission feels that, while localised systems with private initiative must be encouraged as a possible alternative to mains supply wherever this is possible, the local bodies must be helped to develop a capacity to inspect and monitor such sources, ensure that the water drawn from them is potable, and take suitable counter measures to contain pollution and maintain water quality. The system of monitoring has to be fool-proof. It would be useful if we could legislate for state ownership of all surface and ground-water, with a system of licensing of drawal, both in order to monitor quality and protect the water table from over-exploitation.

**14.1.11** Instead of constantly looking for new and distant sources of water supply, the local bodies should be assisted in water harvesting. This means that the development of water bodies within city areas, which either feed reservoirs or

permit groundwater re-charge, should be encouraged. For this purpose, some State assistance could be extended by way of incentive.

**14.1.12** Town planning and the preparation of layouts are exercises in land-use, with almost no attention being paid to services. The Commission feels that if the services plan is correlated with the layout plan, it should be possible to ensure the maximum economy in the provision of water supply and sewerage systems in new colonies. In other words, the town planner and the environmental engineer need to be brought closer together so that individual layouts ensure economy of water use.

## **14.2 Sanitation**

**14.2.1** Approximately 80 per cent of all water, supplied for city use passes through the system as sewage, sullage or industrial effluents. By and large the waste water is left untreated and either sinks into the ground as a potential pollutant of ground-water, or is discharged into the natural drainage system, causing pollution downstream from the point of discharge. By the year 2001 it is estimated that Delhi alone will be discharging about 4100 million litres of sewage per day, as against a water supply of approximately 5100 million litres. Similar proportions of sewage discharge to water supply would exist in all major urban centres. At present, there is very little use made of the discharged waste water, which means that, to meet the water requirements, huge quantities of raw water have to be drawn every day. The Commission has noted that, increasingly, in major cities in the developed countries, waste water is being recycled for various uses. Lyons in France, Chicago in the United States, and Munich in West Germany, are examples of cities where there is massive recycling of waste water. Even in Bombay, at individual industry

level, the industrial effluent is passed through a treatment system and then reused for industrial processes. In many cities in India, sewage very often untreated, is used for agriculture and vegetable cultivation. This is also a form of recycling. The Commission strongly recommends that those cities which generate substantial quantities of sewage and sullage should be encouraged to treat and re-use the waste water. This could be done in a number of ways:

- (a) Where agricultural lands are available on the city periphery, waste water could be used, after primary treatment, for irrigation. The Commission has noted that in Kamal waste water is being extensively reutilised for tree farming; in which the trees themselves act as biological purification system.
- (b) Where adequate land space is available the water could be passed into oxidation ponds and holding tanks which contain vegetation, such as water hyacinth, which biologically treats water and removes pollutants. The biomass could subsequently be used as fodder, mulch, or even as feedstock for biogas production. The treated water could then be used for gardening or even for ground-water recharge. The soil would act as a filter.
- (c) The waste water could be passed through a treatment system in which by primary, secondary and tertiary processes, the water could be rendered totally pollution free. Such treatment yields combustible gas which can be used to generate power or for domestic cooking sullage which can be used as manure and water which, though of potable quality, is generally used for supply to industry.

**14.2.2** In those cities which have a mains sewerage system such treatment can yield almost all the water needed for non-domestic use. To the extent that treated water is utilised in this manner, the need to draw fresh raw water is reduced. The Commission feels that in the case of those cities where new water sources would have to be sought, reservoirs created, water transported over long distances and then subsequently treated, the cost of treating waste water and its recycling for non-domestic purposes could be substantially less than the cost of storing, transporting and treating raw water. Professor S.J. Arceivala has estimated that the cost of treating waste water up to and including the tertiary level would be at least a third cheaper than the use of fresh water after treatment. His findings have not so far been questioned.

**14.2.3** The Commission recommends that, commencing from the Eighth Plan, there should be a major thrust towards recycling of water. To the extent it is made mandatory for industry to recycle its own waste, the pressure on the exchequer would be reduced. The Commission also feels that the by-products of treatment would be saleable commodities and the revenues generated from their sale, as also the rates charged on the supply of treated water, would enable the system to pay for itself within a reasonable period. In this connection the Commission feels that government should set up a technology mission to deal exclusively with waste-water recycling.

**14.2.4** Our systems of sanitation and hygiene leave much to be desired. As already stated, the Planning Commission places coverage by a sewerage system at 33 per cent of the total urban population. If this is disaggregated on the basis of income and town size, it would be found that, while the upper income groups have a 100 per cent coverage, the urban poor may have little or

no coverage at all. Most of the small and medium towns have no sewerage system. If the water supply system is unequal and unjust, being highly biased in favour of the rich, the sewerage system is even more unjust and even more highly biased in favour of the rich. The Commission has not even attempted to estimate the cost of extending sewerage to the entire urban population. Clearly it is beyond the capacity of this country to provide mains sewerage to all its citizens within the foreseeable future. There is no need to be ashamed of this fact. As late as 1985, Tokyo was not fully sewered and Nagoya was only 58 per cent sewered. It is only now that Japan is gradually moving towards extension of mains sewerage to all urban centres, but even that very affluent country is still substantially short of the target. However, Japan did develop alternative systems, including storage of night-soil temporarily in household cisterns and its removal by municipal vans equipped with vacuum suction systems. Modern Japan does not have a system of hand collection of night-soil in its urban centres. In India also a number of alternatives to the mains sewerage system do exist.

**14.2.5** The two-pit latrine system known as the Sulabh system is one of the available alternatives. It is operating reasonably satisfactorily even in such crowded cities as Calcutta and Patna. Community or colony level treatment systems, primarily depending on oxidation ditches, are the mainstay of new developments, even by housing boards and development authorities, throughout the country. Individual septic tanks are also extensively used. The Capital cost of such systems is charged on the land itself and paid for by the individual households. Because the treatment is of a primary nature only and the quality of the effluent is unsatisfactory, treatment based on septic tanks has tended to be unsatisfactory. Where a mains sewerage system cannot be

afforded it would be better to localise treatment at community level in preference to individual septic tanks, with the treated effluent being used under controlled condition for gardening, horticulture, fish rearing, etc. The Commission recommends that the proposed technology mission on recycling of waste water should also look at the various systems of sanitation and help government to move rapidly towards coverage of the entire urban population by a sanitary system of human waste disposal.

**14.2.6** There is a substantial generation of solid waste in all human settlements. It is estimated that a little over a quarter kilogram of solid waste is generated per capita in the urban centres. Because there is a ready market for junk, all waste which can be sold is either separated by the householders for sale to junk dealers, or is collected from municipal garbage bins by rag pickers. Therefore, a very significant percentage of the refuse is compostable.

**14.2.7** The present system is for garbage to be dumped, either in bins supplied by the municipality at vantage points or by tipping on to common land, road kerbs, etc. With the conservancy services being insufficient in most Indian cities, the refuse tends to be unattended for long periods. This leads to Putrefaction, the creation of unhygienic conditions, breeding of flies and spreading of disease. The transportation of garbage to municipal dumps is a costly proposition, sometimes running as high as 70 per cent of the total cost of refuse handling. Therefore, most municipalities are ill-equipped to transport waste. Garbage is either removed, especially in smaller towns, to trenching grounds for conversion to compost, or is used as sanitary land-fill.

**14.2.8** Garbage is wealth and if its true economy is understood it would become both easy of management and profitable. For this purpose it is necessary, right down to individual household level, to educate householders on how to dispose of garbage. In most developing countries garbage is placed in disposable bags and then into community bins. These are then loaded mechanically into compactors, which both compact and transport the waste to dumping grounds. If the waste is largely organic it can be digested for conversion to bio-gas, with the residue being incinerated, thus releasing more thermal energy. In India also, it is possible to persuade households to place garbage in designated places and in disposable bags. For this purpose it would, of course, be necessary to have a sufficiency of garbage bins, properly placed. Mechanical handling of the bins must be encouraged and for this loan assistance should be extended to local bodies for upgradation of equipment. Almost all garbage in India being compostable, its digestion and conversion to usable gas and other combustible material, as also manure, is both feasible and easy. Sanitary land-fill should be resorted to only when these methods are not found viable, though the smaller municipalities could be encouraged to continue with scientific trenching and composting. Because garbage can yield revenue by way of gas and compost, it should even be possible to privatise garbage collection and conversion to useful by-products. In other words, instead of the

municipality spending money on garbage disposal it may even be able to earn money through privatisation, whilst ensuring better city cleanliness, because the private operator would naturally like to leave no useful garbage uncollected. This is another area in which the proposed technology mission could take the initiative.

### **14.3 Tariffs**

**14.3.1** In order to encourage water conservation and economy in the use of water, as also better sanitation, the system of taxes and tariffs has a role to play. There is no reason why people who use more than the average quantity of water should not pay for it. In other words, a differential tariff may be imposed on water use, in which per capita consumption up to 100 litres per day may be charged at a fairly low rate, but with sharp escalation of charges in slabs of 100 litres per capita per day in excess of the minimum consumption level. This would both encourage economy in water use and yield additional revenue to the municipality from the more affluent people who are heavy water-users. There should also be a substantial conservancy charge on households which use the mains sewerage system, with a differential tariff applying on the basis of water used and the waste water generated. This would encourage householders with several bathrooms to conserve water and resort to more economical flushing systems, whilst at the same time yielding additional revenue to the local body.

## 14.4 Pollution

**14.4.1** Our urban centres are the greatest generators of air, water and soil pollution. To this may be added, noise pollution. The Environmental (protection) Act, 1986, the Water (prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981, are the three main pieces of legislation which provide for environmental protection. These have all remained paper tigers both because the rules under the Environmental Protection Act have not yet been finalised and because the machinery for enforcement is weak. The maximum pollution is caused by human sewage and household garbage. These are bio-degradable and there is no reason why pollution from these sources cannot be prevented. Pollution by industry is another matter. The argument advanced is that if industry is strictly policed in the matter of pollution, most of the industries would shut down and there would be widespread unemployment. This argument is as specious as one which might advocate leniency towards thieves because, in the absence of theft, the thieves would be poor. Polluting industries can neither be allowed to pose a health hazard, nor be allowed to shut down. What they must be forced to do is to take measures to eliminate pollution. This is a question of political will and the Commission has no hesitation in stating that leniency towards the polluters would be an atrocity committed against the average citizen. A democratic government cannot perpetuate atrocities. Therefore, there can be no compromise in the matter of pollution control. This applies equally to air and water pollution.

**14.4.2** Public and private transport, because of the inefficiency of the internal combustion engine which is the prime mover of our road transport, is a major contributor to air pollution in our cities. Emission control is possible with relatively simple changes in engine design and the use of devices which cut down on gaseous and particulate emissions from automobile engines.

Since it is the relatively well-to-do who maintain motor vehicles, both two-wheeled and four-wheeled, there should be no qualms in enforcing engine emission standards in the case of automobiles. This is one area where strict enforcement can yield quick results. The Commission recommends such enforcement.

**14.4.3** There is a great deal of noise pollution in Indian cities on account of inadequately silenced vehicle engines and amplified audio-transmissions from restaurants, shops, households, etc., and also the use of amplifiers and loud-speakers for religious functions, social gatherings and other forms of public assembly. Social intercourse and religious discourses are personal matters and should remain so. There should be stringent laws prohibiting and punishing sound amplification which creates a public nuisance, with a total ban on the use of loudspeakers. This, naturally, would not apply to public assembly in exercise of the rights under Article 19 of the Constitution, but this would be subject to regulation so that no public nuisance is created. The harmful effect of noise pollution, especially on the human mind, is no less serious than pollution of the air that we breathe or the water that we drink.

**14.4.4** Before ending this chapter, the Commission would like to stress again that water is so vital to human life, that the priority assigned to it cannot be compartmentalised. Irrigation and connected activities receive about 9.5 per cent of Seventh Plan outlay, with the figure being as high as 40 per cent or more in some states. Water for industry is as productive as water for agriculture. Water for drinking is as precious, in fact more precious than water for irrigation. Sanitation and pollution control are as important to healthy living as the provision of food or extension of medical facilities. The Commission, therefore, recommends that water be viewed holistically and given a common high priority. Similarly, nutrition, health, sanitation and prevention of pollution

must be viewed as a single whole so that a common priority can be assigned to them in the Plan. This would go a long way in ensuring that human settlements in India are adequately serviced in these areas, without which life itself is degraded and even threatened.

#### **14.5 Recommendations**

**14.5.1** Even at the present rate of per capita daily supply, on an average, of 145 litres in Class 1 cities and 100 litres in other urban centres, we would need an additional 6500 million cu.m. of water supply by 2001. On a more desirable level, we would need another 28,000 million cu.m. The cost would be about As 1.95 lakh crores and Rs. 8.5 lakh crores respectively. This level of investment is beyond the realm of possibility.

**14.5.2** New norms have to be devised with a per capita daily supply of between 90 and 100 litres on an absolutely minimum level and between 110 and 120 litres on a slightly more desirable level. "This is possible only if a minimum per capita daily supply of 70 litres for domestic use is ensured on an equitable basis.

**14.5.3** To ensure equity, in the poorer areas, where adequate household storage is not possible, community storage tanks should be built so that frequent recharge and supply can ensure more frequent drawal by the poor. For this purpose, necessary assistance must be extended to local bodies.

**14.5.4** Line leakages and the inefficiency of supply systems must be remedied. For this purpose, the Ninth Finance Commission should be requested to recommend an additionality of Rs. 1000 crores per year, to be passed on to local bodies, for maintenance of the water supply system.

**14.5.5** Private and community initiative in developing household or colony-wide systems, with drawal from dug wells, should be encouraged.

**14.5.6** In order to prevent overdrawal and lowering of the water table, all surface and ground sources should be nationalised and private drawal be licensed as per plan.

**14.5.7** In order to prevent the use of contaminated water, the capacity of local bodies to monitor water quality, especially of water drawn from private sources, must be enhanced and, if need be, assistance must be given for this.

**14.5.8** Local bodies should be encouraged to go in for water harvesting by building water bodies which can feed reservoirs or permit ground-water recharge.

**14.5.9** Greater coordination must be ensured between town planners and environmental engineers so that layouts ensure the greater economy in water use and the cost of the service infrastructure is reduced.

**14.5.10** Use of sewage and sullage, after treatment, must be encouraged. It could be used for irrigation or, after full treatment, for other non-domestic use. Recycling of waste water, even up to the tertiary level, is at least a third less costly than drawing and treating raw water.

**14.5.11** The byproducts of treatment — gas, manure and treated liquid should be sold commercially. This will make the treatment system self-sufficient.

**14.5.12** The extension of a sewerage system to cover all urban areas is clearly beyond our means. There are cheaper alternatives for human waste disposal available. The Commission recommends the setting up of a technology mission to look at waste-water recycling and human-waste

disposal, with a view to evolving affordable alternatives which can provide universal sanitation coverage in the near future.

**14.5.13** Even garbage can be wealth. Most Indian garbage is biodegradable. The Commission suggests that education of the people in garbage disposal, help to local bodies in upgradation of equipment for collection, compaction and transporting of garbage, its digestion and conversion to gas, manure and thermal energy, and their commercial sale, must be actively encouraged. Privatisation of garbage collection and disposal, provided it is scientifically done, may also be considered.

**14.5.14** A differential system of rates and tariffs, which charges more from users who are affluent and use more than the average quantity of water and impose a heavier load on the sewerage system, would both reduce waste in water use and yield more revenues to the local bodies. The Commission recommends such a system.

**14.5.15** The laws relating to pollution control must be strictly enforced. There can be no compromise or leniency in this matter.

**14.5.16** Vehicle engines must be made more efficient and there should be strict emission control.

**14.5.17** Noise pollution, especially by sound amplification, must be drastically controlled. The use of loudspeakers for private, religious, social, open-air entertainment or similar other purpose should be banned.

**14.5.18** Water must be viewed holistically and all water use should be brought under one planning umbrella and assigned a common, high priority.

**14.5.19** Sanitation, pollution control, medical coverage and nutrition must be similarly viewed as one whole and given a common priority.

## 15 ENERGY

**15.0.1** In the context of economic development, it is recognised that urbanisation is not only inevitable, but also desirable. Energy as an essential input in urban development is acquiring critical dimensions. Unless adequate measures are taken in advance to enhance energy supply and optimise its use, the shortage may constrain urban development. Policies and strategies related to the planning, design, construction and use of urban settlements influence, directly or indirectly, the consumption of energy. Conversely, policies relating to energy development and pricing has its impact on the urbanisation process.

**15.0.2** While there are many potential areas of conflict, there is also evidence that urban planning objectives and energy conservation objectives are often compatible. It is necessary to understand the linkages between urbanisation and energy and to plan urban development policies and energy policies in conjunction with each other, within the framework of national economic and social development.

**15.0.3** Unfortunately, in the past, such integrated planning has not taken place. Energy has been merely regarded as a utility that could be left to technical experts to arrange. The impact of the urbanisation process on the quantity and types of energy sources demands has not been evaluated by energy planners, leading to the present situation of shortages and the need for crisis management. Urban planners and architects, on the other hand, have not considered energy as a factor in their planning and design process.

**15.0.4** In this chapter we examine how energy and urban development policies could be made to support and reinforce each other. We examine this in the context of each major energy using Sector in urban areas ^W industry, transport, commerce and household. The broad objectives that must be kept in mind are:

- \* to promote the form and pattern of urbanisation recommended in this report;
- \* to strive towards optimal use of energy;
- \* to encourage the use of renewable energy sources and recycling of wastes;
- \* to protect the interests of the urban poor.

## 15.1 Energy in Industry

**15.1.1** The main thrust of the Commission is that urbanisation should become an engine of development. Certain urban areas have been identified as potential growth centres, where employment opportunities will be created by the setting up of appropriate industries and providing the necessary infrastructure. At the same time, the growth of already congested cities is sought to be slowed down. The Commission feels that energy-supply planning and pricing can be employed as an important policy tool to promote the urbanisation pattern recommended in this report.

**15.1.2** Energy is the prime mover for industry and therefore it is not surprising that industries get attracted to those areas where there is assured and continuous power supply. Delhi, for example, is attracting industry, because of the more assured supply there as compared to the adjoining smaller towns. The Industrial growth in Bangalore was accelerated primarily because the Karnataka government promised assured power supply as one of the incentives to attract industry to that area. On the other hand, the severe power crisis in Calcutta has effectively put a brake to the industrialisation process in that region.

**15.1.3** Energy-supply planning can thus be used as a powerful tool to direct industrial development towards those centres where we would like to encourage urban growth. Having identified the growth centres, an energy supply plan will have to be drawn up for each centre. Sufficient investments will have to be made well in advance for building up the required energy-supply

infrastructure to ensure that energy, particularly power, is made available to the industries that would need to be set up in these centres.

**15.1.4** This should be accompanied by a gradual tapering off, or, freezing of supplies to existing electricity connections, barring of new connections, or barring increase in the capacity of existing connections for industries in those urban areas which are already congested and where a slowing-down of urban growth is desirable.

**15.1.5** Energy pricing can also be employed effectively to influence the pattern of urban growth. Presently, most electricity boards have tariff structures which are differentiated only by sector and not spatially. All industries in a state pay the same rate for electricity, irrespective of where they are located. There is, no reason why this should be so. If the objective is to attract new industries into urban area A and to decongest urban area B, then the electricity rate for new industries seeking a connection in area B could be made prohibitively higher (say twice) than the tariff offered in area A. The differential in tariff should be worked out such that there is a definite encouragement for industry to move to area A and a stiff deterrent to any new industry to set up in area B. The present surcharges that are imposed on industries in some metropolitan cities have not been stiff enough to achieve the objective of decongestion.

**15.1.6** The Commission recognises that, electricity being a state subject, policy decisions in regard to its supply and pricing will have to be taken by each state government. A decision in this regard by one state may well be in conflict with the policy decisions of other states and may not be compatible with the direction of urban change sought to be achieved. However, the Commission would like to emphasise the importance of electricity tariff being used as a policy tool for directing urban growth. These issues would be discussed at the National Urbanisation Council



and the consensus arrived at so that the states work towards a common objective and not at cross-purposes.

**15.1.7** In deciding on the type of industrial development that should be encouraged in these urban areas, considerations of the energy input into the industries should be an important factor. The choice should invariably be for 'energy-efficient' and less energy-intensive industries. The objective should be to maximise employment and minimise energy input per worker employed in the industry.

**15.1.8** In so far as existing industries in urban areas are concerned, various studies have shown that there is ample potential for conserving energy. A unit of electricity saved actually results in the saving of three to four equivalent units of primary energy. So measures for conservation and increase in efficiency of energy utilisation should be given as much, if not more, importance as energy generation in urban areas. Public awareness programmes for promoting this need to be stepped up. Industries which successfully implement conservation measures and increase energy efficiency should be rewarded through a suitable incentive programme.

**15.1.9** Another issue that needs to be considered is that of the role of the private sector in generation of electricity for industry. We are witnessing severe power cuts in urban areas even for industries. This leads to substantial loss in income and employment in the urban area. With increased urbanisation, the energy requirements, particularly of electricity, for industry will no doubt grow substantially. It is unlikely that the investments in electricity generation by the public sector alone would be sufficient to meet the increasing demand. The Commission feels that where industry, individually or as a consortium, decides to setup power generation units, it should be

encouraged to do so. Power surplus to the industry's requirements could be fed to the grid on an approved tariff.

## **15.2 Energy in Transportation**

**15.2.1** Transport within and between urban settlements accounts for a major share of urban energy requirements. Various modes of transport have different characteristics in terms of energy consumption. Moreover, the spatial pattern of urban development and the mix of urban function can strongly influence the amount of transport required.

**15.2.2** In planning the structure of urban settlements, due regard should be paid to the amount and energy efficiency of transport required. Energy consumption can be reduced by designing cities with an accent on accessibility rather than mobility.

**15.2.3** Much of the urban transport and energy requirement is the product of uncontrolled growth, which has forced cities to rely on movement which could have been avoided. We do perhaps travel five times faster today than we once did, but people often have to travel five times further. The increasing mobility of the city dweller does not compensate for the increasing accessibility of the city. We have to redesign our cities so that transport problems becomes more manageable and travel needs (and hence energy for transport) are reduced. If the urban planners are to incorporate energy considerations successfully into their policies it is necessary to investigate the energy implications of alternative spatial structures and zoning policies and try to identify the characteristics of a form with low energy requirements. Unfortunately very few studies in this regard have been done in India.

**15.2.4** However, basing itself on empirical studies made in other countries, the Commission would like to make some general observations in regard

to urban structures and land-use policies which can reduce travel demand and hence energy for transport:

- \* Higher densities and clustering of land-uses results in lower energy consumption for transport.
- \* Higher density does not necessarily imply high-rise development. In fact, high-rise structures may be quite inefficient in energy terms, requiring the use of highly energy-intensive construction material.
- \* It is the service and trade sectors which generate or attract the maximum number of commuter trips in urban areas. Therefore, work-places in these sectors need to be properly located in relation to residential areas. Workers must be located in close proximity to their work-places. Clusters of smaller settlements would be more energy efficient than one large area. (Some studies indicate that an upper threshold size would be between 150,000 to 250,000). Development in secondary centres, to produce a polynucleated form, would be more energy efficient than continued growth based on a large, single centre.
- \* a similar approach could also be applied to regional development. The growth of a number of dispersed smaller towns should be encouraged, as opposed to concentration in a few metropolitan centres, in order to reduce the total requirement of transport of goods to urban areas from the hinterland.
- \* Zoning policies need to be reviewed to allow for a greater mix of various land uses-residential, commercial shopping, recreational, educational etc. — in order to reduce traffic and demand for energy.
- \* Residential areas should be planned around more dispersed clusters of employment and services in relatively compact urban sub-units.

The planning of urban structures on the guidelines spelt out above would reduce the demand for transport (and hence energy). Besides this, the following steps can be taken to reduce energy use in transport:

- \* increasing the fuel efficiencies of existing transport equipment,
- \* encouraging the use of public transport,
- \* promotion of and facilitation of bicycle and pedestrian traffic,
- \* exploring and implementing the increased use of alternative communication devices such as the telephone etc.,
- \* ensuring a smooth flow of traffic through proper traffic management, and
- \* promoting car and van pooling through proper incentives.

**15.2.5** At present, urban development plans and designs do not give special consideration to mass public transport and non-motorised transport. In drawing up city traffic plans, specific measures should be built-in to facilitate the efficient operation of the public transit system. For example, exclusive lanes for public buses could be provided for in the urban development plans. This, combined with the operation of a well-maintained public transport system would encourage more people to switch to public transport. The city plans should also specifically provide for properly designed and maintained bicycle paths and pedestrian walks, in order to facilitate and encourage such forms of non-motorised transport.

**15.2.6** In the long-term, we must reduce dependence on an energy intensive transportation network. This would imply encouraging lifestyles not integrally tied to such systems. It would involve recreating communities on a more human basis, where many of the day-to-day activities could be carried out within the walking or

bicycling range, and where the relationship between home, work and shopping would be closer.

### **15.3 Energy use in the Commercial Sector**

**15.3.1** The category of commercial and institutional facilities includes a variety of energy use ranging from office buildings and five-star hotels to small shops and restaurants. There has been very little study on energy use in this sector. In many of our cities, however, growth in the size and numbers of buildings in this sector has become a major force in pushing electricity demand upward.

**15.3.2** In the absence of detailed data on energy consumption patterns in commercial buildings, the Commission is unable to make very specific recommendations in regard to optimisation of energy use in such buildings. However, it would like to make some general observations.

**15.3.3** There is no doubt that in most cases of building design the optimisation of energy use is not considered as a factor in the design process. Building-form is likely to be influenced strongly by decisions taken in the wider context of urban planning. The dimensions, shape and topography of the site, as well as regulations regarding set-back distance, spaces between structure and floor area ratios may determine much of the building envelop design. The orientation of the building may also be constrained by the location and configuration of the streets. All these may have a serious impact on the energy consumption of the building.

**15.3.4** To make matters worse, the design parameters of a building (like ratio of glazed surface to total surface, sunshades, insulation and ventilation characteristics) and the construction materials used may not be appropriate for the climate and from the point of view of achieving energy efficiency.

**15.3.5** It would be necessary to make detailed studies in these areas in order to evolve certain norms in regard to orientation, building design parameters and other urban planning parameters which would be conducive to reducing the energy requirements of such buildings. These then should be incorporated in the urban planning byelaws and the building rules of the local authority so that the poor orientation and faulty design of buildings from an energy point of view are detected at the planning stage itself.

**15.3.6** We could also think in terms of establishing targets or limits for energy use in buildings defined in terms of overall energy performance, i.e. energy per square metre of floor area. This may encourage innovation in design and construction in order to find economical and acceptable ways of meeting the required standard. Electricity tariffs for commercial buildings could also provide for penal rates for electricity consumption beyond the level prescribed under the standard.

**15.3.7** The single major energy load in such commercial buildings, particularly in the larger cities, is that for air-conditioning. The resultant increase in peak demand is necessitating substantial investment in the power sector for meeting these loads.

**15.3.8** The necessity for air-conditioning in such buildings needs to be seriously questioned. Can we not ban the use of air conditioners, save for some critical uses. We should encourage design solutions and adoption of building materials which minimise the use of energy for space conditioning. Electricity tariff can be regulated so as to act as an effective deterrent to the use of air-conditioners.

**15.3.9** The use of solar water heating systems should be made compulsory in commercial

buildings, particularly hotels, hospitals, restaurants, office canteens, etc. The building design should provide for the establishment of such systems at the plan approval stage itself.

- \* currently, about one third of the total fuel wood is used in urban areas, and
- \* urban consumption of fuel-wood may contribute to deforestation.

## 15.4 Energy in Households

**15.4.1** The consumption of energy in the household sector continues to dominate total energy consumption in an urban areas. Understanding the nature of urban household consumption and, in particular, the changes that take place as a country's population becomes more urban, is an important element in planning for urban energy supply networks to meet future energy demands. Some of the studies made on the subject indicate the following:

- \* Cooking is the primary energy-consuming activity in households.
- \* Urbanisation brings with it a shift towards use of commercial forms of energy
- \* Even so, firewood and other bio-fuels meet nearly half the total energy demand in this sector.
- \* With increase in incomes of households there is a shift from firewood to kerosene and then on to LPG. The quantum of electricity usage also increases.
- \* There appears to be some correlation between city size and consumption pattern. But this is directed more by supply constraints (non-availability of kerosene, LPG etc.) rather than by consumer choice.

**15.4.2** The Commission feels that energy planners have not fully appreciated the impact of urbanisation on the quantity and type of fuels that would be demanded by households. There is a need to draw up immediately a perspective plan for household energy, keeping in view the urbanisation process spelt out in this report. In particular, it is important to pay attention to firewood use in urban areas because

- \* it is a major fuel used for basic needs by the poor,

**15.4.3** No doubt, our endeavour should be to shift away from firewood (which is in short supply) and kerosene (which is being imported). The shift should be towards coal and LPG. Coal has its problems of conversion to a clean fuel for use in urban areas. The extent to which LPG supply can be increased is limited. This implies that firewood may continue to be an important source for meeting the energy needs of urban households. What we need to do is to plan for this supply in advance by organising suitable urban fuel-wood plantations. While drawing up urban development (master) plans specific forests or stretches of land would have to be reserved for this purpose and specific fuel wood plantation projects implemented.

**15.4.4** An analysis of data on expenditure shows that the urban poor spend a substantial share (12-16 per cent) of their income on purchasing fuels for meeting their basic needs. In contrast, the urban rich only spend 6 to 7 per cent of their income on household fuels. To make matters worse, the urban poor are forced to consume high-cost, low-efficiency smoky fuels which cause health hazards. Supplies of firewood, kerosene and soft coke (a fuel used by the poor) are also erratic and inadequate as compared to supplies of LPG (the fuel of the rich). Uncoordinated government policies on fuel prices and supplies have resulted in great hardship to the urban poor. It is imperative that an integrated policy of energy prices and supplies, covering all fuels (including electricity) is evolved which would meet the twin objectives of equity and efficiency.

## 15.5 Renewable Energy

**15.5.1** Some advantages in terms of conserving depletable resources may also be gained by employing renewable energy sources such as the sun. The relevance to urban planners is that implementation of some of these technologies may be facilitated or prejudiced by the structure of the built environment. Perhaps the most obvious example is the use of solar technology for water heating (or space cooling or heating). Any extensive use of solar power would require densities, low enough to avoid overshadowing and permit solar access to a fairly large collecting surface. More critical than density is, probably, layout and circulation, which should be carefully planned to take maximum advantage of potential solar gain.

## 15.6 Recycling of Wastes

**15.6.1** It has been estimated that an average city dweller in the United States produces 1.4 kg of solid waste a day. More than three-fourths of this contains energy that is an equivalent of 0.75 kg. of coal per day. While the corresponding figures for India may be half of these, even so there exists a large potential for extracting energy from out of city wastes. Several methods to produce energy out of municipal waste are available, which include pyrolysis, gasification, an aerobic digestion and direct recovery from landfills.

**15.6.2** Unfortunately, except for a few pilot plants, no attention has been paid to utilisation of these municipal wastes. A start needs to be made at least in some of the major cities. At the same time, in the planning of sewage and garbage disposal systems in new urban developments, specific attention should be paid to the possibility of energy recovery from these wastes. Whatever low-cost sanitation systems are being planned should be combined with biogas generation.

## 15.7 Policy Implications and Constraints

**15.7.1** We recognise that there would be many factors that would limit the energy conservation measures spelt out above for example:

- vast investment in existing infrastructure
- inertia in the built environment
- multiplicity of planning objective,
- limit effectiveness of planning policies in achieving the desired land use patterns,
- political and vested interests, and
- failure of individuals to behave in an energy-efficient manner.

However, the fact remains that the spatial structure of society and the energy system are closely interrelated. Since planners influence spatial structure, it is necessary, in this era in which energy is expected to become increasingly scarce and expensive, that they should evaluate the energy implications of their plans and policies. The point which we wish to emphasise is that the inclusion of energy consideration in urban planning, where they have been previously ignored, should in itself result in a more rational use of energy resources.

**15.7.2** The Commission has been constrained in its present analysis by a total lack of data in regard to energy-use in urban areas. In order to facilitate proper coordination between urban and energy planning, there is an imperative need to establish a mechanism which will collect, collate and analyse such data on a regular basis.

## 15.8 Recommendations

**15.8.1** In the context of economic development, it is recognised that urbanisation is not only inevitable but also desirable. Energy as an essential input in urban development acquires critical dimensions. Advance action to enhance supply of energy and optimise its use in urban areas should be taken so that energy shortage does not become a constraint in urban development.

**15.8.2** Energy supply planning and pricing can be used as an effective policy tool to influence industrial location pattern and thereby to promote desired urbanisation.

**15.8.3** The use of energy in transport sector can be minimised by adopting mixed land uses, clustered development and poly-nodal urban form.

**15.8.4** Adequate attention need to be paid for conservation of energy in commercial buildings and for this purpose suitable modifications in development control rules and building byelaws should be made.

**15.8.5** An integrated policy of energy prices and supplies covering all fuels should be evolved which meets the twin objectives of equity and efficiency. Particular attention should be given to fuels fire-wood, which are used by the urban poor. The potential of renewable sources of energy, and also energy from recycling of waste should be particularly taken into account. Energy consideration should become a part of urban planning and design process.

**15.8.6** There is a total lack of data base in regard to energy use in the urban areas. Therefore a mechanism for collection, processing and analysis of data on a regular basis should be established.

## PART VI

### 16. PEOPLE'S PARTICIPATION

#### 16.1 A COMPELLING NECESSITY

**16.1.1** Our system of democratic government bestows on the people the ultimate power and our socialistic society professes the goal of equal opportunities and freedom of expression to all, making 'people' the subject and also the instruments of development. There are other compelling reasons, in the context of present-day India

city reality, which makes people's participation an important component of city governance and development action. Our cities are in deepening crisis finding expression in : (a) their failure to grasp the nature and dimensions of the economic crisis that grip them and to respond to its challenge in a planned, positive manner; (b) their loss of conflict-resolving instruments which lay traditionally in their social institutions and arrangements; (c) the collapse of urban leadership, both among the people and in formal institutions of city administration and development planning which has lowered the quality of decision-Making and forward planning, resulting in loss of direction and deterioration in quality of living, nature of development, and delivery of services; and (d) the cities' failure to respond to the challenge of urban poverty. It is this crisis that gives the theme of people's/community/public/citizen participation an entirely new dimension. People's participation, in the context of present-day urban reality, is no longer a 'liberal ideal', it is a compelling necessity.

**16.1.2** If this is a 'crisis' or 'alarmist' rationale for citizen participation, there are also more pragmatic considerations that render it imperative for the urban development process and city improvement efforts. They rest primarily on the realisation that ensuring an acceptable quality of life to all citizens, including low-income and other socio-economically disadvantaged groups, in Indian cities requires major changes both in the macro spheres (such as reorientation in the nature, direction, strategy and goals of economic growth which have so far widened disparities between groups and classes and failed to eliminate/reduce poverty) as well as in micro realities, such as strengthening the financial and organisational capacity of local bodies, providing, maintaining and adequately extending environmental and social services to all sections and areas; improving the environment-all of which (and many similar issues) cannot be tackled adequately

without popular acceptance of and participation in implementation of remedial and developmental measures.

**16.1.3** In such circumstances, to conserve and augment government's financial and institutional resources; to mobilise and put to productive use people's untapped creativity, resources and energy; to bring into play new agencies and organisational forms to augment and supplement the efforts of formal systems and institutions; and to offer opportunities to people to invent new, affordable and appropriate responses to their unmet needs in local situations and challenges of development with limited resources, would, in the larger context, be philosophically, conceptually and strategically proper. However, barring a few exceptions, like the urban community development (UCD) projects and the activities of some non-governmental voluntary agencies, not much planned effort is visible either to involve people in urban development processes, projects and schemes or even to offer them incentives to find their own solutions for local problems.

## **16.2 PEOPLE AS BUILDERS**

**16.2.1** The housing sector, in this regard, offers good case material. The fact that slums and shanty towns grow twice as fast as cities indicate that people are indeed capable of building shelter on their own, without external assistance, in fact against external resistance. However, for a long time (attitudes and, subsequently, approaches have changed in recent years), the response to the slum problem was evictions and bulldozing (destruction of the housing stock created by people through self-help) and its replacement by contractor-built tenements. Most planners of housing programmes and housing agencies have tended to overlook the fact that, for generations, people have been building, on their own, inexpensive, durable, functional, properly designed and aesthetically pleasing houses using local skills and materials. The Commission believes

that the failure to harness these skills is one of the principal reasons for the current crisis in housing. In the words of a study sponsored by the Commission: Releasing the people's creative energy, eliminating or reducing constraints on people's housing actions and encouraging investments (in the form of time, energy and resources) should form the central theme of the restructuring exercise. A shift in emphasis from controlling to enabling, from delivering finished products to facilitating people's actions in building and improving houses for themselves, would enhance the coverage, capacity of the existing agencies and the problem would begin to look solvable.

### **Sites & Services and Slum Improvement**

**16.2.2** Both in the skim improvement strategy and the sites and services approach, the principal new thrust of housing action now is to recognise people as producers of housing. The slum improvement strategy accepts the shelter solutions produced by people as legitimate and workable, if not adequate, and concentrates investments on improving environmental conditions. The sites and services schemes proceed on the assumption that people are capable of building shelter on their own if land, services, and transport are arranged. In the first case, governmental action to provide services follows people's housing action in the second, people's action is expected to follow government's land development activities. In both cases, creation of settlements is a shared, participatory venture. People and government are expected to play complementary roles.

**16.2.3** However, old habits die hard and, even in such ventures, the anti-participation attitudes of official agencies tend to surface. Municipal engineers in charge of slum improvement projects decide on locations for toilets without consulting residents and have them built through contractors. Sites and services schemes tend to be developed like any other 'housing scheme': without the knowledge or involvement of the people.

Authorities choose locations; planners choose the size of the plots and prepare layouts; contractors lay services and build the sanitation core, without reference to those to whom the plots are to be allotted.

**16.2.4** Even in such multi-sectoral and 'exemplary' projects as the CMD's Calcutta Bustee Improvement Programme and the MMDA's Slum Improvement and Sites and Services Projects, planned effort to involve local communities at various stages of decision-making, planning, design and construction have been either absent or only marginal. In their social services and income-support activities, both MMDA and CMDA have attempted to involve community groups and voluntary agencies. For example, a Youth Club in the Ulta Ganga area played a useful role in client identification, loan processing, and the MMDA's income-support activity in that community; and the MMDA has involved a number of voluntary agencies in running social facilities in its sites and services projects. However, in number, contribution and effective role-playing, in relation to the size of these projects and the need for these efforts, involvement by the community groups and external voluntary agencies has been insignificant.

### **16.3 URBAN COMMUNITY DEVELOPMENT**

**16.3.1** The most significant effort on the part of the government to active community participation, on a sustainable basis in the urban sector is through the Urban Community Development projects which had their origin in the rural community development programme started in 1952. By the late 1950s there was discussion and controversy on whether the community development approach could be used among the urban people also. In 1958, the first pilot project in urban community development was initiated in Delhi with the assistance of the Ford Foundation. This was followed, in 1960, by another pilot project,

also with Ford Foundation assistance, in Ahmedabad. The third pilot project began in 1965 in Baroda with the help of the American Friends Service Committee and is still in existence as the Baroda Citizens Councils. In Calcutta, UCD activity started in 1966.

**16.3.2** The Third Five Year Plan mentioned the need for each city to mobilise its own resources to help create better conditions for its citizens and placed emphasis on the need for and the potentialities of urban community development. The Rural-Urban Relationship Committee reported that there was a lack of awareness among people that the municipality was there to serve their needs. It stressed the need for constant discussion of local problems and needs so as to help people verbalise their felt-needs, to motivate change and encourage people to exercise their own initiative in planning and carrying out improvement projects. The then Ministry of Health, Family Planning, Works Housing and Urban Development formulated a scheme based on these recommendations which was viewed as a continuation and expansion of the experimental work that had already started.

**16.3.3** During the last years of the Third Five Year Plan, the Government of India proposed to start 50 pilot Urban Community Development (UCD) projects in selected cities with a population above one lakh. Initially, it was decided to start 20 pilot projects. However, in the face of the lukewarm response from the states, by 1976 only 13 projects could be started. Five of them were located in Gujarat alone.

**16.3.4** While some of the UCD projects, those in Kanpur, Hyderabad and Surat, which started during the Fourth Plan, are still continuing, in the last few years UCD projects have been started in Pune, Aurangabad, Patna, Bhubaneswar, Visakhapatnam, Alleppey, Jaipur, Agra and some other cities. In Gujarat, UCD projects are in



operation in 18 towns and cities. Andhra Pradesh has the country's two most successful UCD projects — in Hyderabad and Vishakhapatnam.

**16.3.5** UCD is designed to function as part of the local body and is viewed as a link between the people and the municipal corporation. The staff is given scope to develop activities according to the felt needs of the people and are given a mandate to cover activities normally not covered by the local body. The aim is to create in problematic urban areas stronger communities with their own leaders who could plan, finance and carry out self-help projects. To bring this about, local voluntary organisations are strengthened and bustee-level agencies/committees are established. The project activities are guided by the assumption that any neighbourhood, no matter how poor, can do something to improve itself by its own efforts; and that any approach for outside help should be resorted to only after it has exhausted its own resources fully.

### **UCD in Hyderabad**

**16.3.6** UCD in Hyderabad is considered the most successful of the UCD projects. It attempts to cover the entire slum population and other low-income households (about a million people) in the city and tries to deliver multiple services (housing, slum improvement, education, health, nutrition, child-care, family welfare, income supports, community organisation, etc.) by channeling resources of various government and non-government organisations and also by mobilising the community's internal resources through participatory work practices. In view of its success, planners and policy makers are recommending the Hyderabad UCD programme as a model for replication in other Indian cities.

**16.3.7** Faced with the daunting task of providing physical and social services and gainful income opportunities to 70 million urban poor who will be in the Indian cities in a little over a decade;

saddled with financially bankrupt and, organisationally, almost stagnant local governments unable to raise the resources needed to extend and maintain services to the deprived sections and areas; saddled with other formal institutions unwilling and/or unable to reach out support in appropriate forms due to legal, structural, attitudinal and procedural constraints; and most of them unable and ill-equipped to draw upon people's internal resources, creativity, and initiative; confronted with general resource constraints in a situation of competing priorities in other sectors and fields; recognising the limitations of voluntary efforts in effectively reaching out to large numbers in a sustained manner, in diverse roles and services, the urban community development projects appear to be useful instruments to reach out to, organise, deliver services to and, finally, integrate low-income communities with the mainstream of city life.

### **16.4 AN ENVIRONMENT FOR PARTICIPATION**

**16.4.1** Though under many formidable constraints and limitations (due to structural and institutional factors), generally speaking, in the social, economic, cultural and religious spheres, the Indian people have the freedom and also opportunities to participate in the shaping of the life of the community.

**16.4.2** If the government's attitude and interest in people's participation in developmental action and programmes is to be judged from its pronouncements in official documents it would be seen as committed to and anxious for such participation. Almost every sector and sub-sector in the national Five Year Plan document has a section on people's participation and the role of the private sector, of individual citizens and voluntary agencies. However, while the private sector has played a crucial role in strengthening the economy and other spheres of national life,

and voluntary agencies have also had opportunities to contribute to development, it would seem that the excessive government control over the entire development effort and machinery has inhibited people's participation. No sphere of activity is untouched by government's development controls, interventions and programmes. The tendency, over the years, has been to bring more things under government control. The government machine has, as a consequence grown enormously; and both the survival needs and the vested interests that get built around such structures, obstruct people's initiatives and actions.

**16.4.3** The Seventh Five Year Plan document (Vol. II, p. 68) describes the voluntary agencies in the following terms:

There is a good deal of voluntary effort in India, especially in the field of social welfare. The tendency so far has been to equate the work of voluntary agencies with only welfare activities and charity work. Involvement of other agencies in the non-government sector, such as trade unions, cooperatives and Panchayati Raj bodies, has tended to blur the identity of those which can be strictly defined as voluntary organisations. There has been inadequate recognition of their role in accelerating the process of social and economic development. These agencies have been known to play an important role by providing a basis for innovation with new models and approaches, ensuring feedback and securing the involvement of families living below the poverty line. Therefore during the Seventh Plan, serious efforts will be made to involve voluntary agencies in various development programmes, particularly in the planning and implementation of programmes of rural development. Voluntary agencies have developed expertise and competence in many non-traditional areas to plan their own schemes instead of expecting Government to do so.

The document proceeds to list, programmes and areas in which voluntary agencies could help (essentially in the anti-poverty and Minimum Needs Programme and others like Integrated Rural Development Programme, and Rural Landless Employment Guarantee Programme, enforcement of Minimum wages to agricultural labourers, afforestation, Social Forestry etc.) and also proposes that about Rs 100-150 crores of plan expenditure in the central and the state sectors on the programmes listed above may be earmarked for use in active collaboration with voluntary agencies. To help, promote and coordinate work of the voluntary agencies, a special agency called CAPART (Council for Advancement of People's Action and Rural Technology) has been set up. It needs to be noted, however, that the plan document refers to voluntary agencies only in the rural sector. The existence and role of such bodies in the urban areas is not mentioned and therefore not recognised.

## **16.5 ROLE OF VOLUNTARY AGENCIES AND CITIZEN GROUPS**

**16.5.1** Often governments and their agencies are unable to appreciate the wide variety of roles that non-government voluntary agencies can play at different levels like (a) assisting the weak in obtaining service and the state in effectively delivering them, (b) providing professional services in research, project formulation and implementation, (c) monitoring effects of developmental actions, (d) highlighting their contradictions, (d) generating alternatives, (f) advocating causes, (g) protecting and upholding values, (i) organising people to actualise their internal, dormant potential and strengths and ascertain their rights, (j) strengthening democratic values and institutions, and (k) facilitating participatory processes through education and intermediation.

**16.5.2** The watch-dog role, the corrective role, the change agent role, the educator role, the intermediary role, the innovator role, and the service provider role are predominant in the list of priorities of voluntary agencies. The government's perception, however, does not seem to see beyond their role as provider of relief, welfare and service. The newly conceived role, it appears, is that of the deliverer of government-sponsored services and implementer of government-sponsored welfare and development schemes. Whereas the official image of the role is that of an agent of the government, an agency's own image is that of the agent of the people.

**16.5.3** Even if these roles are not mutually exclusive, there is a possibility of conflict. It is misleading to bracket voluntary agencies in a single class and to expect them all to play the same or similar roles. A great diversity in origin, nature, character, ideological stance, background, and way of functioning characterises the voluntary sector in India. Whereas, at one extreme are the traditional, good-intentioned, welfare-oriented philanthropists, not given to or bothered about analysis of societal contradictions, busy treating the diseased and feeding the hungry, at the other extreme are those who believe in nothing less than fundamental social restructuring. They are Gandhian and Marxist, religion-based, industry-promoted, wings of political parties, survivors of long defunct political and social movements, and also young professionals in search of alternative 'clients' and new challenges. Some are content to deliver services to the needy. Others believe that delivering services is not an end in itself but also a means to organise people to help themselves. Their ideological stance, understanding of their role in the development process and their definition of 'development' itself shape the nature of the relationship of these agencies with the government.

### **Innovative Ideas**

**16.5.4** It is often not recognised that some of the most important innovations and ideas in the various development fields in post-Independence India have emerged from the voluntary sector. The environmental movement in India is one example; Raj and Mabel Arole's work in Jamkhed, Maharashtra, leading to an alternative, low-cost and appropriate model for delivery of health services to the rural masses is another. The consumer movement is almost entirely voluntary. The Lok Adalat idea, which the formal system is in the process of adopting, is an innovation of voluntary agencies. SEWA's pioneering work in organising self-employed women, Sulabh International's success in designing a self-paying mechanism for public amenities (latrines and bathrooms), and Salunke's Pani Panchayat are some more examples of innovative ideas with larger applicability originating in the voluntary sector.

## **16.6 RECOMMENDATIONS**

**16.6.1** To strengthen participatory processes and meaningfully involve the non-government voluntary agencies in city governance and development action, many attitudinal, institutional, operational and procedural changes are needed. The task is neither easy nor can it be done in isolation. However, some of the changes which could set the tone and initiate the process are listed below:

**16.6.2** Strengthen the municipal corporations and municipalities by (i) holding popular elections wherever local bodies are superseded, (ii) facilitating entry of positive leadership, (iii) improving the financial positions of local bodies, and (iv) making necessary changes in laws governing the working of the municipal bodies, systems and procedures to enable them to utilise the skills and resources of individuals, groups, agencies and institutions in planning, execution, and monitoring of development activities.

**16.6.3** Initiate urban community development projects through the municipalities bodies in cities with a population above 50,000, with necessary changes in their organisational structure, mandate, financing arrangements and institutional linkages. Design UCD project as effective vehicles to reach out to, motivate, service and organise the urban poor, and as agencies for coordination and convergence of service delivery and poverty alleviation schemes, and projects and programmes of different government and semi-government agencies.

**16.6.4** Ensure adherence to participatory and consultative procedures prescribed in the law but neglected or circumvented in practice by cultivating attitudes and evolving tools and methodologies within responsible/concerned planning and implementing agencies. Ensure that the mandatory public hearing before finalisation of a city development plan is effectively gone through, without anyone in any way benefiting from the process. Proper methods of communication and information sharing and appropriately designed consultation platforms would lead to useful feedback for planners and education for the people.

**16.6.5** Recognise the existing role and work of non-government voluntary agencies in the urban areas and create facility/support arrangements on the CAPART model for urban projects and works of non-government agencies. This facility should finance study, research, advocate action, demonstration projects and other innovative, relevant efforts of urban-based, non-government voluntary agencies.

**16.6.6** Encourage, assist and facilitate networking among NGOs working in various sectors at regional and city level for information and experience sharing.

**16.6.7** Facilitate entry and encourage role by the NGOs at the macro-policy formulation and programme-design levels. The Planning Commission, the Urban Development Ministry and many other agencies of the government have started inducting into their service senior and experienced workers from the NGOs. This arrangement needs to be further strengthened at the central government level and encouraged at the state and the city level. The interaction, dialogue and outcome will be mutually beneficial.

**16.6.8** Establish as suggested in the chapter, 'Urban Management', the National Urban Council for Citizen Action at the national level (NUCCA), the State Urban Council for Citizen Action at the State Level (SUCCA) and the Forum for Citizen Action (FOCIA) at the city level to enable non-governmental voluntary agencies to play watch-dog, facilitator, promotional, educational, advocacy and innovative roles and to activate citizen participation in the urban development field in general and in city development in particular.

## 17 INFORMATION SYSTEM

**17.1 INTRODUCTION 17.1.1** Information in the form of organised data, capable of being analysed to understand trends, structural changes and interdependence is essential for planning as complex a process as urbanisation. An information system that serves urban planning could be conceived as an aid to the followed four cyclical phases of planning:

- (a) formulation of a long-term plan;
- (b) assembling current intelligence about the growth of population, employment, housing, transport, etc.;
- (c) monitoring of plan implementation in terms of physical and financial performance, along with evaluation of current growth in the light of the goals of the long-term plan; and
- (d) ex-post evaluation of plan projects and programmes.

**17.1.2** The feedbacks from one phase to another are obvious. The planning and information system would normally evolve through such feedbacks. The five-year economic development plans and economic intelligence systems such as Agricultural Statistics, Annual Survey of Industries and National Sample Surveys are examples of such a process. Such information systems are however totally absent from the urban planning scene. This dearth of information is not on account of a lack of the technology of data handling but of the nature and style of current practices of urban planning. Although the cyclical phases mentioned above appear to be obvious, they are not reflected at the local, operational level. The long-term plan is usually a physical land-use plan representing an end-state after twenty years. Some ad-hoc surveys are ritualistically carried out (the existing land-use survey is the foremost among them) before plan formulation. But the plan itself is usually not translated into more quantified objectives of flows, (e.g., promoting X number of houses every year in location Y). Furthermore, the implementation of the plan is also not translated into a capital investment programme (let alone private investment requirements necessary to achieve some of the plan objectives). A local authority's annual budgets do not even show the expenditure allocated for implementation of the plan, with the result that such master plans only serve as instruments of rigid development control. The cyclical phases mentioned earlier are consequently absent, and when statutory decennial revision of the plan becomes due the exercise of plan formulation is repeated afresh. Under such a planning style it is no wonder that information systems for urban planning have not taken root. Urban information systems cannot therefore be ordained by stipulating uniform, stereo typed 'formats' and some hardware. Collection, maintenance and updating of data is an expensive affair. Information systems will therefore get adequate support only when decision makers appreciate their value not just for preparing

20-year master plans, but also for managing urban affairs on a day-to-day basis. An information system being only a tool, its development will be intrinsically linked to the purpose for which it is used. In other words, planners will continue to get the information system that they deserve.

## **17.2 NATURE OF THE PLANNING PROCESS**

**17.2.1** While discussing information systems for urban planning, we therefore presume a more responsive type of urban planning, that is:

- (a) resource-conscious,
- (b) management Oriented in the sense that it continuously monitors and evaluates the plan objectives, and
- (c) dynamic in the sense that it periodically redefines the plan objectives in a five-year cycle.

**17.2.2** Another important point that needs noting is that urban development or city planning is usually seen as a vertical sector in the government, whether central, state or local. Urban planning (and, more so, spatial planning) is, however more like a horizontal slice that cuts across all vertical sectors —industry, health, sanitation, etc. While considering information systems, we would therefore like to view urban planning as cutting across all vertical sectors and attempting to integrate them in a spatial framework and not as a narrow, vertical sector competing with other sectors (for financial or data resources). The vertical sectors usually have their own information systems, but their data lack locational (or spatial) attributes in terms of appropriate resolution. However, such locational attributes are of basic concern to urban planning. This locational attribute can potentially be used as an integrating factor to develop an urban information system.

## **17.3 DATA REQUIREMENTS**

**17.3.1** We will therefore now consider a typical

local authority environment for planning an information system framework. Though an information system needs to be designed in the light of local perception of problems and priorities, a general set of problems could be mentioned which would help consideration of a typical information system:

- (1) Inadequate financial resources on account of weak taxation and pricing policies.
- (2) Inadequate shelter supply.
- (3) Inadequate provision of infrastructure.
- (4) Inadequate supply of serviced land for shelter.
- (5) Traffic congestion.
- (6) Inadequate water-supply and sanitation services.
- (7) Pollution.

A city is, however, not an island. It is influenced by many external forces. Developing planning strategies for a city, therefore, require data regarding such forces. Examining the influence of such external forces can be termed environment scanning and is discussed in the following paragraphs.

### Environment Scanning

**17.3.2** The general perception of the problems and prospects of a city improves by what could be termed environment scanning. This, at present, takes place mainly through informal sources and, to a very limited extent, through formal sources. However, it is feasible and essential to improve formal sources of data to render them useful for local planning. Four of these are noted below;

(a) Population Census: The decennial population census provides a wealth of information about what is happening in the surroundings (we will consider this separately for local or intra-city information). This provides the basic demographic data and indicates the trends of population structure, migration and growth, including changes in occupation patterns. This however is (almost by definition and necessity) conducted only once in ten years.

(b) Annual Survey of Industries: This is one of the most important annual sources of economic

data. All manufacturing units 'above a certain size' are covered annually. The data cover capital invested, turnover, value added, water and power consumed, employment, etc. The data are normally available at district level and provide broad indicators of economic changes and growth.

(c) National Sample Surveys: These are conducted by way of rounds spread over the year, covering specific topics. Household consumer expenditure and unemployment are among the important topics covered. Data are usually presented state-wise, separately for urban and rural areas. These provide broad data (directly) on income distribution and, hence, proportion of population below poverty levels, and probable affordability levels for civic services.

(d) National Income Accounts: National and state domestic products are, estimated annually, but on account of many definitional problems estimations either for smaller regions or urban and rural areas are not attempted. Local income would be a good measure of economic performance, and should be estimated for at least the large metropolitan regions.

**17.3.3** Though potentially useful, these data sources (except the population census) are hardly used in local urban planning. This is on account of the following facts:

- (i) The data are at too aggregated a level to be useful for local planning. Efforts to introduce a rural urban break-up and distinctly identifying at least the metropolitan regions, to start with, are necessary.
- (ii) The data sources are considered to be the domain of economists and statisticians and are not used by urban planners. The National Urbanisation Council we have proposed (and the new TCPO under it) should disseminate the relevant data in a useful form to the local planning authorities.
- (iii) Another common problem with these data sources is the considerable time lag in processing and publishing the data.

**17.3.4** The use of such data will, however, depend upon our ability to interpret it, which in turn would depend upon the theories that provide the appropriate framework for such interpretation. Herbert Simon expresses it well: 'Our interpretations will improve only as our theories of human behaviour and attitudes improve, and our theories will improve only as we have better data for developing and testing them. We must view our task as a bootstrap operation in which better data will improve theory and better theory data.' The data and regional growth theories have to develop in an interactive manner through serious research.

**17.3.5** Apart from such formal quantitative data sources, environment scanning could be aided by documentation of more descriptive material as well. For this purpose a documentation centre (with a facility of effective retrieval) would be an asset for every planning authority.

**17.3.6** Intra-city Information: This is also of crucial importance in urban planning and management at local level. We therefore now examine a set of data commonly required and ways of obtaining it.

**17.3.7** Population: The basic source of population data is obviously the census. And this is perhaps the most exhaustively used data source at present. Although some key statistics were very speedily published after the 1981 census, mainly finer points have been lost or have yet to be published. For example, Greater Bombay was divided into 88 sections and 695 circles in 1971 and primary census data were published at circle level. It is of critical importance to issue census data at the level of smaller geographical units and also to make very quickly available. Providing computer tapes and disks to user-agencies would be a better (and more efficient) alternative to releasing printed reports after years. Also, the ten-year interval between censuses is too long a period over which to observe changes in population distribution and

growth. Building permission and school enrolment data could be advantageously used for monitoring local population growth trends at local level.

**17.3.8** Employment: Location-specific employment data is perhaps the weakest aspect of the present data system. In the 1971 census, an establishment survey was carried out to collect data on 'establishments' with respect to employment, nature of economic activity, fuel used, etc. However, these data were not published at any intra-city level. Similar data were collected at the time of the 1981 census but processing responsibilities were assigned to the Central Statistical Organisation and State Directorates of Statistics. The data are still not available at disaggregate level. Employment data are also collected quarterly from all public sector establishments and private establishments employing more than 20 employees. However, due to lack of proper locational attributes and partial coverage, these data have remained largely unused in urban planning and management.

**17.3.9** Data collection through the Shops and Establishments Act and various licensing provisions under the municipal acts are also potential sources of location-specific employment data (though of partial coverage). These need to be exploited further in developing urban information systems.

**17.3.10** It may be emphasised here that monitoring employment distribution and growth will become increasingly important as promoting poly-nodal growth in metropolitan regions is being accepted as the strategic objective.

**17.3.11** Housing: Very broad characteristics of housing stock are covered in the population census. But what it is important to know, from the point of view of local planning, is the number of houses built each year, their size and location (and probably the investment). This could best be

compiled through the building permission mechanism. This source, which can provide a considerable amount of data on housing, is hardly ever used. A considerable amount of housing activity also takes place outside the formal mechanism of building permissions. For obtaining data on these, none of the existing sources are useful. Periodic aerial photography (and, perhaps, high-resolution satellite imageries) is the only solution.

**17.3.12 Land Use:** Administrative systems related to development control and property tax are, potentially, very useful ways to update land-use information periodically. Unfortunately, they have not been used in that way at all. Existing land-use surveys, carried out for master plan preparation, remain in the reports till fresh surveys are carried out, every ten years, for the revision of the master plan. Absence of standardised land-use classification and its total lack of correspondence with the National Industrial Classification leaves much to be desired. The National Urbanisation Council suggested by us (and the TCPO), and even local town planners should undertake the preparation of appropriate land-use classifications that respond to the analytical requirements of planning and monitoring of growth.

**17.3.13 Satellite imageries,** particularly from the LANDSAT Thematic Mapper and SPOT provide a new, exciting technology for periodic land-use monitoring. The resolution available has improved very rapidly in the recent past and imageries of 10 m resolution are now available. They are best suited for surveying regional land-uses as they can capture even seasonal variations in areas under crops, or extent of submergence under flood waters. They have some obvious limitations in interpreting micro-level, local land-use. As the interpretation of land-use is dependent upon the reflective characteristics of roof surfaces, it is difficult to find out what goes on under the roof. Nevertheless this is a very

relevant and relatively inexpensive technology which must be used by planners. The Space Applications Centre, Ahmedabad, and the National Remote Sensing Agency, Hyderabad, have already successfully undertaken urban land-use survey projects.

**17.3.14 Transport:** In the case of transport, it is necessary to know the network and its capacity as well as the characteristics of the flow-number of vehicles, their types, passenger and goods, and goods carried, etc. Although information about the network appears to be easy to secure, lack of a proper referencing system prevents effective use of dormant data. Periodic survey is the only way in which flow data can be gathered. This activity needs to be systematised, particularly when road pricing policies are being advocated as an important demand-management technique.

**17.3.15 Transportation planning models** that followed the theoretical framework of the Gravity and Lowry models gave rise to elaborate data collection efforts in the United States in the 60's. Although efforts on that scale have not been made in India, most transportation planning exercises do collect data on household travel characteristics which are not covered by existing data sources. It would be desirable to include questions about travel characteristics which are not covered by existing data sources. It would be desirable to include questions about travel characteristics of urban household in the population census (perhaps on a sample basis). The problem of analysing such data is, of course, the effort required in coding the place of destination. In metropolitan regions, planning authorities can collaborate with census organisations, to obtain data on this very important aspect of household behaviour.

**17.3.16 Environment:** Environmental planning and monitoring is particularly handicapped because environmental problems reflect negative externalities, and undesirable side-effects of



otherwise useful activities. The data and measurement requirements therefore relate to both the measurement of pollutants and the scale of causal activity. Both in conjunction alone can provide useful data for policy. Measurements related to air and water are mentioned below.

**17.3.17 Air Quality:** Some of the larger Indian cities have a semblance of an air-quality monitoring network. This needs to be established on a regional scale on a permanent basis. Apart from the ambient measurement of common pollutants like SO<sub>2</sub> and NO<sub>2</sub> and particulate matter, it is also necessary to measure the micro-meteorological phenomena and have emission inventories.

**17.3.18 Water Quality:** Similar to air-quality monitoring, it is necessary to set up a monitoring network for water quality. This needs to be supplemented by periodic measurement of the quantity and flow characteristics of the receiving body along with measurement of effluents.

**17.3.19 Noise Levels:** A serious but scarcely monitored environmental problem is noise pollution. Systematic measurement of noise levels must also be begun without delay.

**17.3.20** Such systematic measurements are the first prerequisite for effective Environment Impact Assessment (EIA). Nevertheless, in many cases, EIA is being attempted without establishing an adequate data base.

**17.3.21 Data regarding Other Civic Services:** Data regarding other civic services like health, education and recreation are also necessary. Data generated from routine operational activities like solid waste management and fire protection are useful in other fields as well.

**17.3.22 Area Referencing:** In the preceding discussion, locational attributes were implicit in the form of the question: 'Where' is this happening? But while considering 'land and land-use' the

logical framework changes and the question asked is: 'What' is happening at this location? Integrating both types of data systems is therefore the important function of an urban information system. Such integration can be achieved through what is generally called 'area referencing'. Since locational attributes of various human activities are the major concern of urban planning, area referencing is a most important aspect of an urban information system. The essence of this system is the 'digitalised maps' which enable precise referencing of locations and networks (roads, railways, rivers, drainage, etc.). Information systems which integrate such area referencing with other data systems are called 'geographic information systems' (GIS). The Survey of India should therefore now begin to make available digitalised maps (in the form of tapes or disks) to planning authorities. This could begin with million plus cities. GIS software development is a growing field and indigenous efforts in this field have also progressed. It would be desirable to see that GIS-based urban information systems are established in the metropolitan cities over the next five years.

**17.3.23 Data from Local Administrative Systems:** We have so far considered data requirements and their potential sources which are largely formal national statistical systems. However, local administrative systems also generate large amounts of data which are at micro-level and location-specific. These can be used for updating bench-mark data and monitoring growth trends. In this context, property tax and building permission records appear to be the most valuable sources.

**17.3.24 Property tax records,** of necessity, have to be at the maximum resolution, i.e., for each individual property. These records must include information on location, ownership, extent of development (including use) and the assessed value. The legal requirement of periodic reassessment (though this is vitiated by rent control

laws) should also provide an updated picture of the city's changing land-uses, property prices, etc. 'Building permissions' could be used to update the 'property file'. Much valuable data could also be collected, number and type of housing units built and investment incurred (estimate), for example. These two sources together can generate 'annual management reports' for planners and administration which would be invaluable in comparing city growth with the long-term plan objectives.

## 17.4 COSTS AND BENEFITS

**17.4.1** The above discussion indicates that data required for urban planning are potentially available from many existing sectoral sources. Moreover, significant amounts of useful data are also generated within the routine administrative system of local governments. The principal function of the information system, therefore, is to integrate such data in a form that is useful for effective decision-making. Given the major concern of urban planning with physical and spatial aspects, geographic referencing naturally comes out as an integrating parameter. The information system, therefore, has to be 'geographic based'. For such a system, the use of computers is an obvious necessity. However, many of the current efforts are directed towards computerising the available data alone. This cannot be considered as development of proper and complete information systems. The development of an information system must, of necessity, take place in the framework of decision-making within the realm of urban planning. The designing of an information system must start from an analysis of the decision-making framework and data requirements. Computerisation of such integrated urban information systems have certain obvious benefits such as:

- (a) lower operating cost of data processing
- (b) faster availability of information
- (c) wider distribution of information

- (d) generation of new information never before observed, recorded or reported (this is mainly on account of the ability of integrated information systems to analyse and present various sectoral data in conjunction with each other)
- (e) greater consistency in reporting data
- (f) reduced distortion of data to be reported to top levels
- (g) greater freedom from routine record keeping

**17.4.2** These benefits have to be balanced against technological and institutional costs involved in developing information systems. These are:

- (i) substantial initial capital cost in hardware and in software development;
- (ii) demand for more skilled personnel. There are two other potential costs in case of excessive reliance on quantitative information. These are:
- (iii) an increased tendency towards reliance on quantifiable and measurable variables for decision-making; and
- (iv) reduced sensitivity to opinions and judgment.

**17.4.3** It is, therefore, necessary to remember that, although the rationale for having information systems is to improve the quality of decision-making, the presence of a good information system per se would not guarantee the right type of decision because decision-making is also a matter of ethics, experience, imagination, wisdom, empathy, commitment and conviction.

## 17.5 INSTITUTIONAL IMPLICATIONS

**17.5.1** Another important factor that must be taken into account while considering acceptance of an integrated information system in local government is the way it affects the institutional culture. Most local governments are organised in a departmental framework and do not even have a corporate planning unit. The departments of tax

collection, city engineering, city planning (in charge of development control) and accounting work more or less independently and usually do not wish to share their information resources with each other. Urban planning and management, in its true sense, would however, demand use of the information resources of all these departments in an integrated manner. Efforts to build computerised, integrated information systems therefore affect this departmental power structure within a local government. There is therefore every likelihood that efforts to build such information systems will be resisted from individual departments which would feel that the system would infringe upon their rights and powers.

**17.5.2** At another level, in the present organisational culture, functionaries at a fairly low level have a greater command over data, from which they derive power (a clerk in a collector's office who is responsible for issuing certificates regarding land ownership derives a certain type of power from the fact that he is in command of relevant data). Similarly, the data that flows upwards within the organisational hierarchy can be moderated as it moves up the ladder. This provides the lower functionaries an opportunity to safeguard their interests. A computerised information system thus affects both these aspects—power and the ability to safeguard self-interest. This is bound to create resistance within governments to acceptance of integrated information systems. These are probably the major reasons why they have not yet been established even in some of the large municipal governments, despite the fact that the technology for developing such information systems has existed for over a decade now.

## 17.6 TCPO CASE STUDIES

**17.6.1** The TCPO has been making efforts to promote the establishment of an Urban Information System for over a decade, but with very modest success. The TCPO, through working

groups and committees, has identified a list of variables on which data would be required for urban planning. Two lists have been prepared one for urban planning, the other for regional planning. The TCPO has also undertaken two case studies to see whether data on each of these variables could be collected and updated in the field. These pertain to Chengalpattu in Tamil Nadu and Anand in Gujarat. The effort, however, appears to be in the direction of trying to set up information systems that provide data about individual settlements and perhaps allow comparative analysis; they are not particularly geared to support planning at the local and inter-city level. This has prompted T.J. Cartwright to comment upon the TCPO's efforts in the following words:

The fundamental questions this poses is how far (if at all) it is reasonable to try to design an information system without reference to the context in which it is going to be used—i.e., who will use it, how it will be used and what it will be used for. It is hard to see how any data format can be 'validated' without reference to question like these.

**17.6.2** The TCPO's efforts to obtain data from various agencies for variables that they had identified at Anand and Chengalpattu have met with the following problems:

(i) Many variables and sub variables are irrelevant for the cities under study. (ii) For many variables, no data collection agency could be identified. (iii) There are some other types of data gaps which are essentially part of (ii) but include some more. In most cases, the variables belong to the agency, 'Director of Census Operation'. Either the failure of the census organisation to publish the required information for the 1981 census or inability of the census to give in formations at town level accounts for this. Perhaps the in formations could be obtained after some time on by incurring more expenditure towards acquiring the data. (iv)

National income/assets, housing structure, institutional arrangements, land-use, etc., which need periodic survey come in this category. The Town Planning Department collects some of this information during master plan preparation and so does the National Sample Survey Organisation, but periodic availability has not so far been ensured.

**17.6.3** These problems are indicative of the institutional arrangements required to establish formal data-flows to develop and maintain an integrated Urban Information System. Preparing a list of variables about data that are required is only a first step. For designing an information system, many more details are required to be worked out. Commenting on the variables listed by the TCPO, Cartwright observes that:

- (a) The terms 'variable' and sub-variable' refer to different data sets. Sometimes the terms refer to single data values; many other times they refer to vector or matrices. Sometimes it is not clear what is intended.
- (b) The 'data format' does not always indicate what kind of data are intended and what units of measurement are implied. For example, sub-variables like 'rainfall', 'temperature', 'humidity' wind velocity', 'physical features', 'slope', 'topsoil', and 'water' (surface and sub-surface) may imply quantitative or qualitative data, absolutes or ratios, stocks or flows, mean values or ranges, etc.
- (c) There is little explicit discussion of how far (if at all) historical data are to be retained in the system. The report pays some attention to the question of updating data (suggesting a suitable 'periodicity' for each sub-variable); but it says nothing about whether new data are to be added to or to replace existing data.

**17.6.4** These issues are particularly important as they have a significant impact on the cost of data-storage and processing in computers.

## **17.7 NEW NATIONAL DATA SOURCES**

**17.7.1** Although emphasis in the foregoing discussion has been on developing management-oriented local information systems, it is obvious that certain basic data have to be organised at the national level. Population census, establishment surveys, annual surveys of industries, have already been organised at the national level. Two more areas which deserve priority from the point of organising the data base at the national level are the environment and land. Environmental data, particularly regarding air and water, need to be organised on nation-wide basis. A proper network of air and water quality monitoring stations, the pertinent parameters to be monitored, and dissemination of collected data in an organised manner are of high priority. Without such a data base, it is impossible to effectively introduce environmental impact assessment as a method of development management.

**17.7.2** In the case of land, the methods followed for cadastral maps and records, topographic mapping, land-use mapping and monitoring changes are archaic, and at times chaotic. A national agency to set standards, introduce new technology and provide technical expertise to state and local governments in these areas will be useful (see Chapter Land as a Resource). This agency should organise:

- (a) preparation of a proper topographic map base and its updating through the Survey of India;
- (b) the carrying out of large-format aerial photography for urban and urbanising areas to provide base maps necessary for cadastral surveys and their updating;

- (c) provision of periodic land-use maps at the regional level through LANDSAT-TM or SPOT images; and the development and provision of a proper grid referencing system so that socio-economic data which are currently available only in terms of administrative units are also available through such a geographic referencing system.

## 17.8 DESIGN OF AN INFORMATION SYSTEM

17.8.1 Attempts to design information system to meet all possible needs have never got off the ground. A more pragmatic approach which is oriented to identifying needs yields operational information systems more quickly. Nevertheless, the design of the system is important, both to meet the identified needs of the user, and to allow for modification as those needs change. Design is also important to facilitate integration of several information system which would eventually lead to a more integrated system. The following ground-rules are suggested for developing such information system:

- (1) The information system should be oriented to the operative objectives that being pursued by the planning agency.
- (2) Data requirements should be prioritised in terms of critical objectives and issues that need to be constantly monitored.
- (3) Maximum benefit must be derived from routine administrative data sources. Prominent amongst them are the property tax records and the building permission records.
- (4) Outside the routine administrative systems, efforts for primary collection of data should be kept to the minimum. Wherever feasible secondary sources of data should be exploited to the maximum.
- (5) Adequate attention should be paid to the area-referencing system. This is important not only because such a system provides data at disaggregate level for spatial and

physical planning, but also because it can provide an important integrating element between various individual information systems.

- (6) A modular approach could be adopted to develop information systems. Their development should be conceived in cyclical phases of the following stages:
  - (a) identification of requirements;
  - (b) design;
  - (c) installation;
  - (d) operation;
 with feedbacks at each stage.

17.8.2 For operationalising an information system, it is necessary to pay adequate attention to institutional aspects, including the type of personnel required, besides the cost of hardware. Here too, an approach that enables a gradual increase in the degree of computerisation should be useful.

## 17.9 PILOT PROJECTS

17.9.1 Serious efforts at designing and developing a truly integrated information system, therefore, have to be undertaken urgently. Pilot projects in some of the large cities like Bombay or Madras and a couple of other metropolitan cities like Bangalore and Ahmedabad need to be sponsored by the NUC. Such studies have to be undertaken, by teams of experts on the subjects outlined below:

- (1) Urban Planning and Administration
- (2) Management Information Systems
- (3) Information Technology-Hardware and Software
- (4) Survey, Mapping and Land Records (officer from Survey of India)
- (5) Use of Satellite Imageries (officer from NRSA Hyderabad or Space Applications Centre, Ahmedabad) and

(6) Organisation Theory.

The expert teams, working for six to nine months, may have to put in 80 to 100 man-months and may require an expenditure of Rs 3 to 5 lakhs for each city to come up with a design of an urban information system and the strategy for its development in a phased manner.

## 17.10 RECOMMENDATIONS

**17.10.1** Data sources at rational level-Population Census, Establishment Survey (Economic Census), Annual Survey of Industries, National Sample Survey and National Income Accounts-should be modified to provide data at spatially disaggregate level.

**17.10.2** Prompt availability of data from these sources should be ensured. For this purpose, instead of exclusively relying on published reports, data in the form of computer tapes and disks should be made available to the planning agencies who could process the data according to their own requirements.

**17.10.3** Two new data systems, one pertaining to environment and one to land, should be organised. The initiative must be taken at the national level.

**17.10.4** Information systems should be designed and developed to serve the decision-making function. These should be distinguished from ambitious data banks which are supposed to provide all the data for all purposes. Such data banks have always failed. A modest beginning with information systems that can grow with feedbacks should be the strategy.

**17.10.5** While developing information systems at the local level, effective use should be made of data generated through routine administrative systems. Property tax and building permission records are perhaps the two most obvious cases, as they provide location-specific data

**17.10.6** As urban planning is concerned with locational attributes of various sectors an area referencing system is the crucial element of integrated urban information systems. Designing appropriate area and network referencing systems along with software for a geographic information system must receive high priority in the efforts to develop information systems.

**17.10.7** The new technology of remote sensing should be exploited for monitoring the expansion of urban areas within the context of changing regional land-use.

**17.10.8** As designing and operationalisation of an information system require multi-disciplinary inputs, it is recommended that pilot projects in some of the major cities should be undertaken for designing and developing integrated urban information systems.

## 18 LEGAL FRAMEWORK

**18.01.1** The framework of laws in India is one of the major instruments which can be used to achieve a positive and beneficial urbanisation. One could categorise the present system of law under four broad headings:

- (a) The Constitution
- (b) Laws within the competence of parliament
- (c) Laws within the competence of state legislatures
- (d) Delegated legislative authority enjoyed by local bodies

Flowing from the recommendations in various sectors relating to urbanisation, the Commission has reviewed the existing laws, rules and regulations in these four categories and has made suggestions for change.

## 18.1 THE CONSTITUTION

**18.1.1.** It is unfortunate that the Constitution makes no reference to urban local government except in item 5 of List II of the Seventh Schedule,

which placed local government within the legislative competence of the state legislatures. However, Article 40 of the Constitution lays down as a Directive Principle of State Policy the duty on the State to organise village panchayats as units of self-government. The Commission recommends that the article be extended to cover urban local bodies also.

**18.1.2** The Constitution authorises the taxing of professions, trades, calling and employment by state, municipal or local authority. This tax has become one of the important sources of income for local bodies. However, it suffers from a constitutional restriction: the ceiling on the rate at which this tax can be levied has been fixed at As 250 per annum. This ceiling was fixed in 1949. Since then the income of individuals and the expenditure of municipal bodies have risen manifold, but there has been no corresponding increase in the permissible of this tax. The Commission recommends that the constitutional limit on the tax on professions, trades, callings and employment should be removed and state legislatures should be empowered to lay down an appropriate upper limit for this levy from time to time, taking into view local conditions and considerations. Article 276 (2) should be amended accordingly.

**18.1.3** Article 280 empowers the President to constitute a Finance Commission at the expiry of every five years or at such times as the President considers necessary, to make recommendations to the President in respect of:

- (a) the distribution between the Union and the states of the net proceeds of taxes which are to be or may be divided between them and the allocation between the states of the respective shares of such proceeds;
- (b) the principles which should govern the grants-in-aid of the revenues of the states out of the Consolidated Fund of India; and

- (c) any other matter referred to the Commission by the President in the interest of sound finance.

**18.1.4** The Commission is appreciative of the present mechanism of the setting up of the Finance Commission at the union level. However, the constitutional provision limits its scope to financial relations between the union and the states; it is not empowered to make recommendations in respect of local bodies. In the past efforts were made to enable the Union Finance Commission to also consider the devolution of resources on the local bodies. Unfortunately, these efforts did not meet with any success. The Commission feels that the finances of the local bodies cannot be left to the whims of the state governments. It, therefore, considers it long overdue that an appropriate institutional arrangement on the lines of the Union Finance Commission be evolved to lay down the pattern of devolution of funds to local bodies. The Commission recommends that, by amending Article 280 to 282, a body similar to the Union Finance Commission should be provided for in the Constitution. It would be constituted by the governor of each state on the expiry of every fifth year or at such earlier times as the governor considers necessary to:

- (a) make recommendations in respect of the distribution between the state government and the local bodies of the net proceeds of taxes which are, or may be, divided between them and allocation amongst the local bodies of the respective shares of such proceeds;
- (b) lay down the principles which should govern the grants-in-aid of the revenues of the local bodies out of the Consolidated Fund of the state;
- (c) take up any other matter referred to the Commission by the governor in the interest of sound finance.

**18.1.5** The Commission further urges that the recommendations of the state finance commission should be laid before the state legislature, along with an explanatory memorandum as to the action taken thereon.

## **18.2 LEGISLATION**

**18.2.1** Moving away from the Constitution, the Commission has examined a wide spectrum of issues relating to urbanisation and has found that there is need to change several acts to make them compatible with the policies suggested by the Commission. Some of the acts are central, but many are within the purview of states. The recommendations in this behalf have not strictly followed the hierarchy of laws of parliament, laws of state legislatures and delegated legislation by local bodies, because there is overlap. Instead, the Commission has suggested amendments topic-wise.

**18.2.2** The Commission has found that there is a set of laws, largely parliamentary, which influence the location of industrial activity, which influences the growth of urban centres. The Industrial Development and Regulation Act, 1951, is one such law. Together with the Industrial Policy Resolutions passed from time to time, various concessions announced for backward areas, regulations relating to licensing etc., this act has militated against the phasing out of obsolete industries in large cities and their replacement by more desirable or profitable activities; it has often encouraged the movement of industries to the periphery of large cities where they cannot be serviced; it has prevented land from being recycled in large cities because the industry concerned is not permitted to close down; and has, to a great extent, been a major instrument of determining location. The Commission recommends that the act and the various policy formulations framed there under should be urgently reviewed in order to ensure that industrial sickness in the existing urban centres is

quickly dealt with, obsolescence removed, the upgradation of technology encouraged, and the location of industrial activity so regulated that high-skill activity naturally moves towards cities where such skills are available and industry appropriate to relatively low skill areas is encouraged to locate there.

**18.2.3** There would also have to be a review of labour laws so that, whilst, on the one hand, the interests of the workers are protected, on the other, the industrialists are permitted to make the turnover of labour which is necessary for technology upgradation. At the same time, the Commission recommends that laws relating to minimum wages, protection of the interest of contract labour, prevention of exploitation of child labour, laws relating to minimum wages, protection of the interests of contract labour, prevention of exploitation of child labour, laws relating to sex discrimination, etc., should be substantially tightened. In this behalf, the Commission would like to draw attention to the set of laws and regulations Which covers construction labour. In most urban centres construction labour, which is largely in the unorganised sector, account for approximately 10 per cent of the work-force. Such workers tend to be moved from site to site, in many cases several times in one working season, which prevents them from having any stability of location. Therefore, they are ill served in the matter of housing, education and health care. Regulatory staff dealing with minimum wages, workmen's compensation and other welfare laws is unable to keep track of the workers and ensure that they enjoy their legal benefits. Organisation for trade union activities also becomes difficult. Therefore, the Commission strongly recommends that the laws relating to contract labour, especially those working in the construction industry, should be so amended that:

- (1) it becomes compulsory for the contractor or the building agency to provide temporary but reasonably comfortable accommodation at allocated sites for the workers;



- (2) these sites are adequately serviced in the matter of water supply and sanitation;
- (3) the State is required to provide contract labour access to the public distribution system and to make arrangements for at least schooling and health care;
- (4) it ensures that wages are paid in the presence of a designated supervisor, who could be a representative of a selected voluntary agency to ensure that minimum wages are actually disbursed;
- (5) provision is made for the day care of the children of working mothers.

**18.2.4** One reason why the existing labour laws do not work is that penalties for violation are inadequate. Therefore, while making suitable amendments, government must also ensure that stringent penalties are prescribed.

**18.2.5** This whole set of laws falls within the purview of Parliament under item 52 of List I of the Seventh Schedule of the Constitution and item 22, 23 and 24 of List III of the same Schedule.

**18.2.6** If the laws relating to industrial location and the protection of the interests of workers, as also rules, regulations and instructions there under, are suitably revised, there would be a significant effect on location of activity and, therefore, the direction of urban growth.

**18.2.7** Obviously, urbanisation and urban development are very greatly affected by the planning ethos and laws relating thereto. Hitherto planning has tended to be confined to the limits of individual urban centres, an attempt being made to make each of them more beautiful and functional. The Commission feels that the laws relating to urban planning must strengthen their content in relation to regional planning and regionalisation of planning approaches. A start could be made by Parliament itself legislating under Article 252, with the consent of the states concerned, to enable the setting up of regional planning bodies which

can assume responsibility for those urban regions which span more than one state. Similarly, the state town and country planning acts must also encourage the setting up of regional planning bodies where several municipal and extra-municipal jurisdictions are to be covered.

**18.2.8** The Commission has, at several places in its report, recommended that city planning must move away from the narrow confines of land-use planning and embrace a much wider field in which employment, job generation, economic development, provision of services and the development of intra and inter-regional networks must be covered. At present the legal provisions relating to the content of master plans tend to be very narrow. The Commission recommends that suitable amendments be made to the town and country planning acts so that urban planning becomes more wide-ranging and, therefore, more effective. In this behalf, the Commission would suggest that, whereas the acts should be quite rigid in the matter of enforcing those regulations which ensure a desirable urban form, there should also be a total removal from the statute book of those provisions which inhibit city growth. What cannot be permitted must be listed with great care and after careful study. That which is not so listed should be permitted without undue formality. The optimum use of land should be encouraged and restrictions in this behalf should be removed. The land-use prescriptions should also be such that they encourage the release of land onto the market as demand increases instead of either preventing such release or forcing it into clandestine channels. A very careful look should be had at permissible floor area ratios, densities, ground coverage, etc. The laws relating to urban planning should aim at providing those densities and that level of heights which encourage our urban centres to move towards cost-effective, fairly low-rise, economical, adequately densely configured cities, the suggestion for which is contained in the chapter on Urban Form. The planning laws must thus aim at making cities more

labour-intensive and, therefore, more just in the distribution of wealth. The planning laws must not encourage the concentration of land and wealth in the hands of a few wealthy people who build energy-wasteful, high-cost, high-rise structures.

**18.2.9** Closely related to the planning laws are those which constitute our municipal structure. The Commission has recommended a drastic change in the organisation for urban management. Large cities should be reorganised in a two-tier administrative system, with the city level dealing with city-wise services and local councils concerning themselves with issues at community level. There are suggestions about restructuring the administrative system so that the management becomes more professionalised. Detailed recommendations are made in the chapter on Urban Management.

**18.2.10** The Commission recommends that the municipal laws be suitably amended in order that the proposed new organisational structure may come into being. The Commission has also recommended that the power of municipalities to frame bye-laws and to exercise delegated legislative authority must be untrammelled, their power to tax should be unrestricted within the framework of the law and no sanction of government should be needed for bye-laws, rules and regulations. The Commission has also recommended that, as in the case of planning laws, the municipal laws should also be designed to encourage city growth, reduced harassment and permit people to construct housing, within prescribed norms, without resorting to irksome procedures of sanction. The Commission has further recommended that supersession of a local body should be allowed only in the most rare cases, and that too after inquiry by an independent tribunal. Holding of elections must be an automatic process, to be set in motion well before the term of a local body is over or within the prescribed period after supersession.

**18.2.11** Laws relating to planning and municipalities are within the purview of state governments, but the Commission hopes that the Government of India will both issue suitable guidelines in this behalf and encourage, by precept, persuasion and discussion, the state governments to amend the concerned laws as suggested by the Commission.

### **18.3 LAND**

**18.3.1** Because land is the medium on which settlements are constructed, the Commission has considered issues relating to land in great detail. The Commission has found that the present system of laws actively militates against easy availability of land for city development. The Commission, therefore, feels that, the land laws should be amended at the earliest. In this behalf our main recommendations are detailed below:

#### **The Urban Land (Ceiling and Regulation) Act, 1976**

**18.3.2** This act was designed to check speculation in land, prevent hoarding and deliver to the State all surplus vacant land so that it could be justly and equitably used for city development. The act has failed to achieve any of these objectives. One option is to make the act truly effective, by removing all discretionary powers of exemption now available under Sections 20 and 21. However, the Commission has found that even in the matter of the agricultural ceiling in rural areas, which is governed by relatively simpler laws, very little surplus land has actually vested in the State for being distributed to the landless. There is constant litigation. The Commission had made recommendations in its Interim Report concerning amendment of the act, but there has been very little movement in this behalf on the part of government. Meanwhile, land availability has become even more scarce and the position in the cities is deteriorating fast. Considering the urgency of the situation, the Commission has, in the chapter on Land as a Resource, recommended

that the Urban Land (Ceiling and Regulation) Act, 1976, be amended and fiscal measures should be used to force the landowners to disgorge surplus land. A tax should replace the notional ceiling. There should be a tax on vacant land or land under uneconomical use. There would, naturally, be a strict definition of uneconomical use. The tax slabs, to begin with, could be as under:

- (a) As 3 per square metre in Category D towns.
- (b) In category C, B and A towns the central or state government, by notification, could fix a tax ranging from As 5 to 50 per square metre, depending on location, value, etc., of land.

(Note: the categorisation of towns would follow the present provision in the UL (C & R) Act, 1976).

The rates may be amended by notification from time to time, provided that a downward revision would require legislative sanction. Receipts from the tax in each urban centre should be utilised exclusively for providing sites and houses to the economically weaker sections and low-income groups.

**Land Acquisition Act, 1894** **18.3.3** It is the duty of the State to provide land for housing the poor. This means that land must pass to state ownership so that it can be developed into suitable sites. The Urban Land (Ceiling & Regulation) Act having failed to deliver land in any appreciable quantity, recourse must be had to the Land Acquisition Act. As it stands today, the act neither passes land quickly to the State, nor does it ensure timely payment of compensation. The Commission feels that the act be so amended that while, on the one hand, the purpose of acquisition, the scheme for compensation and rehabilitation, and the details of the project are prepared in detail and published for inviting objections at the very out-set of initiation of acquisition proceedings, on the other, the land must actually vest in government without delay and the major part of the compensation should be paid to the landowners at the time of vesting and even prior to a final award.

**18.3.4** Amendments to the Land Acquisition Act, 1894, on the following lines are, therefore, recommended:

- (i) When a scheme for acquisition is prepared, there must be a detailed plan of how the land is to be utilised subsequent to acquisition. The scheme for utilisation must, therefore, form part of the notifications of intention to acquire.
- (ii) While preparing the above scheme an estimate of the cost of acquisition should also be made. The tentative cost should also be published with the notification of intention to acquire.
- (iii) Instead of the present notifications under Sections 4 and 6, there should be only one notification containing all the above mentioned details. After hearing objections, the Land Acquisition Officer should finalise the acquisition by a single order. This however, would not be the award for the purpose of compensation. However, an amount equivalent to the tentative acquisition cost published with the notification would have to be paid to the landowner and, if he refuses or if there is a dispute about the ownership, At should be deposited in the court of the Land Acquisition Officer.
- (iv) Within three months of the deposit of the amount, a final award should be made by the Land Acquisition Officer; the amount of tentative compensation already paid to the landowner would be deducted from the final compensation while making final payment.
- (v) At present, reference to the District Court is permissible only to the party whose land is acquired. In the case of the State vs. H.P. Verma, the Supreme Court ruled that the State does not have a right of reference and that the only remedy for the State is to return the land to the party from whom it has been acquired if the compensation is not

acceptable to the State. It is recommended that the State should also be given an opportunity for making a reference.

- (vi) It is also recommended that a Land Acquisition Tribunal should be set up and that land acquisition cases should be placed out of the purview of civil courts. The appellate authority against the order of a Land Acquisition Officer should be Divisional Commissioner or some other designated officer. The powers of a High Court should be conferred in respect of land acquisition cases on the Board of Revenue. Where the institution of Divisional Commissioner or Board of Revenue does not exist an alternative arrangement should be made.

### **Urban Land Consolidation and Land Exchange Schemes**

**18.3.5** One of the major reasons why land development, especially of green-field areas, gets discouraged is that layouts are not prepared and individuals are not allowed to develop their own parcels of land. In Gujarat and Maharashtra, town planning schemes were reasonably successful in delivering land to the market, but even there the progress has now become slow. One reason is that development authorities are in conflict with the scheme of land development under town planning schemes. It is, therefore, recommended that planning and municipal laws be so amended that urban land consolidation, mandatory preparation of layout plans, land exchange and surrender of land to the authorities for providing services, common facilities, etc., are provided for. Facilitation of development of land by private owners would certainly result in fairly large-scale availability of land for the middle classes. Because land exchange would also deliver a substantial quantity of land to the public agencies, part of such land could be utilised for housing the poor.

### **Tenancy, Tenures and Mortgage**

**18.3.6** The system of land ownership in urban areas is very chaotic, with different states having different laws and rules in this behalf. It is strongly recommended that tenancy laws be so amended that rights akin to those of bhoomi-swamis in rural areas be conferred on urban landowners also. Whether land is held on freehold or leasehold rights, alienation should be permitted without need to apply for sanction. Once tenancies are made secure and the right to alienate is freely available, it would become possible to develop a mortgage market. This is one area in which there would have to be quite sweeping revision of the relevant laws.

## **18.4 HOUSING**

**18.4.1** Housing is inhibited by non-availability of land, inadequate financing, defective rent and tenancy control laws, and the failure to develop a mortgage market. While discussing land laws reference has already been made to laws relating to mortgage. The Commission recommends that the procedure relating to mortgaging of property should be simplified and the fees in this behalf substantially reduced. At present, it costs almost as much to mortgage property as to sell it in terms of duty and fees. Once property can be alienated and mortgage becomes easy, land or a house would become a negotiable collateral against which funds could be raised from the market. All laws in this behalf, including the Transfer of Property Act and the Stamp Duty Act, should be suitably modified.

**18.4.2** The Rent and Accommodation Control Act, as applicable to various states, is one of the major hurdles in the development of new rental housing. A house rented out is as good as lost to the owner. A rent once fixed becomes immutable. The use of goondas to obtain vacant possession becomes almost obligatory and clandestine financial arrangements to bypass rent restrictions are almost the norm in most major urban centres.

The Rent and Accommodation Control Act has not made more houses available. It has led, rather, to the criminalisation of landlords and tenants alike, deprived the States of legitimate stamp duty, registration fees and property tax and has led to a general decay of the housing stock for want of repairs. The Commission feels that this act must be drastically amended. Detailed recommendations were made in our Interim Report, the commission reiterates the recommendations then made:

- (1) The protection of existing tenancies.
- (2) The institutionalisation of a system of rental increases, as per a prescribed formula, so that whilst on the one hand, tenants continue to pay a reasonable rent, on the other it is possible for some additional money to be found for building maintenance.
- (3) Delinking of non-residential tenancies from the purely residential so that commercial activity begins to pay the market rent,
- (4) The offering of incentives for new construction so that more and more housing comes on the market.
- (5) Improving the tax-base of local bodies by facilitating realistic valuation of properties.

**18.4.3** With these objectives in mind the Commission further recommends that premises be divided into two categories, (a) those where tenancies exist prior to the prescribed date and (b) those which are either newly constructed or rented for the first time on or after the prescribed date. The Commission further recommends the division of tenancy into two classes, viz., residential and non-residential.

**18.4.4** Existing tenancies: Regarding existing tenancies, the Commission recommends the continuation of the existing protection both of tenure and of rent. However, with regard to rent, in order to neutralise the effect of inflation and thus make some additional money available for building repair, the Commission recommends that:

- (a) Non-residential tenancies: 100 percent neutralisation of the effect of inflation be permitted with effect from the date of first fixing of the rent for all tenancies which came into force subsequent to 1.1.1974 and prior to the prescribed date. The urban, non-manual employees consumer price index (CPI) would be the standard against which inflation would be measured. It may be noted that the Commission has selected 1974 as the base-year because it is the base year used for determining capital gains. In case of tenancies which existed prior to 1.1.1974, 1974 would be taken as the base year and neutralisation of the effects of inflation would be permitted from that year. The increase would be given effect in equal annual increments over five year period, commencing from the prescribed date. In addition, 100 per cent neutralisation of the incidence of inflation may be permitted from year-to-year from the prescribed date onwards.
- (b) Residential tenancies in units with a plinth area of 80 sq. metres and more: Neutralisation of the effect of inflation from the year 1974 would be permitted to the extent of 50 per cent of such inflation. With effect from the prescribed date onwards, however, neutralisation would be 100 per cent on a year to year basis.
- (c) Residential tenancies in units of built-up areas of less than 80 sq. metres: Neutralisation of inflation would be permitted 100 per cent with effect from the prescribed date, with the past inflation being ignored. The Commission has taken a standard of 80 sq. metres as the cut-off line between two categories of, a residential tenancy because this is in consonance with the prescribed limit in the Urban Land (Ceiling and Regulation) Act, 1976. To sum up:

Category	Increase	
	From 1974 to the prescribed date	From the prescribed date onwards
(1)	(2)	(3)
Non-residential	100% of CPI	as per CPI
Residential of 80 sq.m. and more	50% of CPI	as per CPI
Residential of less than 80 sq.m.	Nil	as per CPI

The above recommendations have the advantage of protecting tenants from eviction and arbitrary rent increase, whilst at the same time permitting reasonable rental increase so that more money could be available for maintenance.

**18.4.5 New Starts:** One of the objectives of the Commission is to make recommendations for the encouragement of new starts. The Commission therefore recommends that:

- (a) Non-residential premises, and residential premises having plinth area of 80 sq. metre and more, constructed after the prescribed date or rented for the first time after that date should not be within the purview of the Rent Control Act. Here tenancies would be governed by mutually agreed contracts.
- (b) However, in order to protect the interest of the lower income groups, the said policy would not apply to newly constructed residential units with a plinth area of less than 80 sq.m. In such cases, the first agreed rent would be treated as base rent. Increases in the base rent would be permitted as per the changes in the urban non-manual employees consumer price-index. The tenancy would continue to be protected.

**18.4.6 Administration:**

- (a) In order that issues arising out of the administration of the Rent Control Act may be dealt with expeditiously, it is recommended that litigation be brought out of the purview of the civil courts and instead

placed within the jurisdiction of quasijudicial tribunals. The tribunals would adopt a summary procedure so that there could be expeditious disposal of cases. Only one appeal should be permitted to an appellate tribunal. There should be exclusion of the jurisdiction of civil courts, though the writ jurisdiction of the High Courts together with their constitutional supervisory jurisdiction over tribunals would continue.

- (b) All contractual or updated rents must be registered with local authorities. Such registration of rents may facilitate valuation of ratable values. Provisions should also be made to make the data on such rents available to general public on payment of reasonable fees.

## 18.5 TAXES, FEES AND USER CHARGES

**18.5.1** The Commission feels that urban centres are repositories of wealth and, therefore, they must pay for their own upkeep and improvement. In its chapter on Finance the Commission has made several recommendations in this behalf, particularly in relation to property tax, entry tax on goods, betterment levies, etc. The Commission feels that the abolition of octroi and its replacement by a grant-in-aid is a retrograde step and has recommended that the replacement of octroi must be by a tax within municipal control. Similarly, the property tax structure should be rationalised, discretion in assessment should be reduced to a minimum and a strong element of certainty must be brought into the system by devising an assessment structure in which values are predetermined and notified on the basis of zonal values, locations and use. The scheme is detailed in the relevant chapter. In addition, there has also to be a system of recovering betterment charges on account of improvement in services or the undertaking of capital works by the local bodies. The unearned income which accrues on sale of property, whose value has enhanced because urbanisation has occurred or the existing urban

centres have enlarged or improved, must also be tapped. This could be done by enhancing the stamp duty, registration fees, etc, or by a pure tax on unearned incomes. It is also strongly recommended that all government properties must be brought within the purview of municipal tax.

**18.5.2** At present, user charges and rates tend to be rigid and inflexible. The relevant acts should be so amended that the service tariff can be raised from time to time by simple notification, as is the case with the electricity tariff. It is also recommended that the acts be amended to permit the charging of differential tariffs, either on the basis of location or on the quantum of the service utilised. Thus a lower tariff may be charged if activity is located in a desired area. A higher tariff may be charged if an individual, household or business uses more than the prescribed quantity of a particular service, e.g., water. There could be a differential tariff on road use so that short distance use of public transport is discouraged, the use of private transport in designated areas is heavily taxed and a shift from low-passenger-capacity private transport to high-capacity public transport is encouraged.

**18.5.3** It is one of the major recommendations of the Commission that individuals and businesses be encouraged to participate in city development. For this purpose, it has been recommended in the chapter on finance that suitable tax incentives should be offered, including relief in income and corporate tax, property, etc. Similarly, businesses located on city peripheries, outside municipal jurisdiction, but using city facilities, should also be taxed so that they contribute to municipal coffers. Section 10(20)(A) of the Income Tax Act could be extended to cover non-statutory bodies, including private businesses, which invest in city improvements. The benefits of Section 80G.(2)(A) may be extended to any person or body engaged in housing activity or making donations for this purpose. The provision of Section 80 CC (3)(a)(ii), read with 80 CC(1) and

80 CC(2), should be extended to provide tax exemption, without a maximum limit, to participation in the equity of an approved public company which engages in house construction, housing finance, etc. Perhaps exemptions could also be given on sales tax on materials used for house construction, amendment of the laws relating to licensing, etc., which could make it mandatory for new businesses to provide housing for workers.

**18.5.4** There are certain other issues of concern. One relates to permissible deductions from income on property being restricted to only a small percentage of the total income. Both in the income tax and in the property tax laws, the actual amount which has been spent on maintenance of the property should be deductible from the income. This would encourage better house maintenance. The Commission also feels that, in order to encourage mobility, the stamp duty on transfer should apply to the incremental portion of the price only.

**18.5.5** Capital gains from transfer of property, while yielding portion of the incremental value to the State for further development, should not be subject to any other tax, on condition that the money is invested in a company or organisation funding or participating in housing, infrastructural development, etc., or is applied in the furtherance of city development in defined areas and on designated works. The Commission also feels that the escalation in the value of property should not be taken into account whilst determining wealth tax because the manner in which urban property has increased in value would bring even fairly modest properties within the purview of wealth tax.

## 18.6 POLLUTION CONTROL

**18.6.1** The laws relating to pollution control have been gradually stiffened. However, there is need for a review of these laws with a view to making them much more effective.

## 18.7 URBAN CONSERVATION

**18.7.1** Apart from the activities of the Archaeological Survey of India and the Archaeology Departments of various state governments, which have largely attended to monuments, there is no ethos of conservation in India. The Commission therefore recommends the drafting of legislation on this behalf accordingly.

**18.7.2** In addition to revision of the relevant laws it would be necessary to prepare the bye-laws, rules and regulations which would expand and give effect to the legislation. The Commission recommends that all the relevant bye-laws, etc., should be brought in line with the proposed amendments in law. The Commission recognises that the wide range of authorities which would have to attend to the task and the variations in laws, rules, regulations and bye-laws in different states and different cities make it impossible to have a single, uniform act of universal application. Therefore, by and large, the Commission has not attempted any legal drafting. The Commission does, however, recommend that, both at the centre and in the states, study groups should 'immediately be set up which would review the existing legislation on the lines recommended by the Commission. The Centre should also set up a coordination committee which would issue guidelines, prepare draft model laws, bye-laws, etc., and generally help bringing the legal system, with local variations, into line with the recommendations of the Commission. The study groups would not only review the laws but also prepare draft legislation. It

would then be for the centre and the state governments to introduce suitable bills in the legislative bodies concerned and to pilot them to quick enactment.

## 18.8 RECOMMENDATIONS

The Commission recommends that:

**18.8.1** Article 40 of the Constitution be amended to direct the State to organise and strengthen urban local bodies in addition to village panchayats.

**18.8.2** Article 276(2) of the Constitution be amended to remove the upper limit on the quantum of professional tax.

**18.8.3** Article 280 of the Constitution be amended to make it mandatory for every state governor to constitute a quinquennial State Finance Commission to advise on revenue sharing between the state and local bodies.

**18.8.4** The Industrial Development and Regulation Act 1951, regulations and executive instructions governing location, licensing, renovation, closure, shifting, etc., of industry be reviewed and amended with a view to removing all restrictions on logical location and development of industry.

**18.8.5** Labour laws and laws relating to employment, child labour, sex discrimination, minimum wages, workmen's compensation, be reviewed so that, whilst the interest of labour are safe-guarded and enhanced, the employer also has a fair deal, especially in matters of redundancy and discipline.

**18.8.6** The laws relating to contract labour be tightened and rigorously enforced, especially for construction workers.

**18.8.7** Planning laws must emphasise regional planning and must actively encourage regionalisation of planning.



**18.8.8** The Town and Country Planning Acts be amended to widen the scope of planning from the merely physical, land-use approach to a much wider one of total city development (all provisions which inhibit development should go).

**18.8.9** The planning laws should facilitate land availability and house construction and must, therefore, be simplified.

**18.8.10** The planning laws should encourage the development of low-rise, high-density, labour-intensive, economical city configurations and discourage the concentration of wealth through high-cost, high-rise construction.

**18.8.11** The laws relating to municipalities be amended to introduce a two-tier structure of administration in cities with more than 5 lakh population; the powers and functions of the deliberative and executive wings being codified and the management made more professional.

**18.8.12** The provisions regarding supersession of local bodies be made so stringent that supersession becomes an exception and fresh elections an automatic process.

**18.8.13** State intervention in the urban land market is imperative for ensuring access to land for the urban poor. The Urban Land (Ceiling & Regulation) Act, 1976, having failed to transfer vacant land to State ownership, in its interim report, the Commission had suggested amendments to the act providing, on the one hand, that a five-year moratorium on acquisition under the act would be declared to give landowners a chance to develop their land in the prescribed manner and, on the other for the automatic vesting of vacant land in the State if the landowner fails to develop it within the prescribed time-frame. The Commission had also suggested a tax on vacant land during the period of moratorium. Because land is an extremely valuable resource for city

development, the Commission feels that the interim recommendations need strengthening in the following directions:

- (a) Sections 20 and 21 of the act, which allow discretionary exemptions, should be deleted.
- (b) All exemptions should be brought within the ambit of Section 19, by expanding its scope, if necessary. In other words, what is exempt is mandatory and what is not exempt cannot be exempted by any authority.
- (c) All lands which are vacant and surplus must be developed during the five-year period of moratorium or transferred to the State, a State undertaking, statutory corporation or authority dealing with housing and urban development, or a cooperative organisation dealing with housing.
- (d) All properties developed contrary to the permissible norms should be liable to confiscation by the State without payment of any compensation whatsoever.
- (e) On expiry of the period of moratorium, undeveloped land should vest automatically in the State.
- (f) During the period when land in excess of the ceiling is kept vacant, a cess or tax, ranging from As 3.00 per sq metre to As 50.00 per sq. metre, depending on the town size, location etc., should be charged, with the proceeds being deposited in a Shelter Fund to be constituted for each urban area to which the act applies. In other words, no one in notified towns and cities would be allowed to hold excess vacant land without paying for it or using it for city development as per the prescribed norms. This would very quickly ensure that surplus lands are properly utilised and would substantially add to land availability.

Along with this, it is also necessary to make effective use of the Land Acquisition Act, 1894,

to obtain an adequate amount of land for public housing agencies, which has to be essentially used for housing the poor.

**18.8.14** The Land Acquisition Act, 1894, be amended to force the State to publish a detailed scheme of acquisition, use, compensation and rehabilitation prior to acquisition, and to provide that, while land should vest on the passing of an order of acquisition, the provisional compensation be paid at the time of vesting (the award could follow and the State should also have a right of reference).

**18.8.15** Urban land consolidation, land exchange and surrender of part of the land for community use be encouraged by suitable amendment of the town and country planning acts.

**18.8.16** The laws relating to urban land holdings, which could be either the state Land Revenue code, Nazul Rules or lease regulations, be amended to confer title, or at least unqualified right to alienate land held on permanent lease (this would secure urban land tenancies and permit a mortgage market to develop).

**18.8.17** The procedure for mortgaging property be simplified so that land or a building could become a negotiable collateral for raising loans, to facilitate which the stamp duty and transfer fees should be substantially reduced on mortgages.

**18.8.18** The Rent and Accommodation Control Act should be modified to provide for:

- (i) The protection of existing tenancies,
- (ii) The institutionalisation of a system of rental increase,
- (iii) Delinking of non-residential tenancies from the residential,
- (iv) The offering of incentives for new construction and improving the tax base of local bodies.

**18.8.19** The abolition of octroi be reviewed with a view to its replacement by a tax under municipal control and property tax structure rationalised by amendment of the relevant municipal acts.

**18.8.20** Incremental value of property at the time of sale be tapped by suitable amendments in the laws relating to stamp duty, registration fee, etc.

**18.8.21** The laws relating to tariff chargeable on utilities and services be altered to permit charging of differential tariffs, raising of rates by notification, etc.

**18.8.22** The municipal laws be amended to permit the taxing of extra-municipal properties and businesses which derived benefit from city services.

**18.8.23** Sections 10(2)A, 80G(2)(A) 80 CC(3)(c)(ii), 80 CC(i) and 80 CC(2) of the Income Tax Act be amended to extend tax benefits to non-statutory bodies, businesses and individuals who invest in housing or city improvement, or in companies which provide housing finance or make donations in this behalf.

**18.8.24** The law be amended to exempt capital gains from transfer of property from all taxes, other than duty and fee on incremental value, provided the money is invested in a company or organisation engaged in housing finance, housing development or city improvement.

**18.8.25** The Income Tax Act and the Municipal Acts be amended to allow the full cost of house maintenance to be deducted from income from the house for tax purposes.

**18.8.26** The law be amended to exempt from the purview of wealth tax all properties whose value, at the time of acquisition by the owner, did not exceed the exemption limits.

**18.8.27** In all states and at the centre, study groups be constituted to review existing legislation, rules etc., on the lines recommended by the Commission, so that guidelines, model laws and rules, bye-laws, etc., could be drafted.

## BOOK REVIEWS

Thingalaya, Dr.N.K., *Gramin Banks Revisited*, Nitte Institute of Banking and Finance, Nitte University, Mangalore, 2013, Mangalore.

After enactment of Regional Rural Banks Act in 1976, the first six regional rural banks (RRBs), popularly known as gramin banks, were set up with the capital participation in each of them by one of the commercial banks, Central Government and State Government. In view of increasing importance of RRBs, the number of these banks went up to reach 196 by 1987. Unfortunately, financial performance of these RRBs was not satisfactory. An on March end, 1987, out of 196 banks, as many as 136 RRBs showed losses which was a matter of concern though they continued to be friendly to the rural community. Hence, merger of RRBs was considered as a solution to make them financially viable. Accordingly, the loss making ones were merged with other RRBs within the respective states. By the end of November 2013, their number was reduced to as small as 58. As expected, this merger process led to a turn-around of loss making RRBs which is evident from their post merger financial performance. The total profits of all RRBs have increased faster than the accumulated losses. This turnaround is largely due to improving overall productivity of resources, cutting down wasteful expenditure, enlarging bank products, adopting technology driven banking process and financing even bigger agro-based projects besides promoting financial inclusion in a big way. This unprecedented improvement in overall operational performance of RRBs calls for a detailed analysis. In this regard, Dr. N.K. Thingalaya, the author of the book, deserves appreciation for undertaking a post-merger analysis of RRBs which is timely and relevant.

In Chapter 1, post-merger analysis of RRBs is discussed which reveals many interesting points. According to the financial results of the year ending March 2013, out of 64 RRBs operating, only one could not earn profit. All banks, except one, are financially viable in terms of profit generation. More importantly, in Bihar state,

which had large number of RRBs incurring losses, does not have a single bank in this category now. Manipur Rural Bank has shown profits for the first time in history. Pandyan Grama Bank has earned profit consecutively for the past seventeen years and recorded nil NPA continuously for the past ten years. RRBs have acquired a fairly large share in the branch expansion too. Similarly, by March end, 2013, the number of branches remained at 13, 452; most of them are in those areas where no bank branch existed earlier. All banks are now operating under Core Banking Solution (CBS) environment. With a wide network of ATMs, Kasho Goamti Sanyukta Gramin Bank has started even 'talking ATMs' for visually challenged persons. Over the years, RRBs have brought to the banking fold a large number of new customers in rural areas, their number being more than 11.80 crore. In a few states, one third of customers are serviced by these banks. In this way, on many counts, RRBs have set a good example. Thus, merger of RRBs in India is a success story.

In Chapter 2, it is attempted to carry out a state-wise review of RRBs after merger which covers a wide range of financial and non-financial parameters. Many useful points emerge from this review. For instance, Rajasthan and West Bengal are the two states, in which there is almost an equal distribution of RRB branches among the districts. Like the commercial banks, these also exhibit some reluctance to spread their branches in backward districts. In Odisha, Boudha district has only 6 branches of RRB and the total number of branches of all banks is 27. Similar is the situation in many states. But their overall record in operating in remote areas even in the politically disturbed districts is better than the public sector banks. RRBs have acquired the status of omnipresence, covering almost the whole nation. In tune with the accelerated branch expansion programmes, RRBs also have opened ultra small branches to promote Financial Inclusion.

In Chapter 3, analysis is further carried out prudently to identify factors responsible for overall improvement in operational performance and financial viability of RRBs. Before merger process, profitability of rural banking was not accorded high priority, though it was mandated to adopt a lower wage structure to get them evolved as low cost credit agencies. But, with the slow growth in rural business, many of the banks were not able to generate enough revenue to meet the growing expenditure. Consequently, most of them incurred losses. With the introduction of financial sector reforms in 1992-93, several changes were introduced in the overall management of business. In the book, the author has tried to assess impact of financial sector reforms on performance of RRBs during the post-reform period, besides quoting many examples. This seems to be a good part of the study.

Chapter 4 deals with several aspects concerning 'reaching with un-reached'. RRBs have made efforts to reach out to the un-reached even in some of the inaccessible areas firstly by spreading their branch network. Some of them have their branches in tribal dominated regions, desert areas, decoity-infested areas, etc. They mostly deal with illiterate people with small deposits. Much of lending is made to small and marginal farmers with marginal yield on advances. In promoting financial inclusion in the country, the role played by RRBs, in financing of SHGs is very much impressive. It may not be wrong to assume that the RRBs have more than ten crore of customers having savings bank accounts. In these regards, efforts put in by the author in making the state-wise review of performance of RRBs are worth appreciating.

In Chapter 5, human resources management in RRBs is extensively discussed. In the beginning, staff members of these banks were not provided an exposure to the nuances of appraising credit proposals beyond those of pretty small advances. Since the banks operated mostly in less developed

districts in different parts of the country, they were lagging behind in competition. Added to this, staff promotion rarely took place. But now, the situation is different. Since financial resources are better managed in terms of profit performance, the focus should be on better management of human resources as well. With the recent recruitment in RRBs, young and talented students are now available for handling business under IT environment. In terms of staff productivity, RRBs are not lagging behind. Sufficient attention is now paid to human resources development through training intervention. The author rightly points out that there is a need to create a rural banking cadre in view of growing importance attached to rural banking by private sector banks and public sector banks.

In the last Chapter, the book suggests the future landscape for RRBs. The shape of rural economy is changing very fast wherein we witness an increase in mobility of population and in the literacy levels. Multi national companies are keen to enter into rural areas to promote new products and services. Rural households have now better access to the outside world through television and mobile connections. Today, at least two percent of the households own a car, a jeep or a van. In rural areas, competition in banking business is gaining strength. According to the author, rural banking need not be a losing proposition and, therefore, RRBs should continue their journey into rural India in every state, reaching out to the distant villages. But need for making RRBs still financially stronger is very much felt. The merger of RRBs accomplished recently has been instrumental in creating bigger banks by reducing their number. A vibrant and sustainable rural banking infrastructure has to be evolved with a long term perspective, which can make total financial inclusion a reality.

Considering huge data collected by the author from various sources, there is scope to employ statistical tools to measure the impact of merger

on business performance of merging and merged RRBs. In any case, this seems to be a rare document to discuss state-wise analysis of RRBs to assess their performance during the post merger period. This analysis is based on data relating to pre-merger and post-merger performance of the banks. The author has reviewed performance of RRBs in a very convincing manner based on his rich experience in Syndicate Bank and extensive academic work carried out by him in the related areas over the last three decades or so. More importantly, the book contains many useful references of RBI committees, RBI publications, annual reports of the banks, etc. This also contains many interesting pictures to have a feel of rural banking and role of RRBs. In my view, the book would provide a good understanding of RRBs in the changing context to the policy makers, practicing bankers, researches and students pursuing doctoral study on RRBs.

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ICSSR Research Surveys and Explorations on Political Science, *The Indian State Volume I*, by Samir Kumar Das, and Volume II, *Indian Democracy*, by K.C. Suri, New Delhi: Oxford University Press, 2013.

The volumes on survey of literature on Indian State and Indian Democracy appeared in 2013. This was just about a year before Narendra Modi came to power with a full majority in Lok Sabha. For the first time since 1984, a single party had gained majority in the lower house. The year 2014, therefore, marked a tectonic shift in Indian politics. Hence, the above mentioned volumes, it must be said, could not have been published at a more opportune time. The literature surveyed in these volumes covers those works that were published, broadly in the first decade of 21st century. Thus, these books deal with the major changes that happened in Indian politics since 1990. They either directly, or as a background,

cover these transformations in India's political system. Thus, coalition politics, identity politics, multi-party system, changes in economic policies form subject matters or reference points in the articles of these books. The publication of these volumes is timely in another sense. The last ICSSR survey of research on Indian politics was brought out in 1995. This survey covered writings published in the period between 1971 and 1992. After 1990, politics in India changed drastically. And many writings on these changes have appeared since then. These two publications give the readers a survey of all those writings in one place.

The General Editor of this series by the ICSSR, which includes two more volumes namely 'Indian Political Thought' and 'India Engages the World', besides those two reviewed in this piece, is Achin Vanaik. The editor of the book on Indian State is Samir Kumar Das and the one for that on Indian Democracy is K. C. Suri. The volume on Indian State covers four chapters and that on Indian Democracy has six chapters.

First, let us discuss the volume on Indian State. The chapter on Social Character of Indian State by Sobhanlal Datta Gupta starts by putting forward a puzzle: how did democracy survive and flourish in India in the face of deep-rooted social conflicts underneath? The author highlights two contending strands of studying Indian state immediately after independence: the Structural-Functionalist and the Marxist. The former maintained that there was an underlying consensus behind myriad of social conflicts in India. For the Marxist scholars, however, it was the socio-economic conflict between propertied and propertyless classes that became the defining feature of Indian state. Later on, other Marxist scholars maintained that Indian state is non-hegemonic since it is ruled by a combination of dominant classes. This also makes state in India relatively autonomous of the ruling classes. In the post-liberalisation phase, the Marxists scholars

sought to unravel the myth of the limited state by pointing out that the state in India actually acts as an agent of dominant interests to the detriment of the poor. Some other Marxist scholars like Partha Chatterjee have added that the state, by introducing welfare policies for the poor, seeks to control and regulate the latter. They have seen this as Foucauldian concept of governmentality in operation. The 1990s saw the lower caste groups staking claims on political power of Indian state. The scholars then started to analyse the state in terms of caste domination instead of class domination of the Marxist variety. This analysis was complicated by some scholars such as Andre Beteille who maintained that the middle class amongst the lower castes takes away all the benefits of politics of caste assertion. During this period, the gender perspective was initiated to understand the Indian state. Emergence of civil society as an actor during the 1990s invited a rich debate on its impact on the Indian state. Also, scholars started to adopt cultural anthropology to analyse the Indian state. Thus, everyday state and perception of state by common village folks have started to form research agenda recently.

In the chapter on Political Economy of India, Supriya Roy Chowdhuri maintains that the debate in the post independence period till the 1980s was on the issues of land reforms, the mode of production and the nature/composition of ruling classes in India. Since, the mid-1980s, the discourse has centred on liberalisation policy. The supporters of this policy have shown that the same has led to increase in economic growth. However, these scholars have agreed that economic disparities have also shot up during the same period. To take care of this issue they have prescribed welfare policies by the state. However, others have pointed out the problem of implementation and governance in addressing poverty. Economists like Arvind Panagaria have maintained that the slow pace of economic liberalisation have resulted in continuing poverty. For political economists taking the perspective

critical of capitalism, the economic reforms created growth but the latter is distributed unevenly between different classes. Kalyan Sanyal has underlined informalisation, dislocation and exclusion of the poor. Atul Kohli has emphasised upon alliance between big corporation and the state in pushing economic reforms in the country. In the wake of a series of suicides by farmers in India, the agrarian distress has become research agenda of some scholars. They have discussed the agriculture-industry relations as well as issues internal to agriculture as forces behind this crisis in agriculture. Partha Chatterjee has contributed with his formulation on passive revolution and political society during this period. Also, scholars have maintained that there was a division between politics and economics in the era of economic liberalisation. So, while parties implemented reforms when in power, they opposed the same when in opposition. This led to the argument of reforms by 'stealth'. In the end the author has discussed differences in the perspective and methodology in the disciplines of politics and economics, leading to different types of research coming out of these two disciplines, thereby creating challenges in the path of political economy approach on India.

In the chapter on Social Policy in India, authored by Dwaipayan Bhattacharyya two social security policies in the last ten years have been analysed. This analysis is done in the background of relations between the state and the market. Thus, the scholars have maintained that the state would look after those who would be left behind in the market oriented policy framework. Also, scholars have already demolished the myth of duality between the state and the market. In fact, the experience around the world suggests that the institution of the state has actively protected the private capital and market led system. However, in democratic system the market economy may create a situation where various rights guaranteed by the state would remain only formal ones

leaving vast population high besieged under poverty and hunger. In order to sustain the legitimacy of the state and the market oriented system in such a situation of imbalance between the formal and the concrete, the state comes out with social security measures. In the section on policy on education, the author has shown that the state in India has aimed at universalisation of formal education at various levels, but it has fallen short of providing adequate finances in order to achieve this ambitious task. Also, the debate on privatisation of higher education is analysed. On MGNREGA, the author has underlined the complicated nature of informal labour in the country and the adequacy or otherwise of government providing employment to rural dwellers. Also, the debates on the implication of rights based approach of the scheme, role of entrenched interests in the countryside, the issues of implementation, the women's participation in it are delineated.

In the chapter on Law, Rights and the Indian State, Mangesh Kulkarni has analysed the role of judiciary in protecting several types of rights of Indian citizens. A body of work dealing with judiciary's perspective on caste, gender and religion - the most controversial aspects in Indian politics post-1990 has been analysed. Also, the instruments such as PIL and judicial activism have been discussed with reference to writings on them. The repressive role of the Indian state in the sphere of civil liberties, the various civil liberties and the civil society organisations' engagement with the state on this subject and problematising the civil society by Partha Chatterjee's concept of political society have been discussed.

The Introduction by K. C. Suri to the volume on Indian Democracy has placed itself in the debate on the vitality of Indian democracy. The author counters the claims that Indian democracy is insufficient one as in here, substantive democracy is wanting. The author urges to see democracy as a process instead of seeing it in 'full

or nil' approach. He underlined the fact that historical and socio-economic antecedents of Indian democracy are quite different from what happened in US or Europe. The author contends that India has a thriving procedural democracy and making every move, in howsoever messy way, towards a substantive democracy. He also points out that the nature of democracy in US is different from that in Europe and hence different types of democratic experiences are possible.

The chapter on Indian Democracy: Cognitive Maps by Neera Chandoke and Rajesh Kumar and that on Election Studies by Suhas Palshikar talk to each other on the theme of research on democracy in India. Chandoke and Kumar, while valuing the electoral upsurge of various lower castes and communities in the 1990s underline its several limitations. The crux of these limitations is that this so called democratisation has not addressed the problem of socio-economic inequality. Their position is that 'political democracy and social/economic democracy are not distant or even first cousins; *they are constitutive of democracy itself*' (emphasis original). The authors have appealed the political scientists not to restrict themselves to the election data but to take up the challenge 'of theorising the pre-conditions, as well as the nature of substantive democracy.' Suhas Palshikar, on the other hand, has urged the scholars not to consider elections merely as procedure but to engage with them as instruments to understand Indian democracy. He insists that the voters have shown their agency and autonomy in determining electoral choice. And also that shrinking of social movement sphere has made elections even of greater significance for political participation for masses. In the end, the author accepts, 'election studies are situated at the cusp of the paradox of expansion of democracy without much deepening of democracy in our contemporary political practice.' This warrants election studies to be taken seriously by scholars working on democracy.

In the chapter on Civil Society, Neera Chandoke has put forth a dualism between the state and the civil society in India. For the state in India, the author complains that '*representatives have not proved democratic enough*'. About the civil society, the author contends, '*organisations that seek to deepen democracy may not be representative of the political will*'. (emphasis original). However, Chandoke does not consider looking at the political democratisation and civil society activism as the processes strengthening the liberal democracy in India. In that, the former seems to be raising the representational and participative claims of the lower rungs of society and the latter is raising more substantive issues of poverty, employment, education - in a very liberal democratic-capitalist framework.

In the chapter on Constitution and Its Institutions, Manjari Katju has pointed out that when the NDA government declared its decision to review the Constitution of India, the scholars developed renewed interest in Indian Constitution and Constitutional institutions. The research on Constitution has been centred on the lofty ideals enshrined in it and the slack implementation of the same, judicial activism and the want of 'Constitutional morality' amongst Indians. The studies on Indian Parliament and state legislatures are done on changing socio-occupational profile of the members of these houses, the decline in the standards of working/debates in them, the critique of this 'decline thesis'. The research on judiciary is made on the rising phenomenon of judicial review, the dilemmas involved in the same and the Supreme Court's stand on the emerging issues in Indian politics namely, economic liberalisation, secularism and gender justice. The writings on village Panchayat system in India has appeared on the themes of nature of 73rd Constitutional Amendment, issues involved in decentralisation, effective powers enjoyed by the Panchayats, cultural bottlenecks in the working of women's reservations in Panchayats and election for and

political participation in Panchayats. The publications on Indian bureaucracy are on the nexus between bureaucrats and politicians, the issues of inefficiency, corruption, insensitivity and unprofessionalism in the bureaucracy and possible remedies on them. The research on Election Commission has taken up the subjects of the institution as the most trusted one by the people in India, the unenviable task of balancing the procedural aspects of elections with the heightened expectations of democratisation and suggestions to reform the institution.

The chapter on Indian Federalism written by Balveer Arora, K. K. Kailash, Rekha Saxena and H. Kham Khan Suan analyses the literature on Indian federalism covering various institutions such as Inter-State Council, Rajya Sabha, Supreme Court, local self government in the context of 73rd and 74th Constitutional Amendments and the changing Party System. All these themes have become important in the wake of fragmentation of political party system and coalition government that changed the face of Indian politics in the 1990s. The authors have also discussed at length the implications of the new significance of state governments for political economy of federal relations. In discussing the cultural heterogeneity in Indian federation, the chapter analyses the cases of Jammu and Kashmir and Northeastern states in great details. Here, the issues such as autonomy, separatism, identity, financial dependence on the centre and politics of elections are delineated.

The chapter on Party System and Party Politics in India written by K. C. Suri analyses the changing party system in India after 1990. The literature terming these changes variously as decay and democratisation; and 'second democratic upsurge' has been discussed. Also, writings on caste and religious based mobilisation in the states such as UP, the legal-institutional incentives to form more parties are also analysed. The author delineates the debate on applicability or



otherwise of Duverger's Law to Indian party system. This issue became potent amongst scholars especially after emergence of genuine multiparty system in India. The topics such as coalition politics, nature of ideology and leadership in parties, clientalism and patronage also find a detailed treatment.

All in all, the two volumes are a valuable addition to the literature on Indian Politics. Their immense utility lies in the fact that they are a one-stop place of literature on myriad aspects of Indian politics. So, for both the graduate students and research scholars they should prove useful. The former may get an overall understanding of writings on Indian politics and the latter can start their work by identifying important publications on Indian politics. Apart from students and researchers, the journalists and social-political activists in India should find this a useful and valuable source.

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Sahu, Geetanjoy, *Environmental Jurisprudence and the Supreme Court: Litigation, Interpretation, Implementation*, 2014, Orient Black-Swan Private Ltd., Hyderabad; pages xviii+323.\*

### Introducing the book

The legacy of British and Irish legal system gave us a dictum about the role of courts as 'interpreters of the Constitution', and empowered them using legal and penal system to pronounce rewards and punishments. This is all in history now. Today in many countries including India, the court system takes a special role as 'judicial

activism',<sup>i</sup> particularly when Legislature is unable to act on time and fast, or when the Executive system fails or derails to implement the decisions from the Legislative system, or in safeguarding the citizen under the laws of the nation. In a sense, the courts have come out with a new '*avatar*' to deliver democracy in a welfare framework.

The book under review elaborates this new *avatar* of the Supreme Court of India. In doing so, the author very cautiously and systematically analyses major judgments of the highest court of the country to elaborate upon various aspects of jurisprudence emerging from them in the realm of environmental management and monitoring and in the country. Needless to mention that the Supreme Court in its new '*Avatar*', has also been making its mark on matters of human rights, social welfare, national security, etc. The book under review however, concentrates mainly on environmental management and governance issues.

There are three parts in the book followed by a concluding chapter. While Part I frames the 'Greenness' of the Supreme Court, Part II analyses the decision making process on environmental matters, highlighting its charter, challenges and approaches. Part III presents the implications of the judgments in terms of monitoring and implementation. A very valuable data set is provided by the author in an Appendix, with 191 major environmental cases dealt by the Supreme court- neatly presented in qualitative terms, very precise, concise and very informative.

### The role of the Supreme Court

The book notes three major responsibilities of the Supreme Court as important. First, it is an interpreter of the Constitution, a continued role from history of the legal system the world over.<sup>ii</sup>

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\* Although the book under review was published in 2014, since the release of present issue of the Journal has been delayed, we have included book review in this issue.

This is the 'eminent domain' character of the Judiciary. Second, it plays a major role as adjudicator in dispute settlements-be they on fundamental rights, discharge of duty or on matters of violations of law, rules and customary procedures. This is the duty of the judiciary to fix criminal liabilities. Third is its new '*avatar*', as Green court, discussed throughout the book. Dwelling on the third role, the author starts the book (p. 3) with a question: 'why there is a need for such active judicial intervention in resolving environment related disputes? Is it because of the failure of other organs of the 'state' to be effective on this matter?' This book is devoted to quench this thirst.

With this as a starting point, the author makes a distinction between violation of 'polluter pay' principle and matters pertaining to public interest. The first is a case of environmental dispute between two parties (say between a company or factory, individual or a group or the State). The second is a situation of environmental matters exclusively of public interest arising whenever there is gap between social and private cost of an action by one individual or a group, a company or the State, having environmental impact implications for the society in general, or due to the failure on the part of the State on environmental governance such as urban waste disposal.

To begin with, the author poses four research questions in the book (p. 15). They are: How green is the Indian judiciary? When is it green and why is it green? What factors determine the greenness of the Supreme Court? How effective are the decisions of it at the implementation levels. For sure, the author has addressed these very important questions throughout the book.

The author's exposition with 191 Supreme Court cases pertaining to environmental violations of both the types mentioned above, gives sufficient clues on the establishment of a special bench under the concept of "Green court" (p. 5)

and 'Green Bench' (at High Court level; Pp. 89-90). The reasons may be many. Environmental changes and demands on reducing their damaging impacts are on the increase over time. But, for the Legislation to bring about the necessary constitutional and legal changes involves a long drawn process, to bring about amendments to the existing constitutional provisions on any matter, including the 'environmental'.

The two most relevant Indian Constitutional provisions in this respect are Articles 48A and 51A(g). Under the Directive Principles of the State Policy, Article 48A states that 'The State shall endeavour to protect and improve the environment and safeguard the forests and wild-life of the country'. Article 51A(g) defines the Fundamental duties of every citizen of the country to protect and improve the natural environment including the forests, lakes, rivers, and wild life and to have compassion for living creatures. But, it is note-worthy that even after 60 years of framing of the Constitution (and also having carried out as many as 98 Amendments till January 2013), there have not been one single amendment on these two Articles. While this shows the firmness of Indian Legislation to adhere to the originally assigned duties and responsibilities to both the State and citizen on environmental matters, it is also indicative of not responding to the call of the nation on many of the emerging environmental matters. Also, at the level of deliverables and governance, the other agency of the State, namely Executive and Civil Administration seems to be lacking in both the power and the zeal to act on environmental disputes. The net result has been judiciary having assumed the role of both jurisprudence and monitoring and acting like a watch dog on implementation of court rulings. Among the cases cited by the author as many as 27 major PILs' are filed by Shri M C Mehta and others, covering various adverse environmental impacts and degradations such as pollution of Ganga river, pollution in Delhi due to stone crushing and brick

kiln activities, gas leakage in city or vehicular pollution, relocation of small scale and hazardous industries from habitat areas, pollution of lakes such as Bhatkal, pollution around Taj Trapezium, pollution of ground water, protection of 'green zone' around Agra city, mining of Aravali hills, and many such others. In almost all such cases, the Court had directed the Executive to act on time and firmly; and in several cases asked them to report on monitoring and implementation.

### **Environment as a compass**

When it comes to jurisprudence on environmental matters, there is an overlap between environmental management, poverty and human rights. Environmental violations can be considered, for sure, under the 'law of the land hammer'. But often the Supreme Court deals this with an angle of human rights. That is where, under the Indian laws, there is a provision of Public Interest Litigation (PIL). The author cites a large number of examples such as on prisoners' and asylum rights, bonded labour, right to education, sexual harassment, corruptions in public life and such others (p. 85). The basic premise on PIL is about the 'public good or bad' nature of many environmental matters, people's slow and low rate of exposure and awareness about environmental impacts of public or private policies, people's non-affordability to fight in the courts, people not having clarity about unequal exchange and information system, and the difficulty of facing humiliation, fear and intimidation from powerful individual and groups (p. 111). But, there can arise some conflicts between environmental law and human rights protection simultaneously. As argued by the author (p. 9, 23) in several instances, some inconsistencies arise. While taking the stride along environmental protection, the judgments have thrown off many poor people out of the places of stay or jobs (say displacement due to slum clearances), loss of livelihood to small and medium entrepreneurs (throwing out of business due to displacements) and workers

thrown out of jobs. I was witness to one such conflict in New Delhi when Shri M C Mehta was delivering Lovraj Kumar Memorial lecture at Godrej Bhawan (where WWF office is located). As soon as he got up to deliver the lecture, about 200 people got up and shouted to him, asking for getting them the jobs that they had lost due to closure and relocation of small and medium scale industries within New Delhi. He did not have a direct and satisfactory answer for them! Much later, he has been talking about environmental lawyers to think like a scientist and innovate.

But, according to the author (p. 27), the green dogma in India seems to have struck a balance between 'environmentalism and rights for human and non-human existence'. One does not see too many instances of such a balance in practice, though.

### **New innovative and challenges**

In order to overcome such a lacunae, the Supreme Court of India has, over time, evolved several novel approaches to judicial adjudications. The book refers to several of them. The Court started inviting experts to provide advice and guidelines. In the case of T N Godavarm Vs Union of India (since 1996), the Court appointed an Expert Committee (with Professor Kanchan Chopra as Chairperson, and Professor Gopal K Kadekodi and Shri V B Eswaran as members) to advise the Court about 'valuation of forest resources'. Based on their recommendations, the Honorable Court ordered the NPV to be collected for converting forest lands to non-forest uses. Second, often the Judges have undertaken spot visits to the environmental degradation situations (such as in the case of Bhopal Gas tragedy or in Narmada dam or Don Valley cases). Third, there are instances of appointing of Expert or Watch Dog Committees to monitor and implement the Court orders. The book provides ample examples of such novel methods introduced by the Supreme Court.

Using the 191 major judgments, the author groups them into five major categories as: litigation against industrial pollution, litigation for wildlife protection and forest conservation, litigation for coastal zone protection, for urban environment management and, finally litigation against infrastructure and huge investment projects (p. 27). Representative case studies on these are very neatly documented in the Appendix covering 133 pages of the book. This is indeed a very rich basket of information about the functioning and role of the Supreme Court.

An important question about functioning of any institution is about its rigidity in sticking to principles. The author argues that the Supreme Court has exercised considerable degree of flexibility in jurisdictions on several of these cases, some time a bit more on human rights basis, some time more on expressing concern about the poor and the destitute, some times strictly according to the environmental laws and so on. In the words of the author, 'A review of these different types of green discourses in India suggests that they are dynamic and dependent on a variety of socio-cultural, political, economic and legal considerations' (p. 27). Two comments may be made here about the functioning of the Court. First, when it comes to the parties involved the Court does not make any distinction between parties, be they individual, groups, industries or the State (p. 64). Second, in cases of conflicts (such as on ordering closure of polluting factories but not giving priorities to rights of the workers in Delhi) the Court had to prioritize the public interest first (including ecological and public health status). That way the Supreme Court can be said to be acting in favour of a development oriented welfare State. But the level of technical knowledge required or capacity to analyse short term and long term implications can always remain big question marks.<sup>iii</sup>

In Part II of the book, the author brings to our notice several cases where the Supreme Court, not being 'even and uniform' on green policies. For instance, when it comes to infrastructural projects, the Court defended them in several cases without completely examining the socio-economic and environmental impacts. Just to cite an example, while hearing the Yamuna river pollution case, the Court remarked that all rivers in India should be linked up in ten years time. Any one familiar with the ecology and hydrology of the river systems in India, will realize the socio-cultural and economic implications of such a project, apart from long term ecological impacts. Such a project would disturb the long term ecological balance, besides causing large-scale destruction of green belt, apart from giving ways to corruption and malpractices as heard in other water-related projects (for some details on this issue, see Tushar Shah et al., 'India's river linking project-status of the debate', in *Strategic Analysis of the National River Linking Project of India*, Series 2, 2008).

Referring to Part III of the book, there are also instances of the Court not being uniform in monitoring the implementations of the judgments. Examples of court orders on Dehradun lime stone quarrying case, or Oleum gas leak case, or Vehicular pollution in Delhi, etc., can be cited. The Court could not successfully monitor, say on Ganga water pollution, or rehabilitation of Narmada Dam project, while they have allowed raising the dam heights based on notions of development and welfare. On such matters, there also seem to have been some differences between different benches, judges at different times.

In summary, this book is an eye opener for any one deeply involved or interested on environmental governance and deliberative democracy. Apart from the rich data base of Supreme Court judgments, the book also provides a good survey

of literature on these matters by various scholars from different parts of the world. That makes the book worth on the shelf.

#### NOTES

i. One may like to read Chief Justice K G Balakrishnan's address in Trinity College, Dublin in 1009 on this: [http://www.supremecourtindia.nic.in/speeches/speeches\\_2009/judicial\\_activism\\_tcd\\_dublin\\_14-10-09.pdf](http://www.supremecourtindia.nic.in/speeches/speeches_2009/judicial_activism_tcd_dublin_14-10-09.pdf)

ii. Referring to '*fatwa*' under *shariat* laws, the Supreme Court of India in a landmark judgment in July 2014 stated that 'it is bereft of any legal pedigree and has no sanction in laws of the land. They are not part of the corpus juris of the State. A Fatwa is an opinion, only an expert is expected to give. It is not a decree, not binding on the court or the State or the

individual. It is not sanctioned under our constitutional scheme. But this does not mean that existence of Dar-ul-Qaza or for that matter practice of issuing Fatwas are themselves illegal. [SC judgment on WRIT PETITION (CIVIL) NO. 386 OF 2005].

iii. A recent development to overcome this gap is the establishment of Central Empowerment Committee to provide reports on such technical matters, or setting up of Expert Committees (p. 91).

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# JOURNAL OF EDUCATIONAL PLANNING AND ADMINISTRATION

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