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JOURNAL OF INDIAN SCHOOL OF POLITICAL ECONOMY

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Maital, S., 1973; 'Public Goods and Income Distribution', *Econometrica*, Vol. XLI, May, 1973.

Chakravarty, S. 1987; Development Planning: The Indian Experience, Clarendon Press, Oxford, 1987.

If a Reference is cited in a Note, the Note may use the shortened reference form:

4. For a critique of recent industrial policy proposals, see Marshall [Marshall, 1983, pp. 281-98].

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PLANNING AND REGIONAL DIFFERENTIATION IN INDIA: STRATEGIES AND PRACTICES

Keshabananda Das

This study critically examines some major strategies adopted towards planned development of the Indian economy with a special thrust upon removing regional imbalances. With sectoral investment remaining the cornerstone of the planning process the 'spatial' development perspective seems to have occupied a back seat. The growing regional differentiation, at least over the last two decades or so, has been a matter of great concern. With a greater thrust on industrial dispersal various policy measures like financial support schemes and industrial licensing were introduced. However, in practice, the already advanced States have managed to obtain a lion's share of the benefits originally intended for their underdeveloped counterparts. The pattern of agricultural development has also been lopsided resulting in depressed regions starving for essential infrastructural investment, especially irrigation. An analysis of Centre-State financial flows also points to the biases in favour of advanced States. The divergent strategies and practices in regional development process undermine the very basis of the quasi-federal structure that we have.

Introduction

The initiation of planning in India was the most explicit form of state intervention that intended to contain undesirable tendencies in the process of development. It had been realised that if the market mechanism were accorded primacy, it might lead to excessive consumption by the richer sections of the society and also relative "under investment" in sectors essential to accelerate development of the economy. 'Presumably, they (the planners) believed that, with an active state policy on investment, all possible slack in the economic system would be utilized and that, therefore, what mattered most was growth with aggregate investment' [Chakravarty, 1990, p. 386].

The existence and aggravation of the process of regional differentiation during the protracted colonial regime was undoubtedly the fall-out of the imperialist policy imperatives. Both the growth and decay of regions/sectors during the period were incidental, at least, to the macro level designs of resource exploitation in the vested interest of the British paramountcy.¹ Whereas the gravity of this "colonial legacy" has been underscored and persistent policy prescriptions made towards ironing out the unevenness, the fact remained that even under the aegis of planning

most of the underdeveloped regions continued to remain so in the face of their developed counterparts growing unabated.² This has rendered the disparity between advanced and backward regions an increasingly baffling issue.

Regional Issues in National Planning

Achievement of balanced regional development has been an explicit objective of the planning process since its inception in the country. A reference to the regional development problems and the existence of regional disparities had been made in the very First Plan document [Planning Commission, 1951, Pp. 42-43]. The Second Five Year Plan document had briefly, but clearly, mentioned evening out of regional imbalances as a major policy and touched upon the aspects of industrial dispersal as a strategy to this end [Planning Commission, 1956, Pp. 36-37 and 48]. The first major policy statement on "Balanced Regional Development" appeared as a chapter in the Third Plan document with elaborate discussions on the ideas sketched in the previous Plans concerning regional development programmes and the experiences so far on this count [Planning Commission, 1961, Pp. 142-153]. Surprisingly, though the subsequent Fourth Five Year Plan, pointed to the "highly complex" problem of

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growing regional differences in development, it was devoid of any formal commitment to formulate a national policy on regional development. In fact, it observed that the single most important solution to such an intricate problem, was to be found in providing better infrastructural facilities in backward regions.³ However, it argued that the specific problems of backward areas with reference to any or all the three sectors of economic activity, namely, cooperative, private and public, were primarily the responsibilities of the respective State governments. As of the Centre's role it stated that, 'Availability of resources with Governments of States for planned development is the heart of the matter. This in turn depends on the economic strength of the State and the efficiency shown in the management of its affairs, particularly financial... To the extent that the deficiency of resources in a State is not due to defects of management, the allocation of Central assistance to the State might help' [Planning Commission, 1970, Pp. 17-19].

As a solution to the problem of regional imbalances, the designers of the Fifth Five Year Plan had emphasised on ameliorating the standards of living of the lowest 30 per cent of the population (through programmes like the Minimum Needs), a majority of whom lived in the backward regions [Planning Commission, 1973(a), p. 55 and Planning Commission, 1973(b), Pp. 87-91].

Perhaps for the first time, the Sixth Plan made an explicit and serious attempt to review the patterns of regional development in the light of policies pursued, particularly since the early sixties. It was realised that the decisions on resource transfers, the strategy of agricultural development and the policies on industrial locations 'were not always based on a systematic analysis of regional disparities and the reasons that account for them' [Planning Commission, 1979, p. 199]. It had also observed that, 'The approach to backward area development hitherto has been characterised by incentives for industrialisation (on) the one hand and problemoriented special programmes on the other. The extent to which these measures have succeeded in evening out levels of development is uncertain. However, our experience with large industrial

projects located in backward areas suggests that organised industry is not necessarily the sort of growth catalyst that backward areas need' [Planning Commission, 1977, p. 30]. Taking an "intensive" view, backward areas were broadly classified into the following: (i) High population density areas in the Gangetic plain; (ii) Areas with exceptionally low agricultural productivity; (iii) The North East; (iv) Tribal areas of middle India; and (v) Ecological problem areas [Planning Commission, 1979, p. 193]. While it was suggested that special attention needed to be paid to the backward areas, the 1978-83 Sixth Plan was quite critical of the effectiveness of the earlier Plan strategies. It held that, 'A solution of interregional disparities and backwardness cannot emerge solely from a resource re-distribution and special schemes. What is required is a systematic attempt to identify barriers to development and concentrate all resources and efforts towards breaking those barriers' [Planning Commission, 1979, p. 195].

Accordingly, it stressed upon rural development, employment generation, integrated area development and appropriate technology in order to stimulate growth in backward areas and to reduce disparities. It also emphasised on the quality of planning and implementation at the local level for greater impact of the development strategies. As per its directives a high level National Committee for the Development of Backward Areas was constituted, whose terms of reference included examining the conceptual validity and identification of backward areas; review the working of earlier strategies; and recommending appropriate strategies for tackling future problems of backward areas [Planning Commission, 1979, p. 196]. Both the vision and commitment of the 1978-83 Sixth Plan seemed to be conspicuously lacking in the subsequent Plan documents [Planning Commission, 1985, p. 44 and GOI, 1992].

Irrespective of the varying degrees of stress given in the Plan documents, regarding the regional problem, critics held that 'The Indian planning models do not integrate any regional development model, nor is there any comprehensive regional policy-frame' [Sarupria, 1975, p. 70]. In fact, the non-existence of an explicit regional development model in the Plans had been pointed out earlier by Bhagwati and Chakravarty in 1969. According to them, 'it is interesting to note that, while Indian planning models have become fairly sophisticated in relation to intertemporal phasing and perspective planning, there has been no comparable extension of analysis to questions of *spatial* planning. This is somewhat surprising in a country with a federal set up and where the constituent States have come to follow increasingly inward looking policies' [Bhagwati and Chakravarty, 1969, p. 28].

Such observations assume significance when one considers the geographical diversities of the country and notable inter- State⁴ heterogeneity in all major spheres of human activity - economic, social, cultural as also resource endowments.

In any case, the lack of a well-defined theoretical framework for regional development in India is 'not an altogether unusual situation' [Sarupria, 1975, p. 71]. This merely reflects that the whole body of theoretical work concerning regional growth policy had hardly anything to do with the phenomenon of regional variations within developing countries. It was noted that 'most of the theories of regional development are developed in response to the challenge of problems of regional development in industrially advanced countries. Because of the general level of underdevelopment, problems of spatial allocation of resources and development efforts have been given little attention as compared with the sectoral aspects of development in the non-industrialized countries. Consequently, there is a great lack of regional development theories formulated with direct reference to the situation and problems of underdeveloped countries' [Hermansen, 1972, Pp. 56-57].

Whereas, the discomfort with such an unfortunate situation is perfectly valid, the "strategies" for regional development in underdeveloped countries, implicitly at least, drew from both the not-so-useful theories as also experiences of the industrialised West.

Unlike the regional growth policies of the developed nations, which have evolved through a characteristically different process of development and with substantial different histories of their own, the developing nations have to adopt

such a system of planning, which, at least in the initial stages of development, remained confined to the national level of progress. This is so, 'since it is logical that the first preoccupation of nations seeking to accelerate economic growth should be with the formation of a set of directives for the orientation of the economy as a whole for, say, maximizing their national output'. Further, 'this becomes more obvious if one looks at the development problem, which is quite fashionable to do, as an exercise in mathematical programming. In a programming model, the more one reduces the number of effective constraints, the higher is the attainable value of the objective function. Thus every pre-assigned 'regional allocation pattern' of outputs would effectively mean adding new sets of constraints and might consequently reduce the obtainable national income target' [Sarupria, 1975, p. 71]. Apart from such broader national goals over- shadowing the specific regional development demands, the practical problems of paucity of required empirical information as well as institutional and organisational snags in a developing economy, render the formulation of an operational model for regional growth extremely difficult.

Nonetheless, particularly in the formative stages of planning, the issue of regional development is of crucial importance, as the "natural" tendency of development activities to be concentrated in the better-off regions infuriate lagging regions, resulting in both exertion of political pressures and generation of social tension. 'In transitional societies, the regional problem thrusts itself on policy-makers during the period of early industrialisation when, for a variety of reasons, activities come to be concentrated in one or a few Centres. These centres not only grow so rapidly as to create problems of an entirely new order, but they also act as suction pumps, pulling in the more dynamic elements from the more static regions. The remainder of the country is thus relegated to a second-class, peripheral position. It is placed in a quasi-colonial relationship to the centre, experiencing net outflows of people, capital and resources, most of which rebound to the advantage of the centre where economic growth will tend to be rapid, sustained and cumulative' [Friedmann and

Alonso, 1969, p. 3]. In an economy approaching mature industrialisation, the pressing initial problem of spatial development, i.e., the dilemma of 'the choice between social equity and growth in production', gets diluted [Friedmann and Alonso, 1969, p. 4]. This occurs mainly due to the operation of the strong spread effects, reduction of inter-regional locational costs and degrees of welfare and the greater interactions between cess. 'systems of cities'. In other words, 'Regional differences become blurred as markets are unified, resources more fully utilised and differences in the cost of location attenuated. With growing urbanisation improved transportand communication networks, intense regionalism will gradually yield as an ideological expression to a pervasive cosmopolitanism' [Friedmann and Alonso, 1969, p.6]. Arguing in a slightly different way, emphasising the role of governmental intervention in reducing regional disparities as accentuated by free market forces, Myrdal also concurs with the fact that, in mature economies, 'spread' effects are more potential than the 'backwash' effects [Myrdal, 1964]. Further, left unrestricted, the inter regional differences could be thinned down by the operation of market forces [Hirschman, 1957, Pp. 550-560] One, however, hardly finds any solid empirical works establishing the universality of the above thesis.⁵ In fact, even with respect to matured economies, there have been counter instances.⁶ As one study putsit, an inveterate condition of regional dualism may affect the national economy detrimentally because: (1) it deprives the economy as a whole of sufficient markets; (2) potential resources in the less developed regions remain unrealised; (3) the depressed regions become a burden on the more advanced regions; and (4) effects of pola-

upheaval' [Scahchter, 1967, p. 398]. Despite the observation that the above problem is transitional in nature and would go with the approach of economic maturity, such a notion 'is unhelpful, particularly in large countries such as India, in which size, social and cultural diversity and highly developed feelings of regional identity greatly add to the tensions resulting from regional disparities in development or differential growth

risation increase the inter regional gap. Further-

more, such conditions 'foment social and political

rates' [Nath, 1970, p. 253]. Hence, a very serious issue in regional development becomes the choice between the apparently mutually exclusive objectives of national and regional welfare. The choice is a tough one, primarily involving the question of regional allocation of resources. It will be worthwhile to discuss the strategy of regional development as conceived in the planning process.

The theoretical underpinnings of Indian planning, at least in the early but crucial years, with reference to resource allocation, had been developed and/or greatly influenced by a few prominent American economists [Rosen, 1985, Ch. 5, Pp. 101-146]. The Planning Commission, held that for a capital-scarce economy caught in the 'vicious circle of poverty', efficient resource allocation required an uneven growth of a country or region. The economic radiation effects into the 'Hinterland' would absorb an inflow of labour and thereby reduce poverty of the emigration areas. The diffusion and 'extrazonal' complementarity effects might induce the creation of other industrial centres in a 'pole' of development and the more rapidly growing surpluses would provide more capital for the development of other areas at a subsequent stage [Sarupria, 1975, p. 72].

Lefeber had observed that 'It is paradoxical but inevitable fact that in order to accelerate the future development of retarded regions the growth of industrially more advanced areas must be encouraged. If the latter is stifled by insufficient investment the over-all capacity to save will be diminished and the advancement of retarded areas will be delayed even longer' [Lefeber, 1964, p. 18]. He had argued that simply on grounds of regional welfare the location of major projects in lagging regions should be avoided in the absence of techno-economic advantages. This, if not followed, would adversely affect national wellbeing, 'because it will reduce benefit/cost ratios of projects (by increasing costs or time of completion, or by reducing efficiency of operation) and thus slow down economic growth' [Nath, 1970, p. 253].

In the Indian context, this prescription amounted to concentrating major development projects in metropolitan areas and assigning community development and local works programmes (based on locally available resources and labour) for underdeveloped regions [Lefeber, 1964, Pp. 20-26]. Although, admittedly committed to the idea of rejection of cumulation of large development projects in metropolitan regions, the Planning Commission went ahead with the Lefeberian suggestion of location of projects on techno-economic grounds. But then, its implication was quite subtle - 'subordinating regional welfare to national welfare' by the planning machinery [Nath, 1970, p. 253]. Consequently, spelling out the basic strategy for regional development planning, the Third Plan stated: 'As resources are limited, frequently advantage lies in concentrating them at those points within the economy at which returns are likely to be favourable. As development proceeds investments are undertaken over a wider area and resources can be applied at a large number of points, thereby resulting in greater spread of benefits. In the interest of development itself, the maximum increase in national income should be achieved and resources obtained for further investment' [Planning Commission, 1961, p. 1421.

At about the same time, fairly different interpretations regarding regional development strategy in the country had been expressed by a few economists. Stephen A. Marglin attributed considerable worth to regional welfare and suggested that separate consideration be given while evaluating location of projects. He therefore developed techniques of quantification of regional benefits and of their incorporation in the benefit/cost analysis of projects [Marglin, 1973, Pp. 23-29].

The Lefeberian suggestion of concentrating major projects in metropolitan cities was questioned by John P. Lewis on the grounds of social inefficiency of such ventures. The apparent advantage of metropolitan cities was based on the fact that the costs are borne by public agencies or the urban community (in the form of residential congestion, lower availability of urban services, etc.) and not by the installed projects. If these

social costs were taken into account, locations in metropolitan cities would not be so efficient. Without mentioning the aspect of regional welfare, he strongly favoured dispersal of development projects to medium- sized towns [Lewis, 1963].

In a rather less known paper, Lefeber [1975], while discussing the regional development experience in India, admitted that most of the early sixties' euphoria regarding the redistributive role of regional investment pattern had not been successful, particularly because of a mismatch between the so-called 'national' goals and the individual strategies adopted by the States in a federal system. Reviewing a number of cases of Central investment towards reducing regional disparities, he observed that, 'It must be recognised, however, that even if the necessary information for plan coordination existed in India, the compliance of regional decision makers, i.e., project selectors and local planners, could still not be taken for granted. Current state planning practices vary according to the particular interests and politics of different States. State planning is dominated not only by local political considerations, but also by the tactics of presenting regional projects to national planners in a way which State officials believe will increase their own State's share of the national investible resources' [Lefeber, 1975, Pp. 289-290].

Inoue [1992] pointed out that the complex choice between concentrating development in already advanced regions for "quicker and larger returns" and focussing attention on backward areas for "more equal development", was not debated adequately, especially in the early phases of planning in India [Inoue, 1992, p. 82]. One of the serious implications of this had been the lack of search for *alternative* methods, other than dispersal of the modern industry, to stimulate economic activity of rural regions [Harris, 1977, p. 142]. With 'growth' remaining the central theme, dispersal of industries seemed a natural solution to the problem of regional differentiation and politically a more workable proposition.

Industrial Dispersal: Policy and Practice

That industrial dispersal should be a major strategy to develop the backward areas was perceived as a policy principle in the First Five Year Plan itself. It was stated that, for industrial development in the country to proceed rapidly and in a balanced manner, 'greater attention will have to be paid to the development of those states and regions which have so far remained backward' [Planning Commission, 1951, p. 442]. However, the clearest declaration in the context of removing regional imbalances was made in the Industrial Policy Resolution of 1956. It observed that, 'In order that industrialisation may benefit the economy of the country as a whole, it is important that disparities in levels of development between different regions should be progressively reduced. The lack of industries in different parts of the country is very often determined by factors such as the availability of the necessary raw materials or other natural resources. A concentration of industries in certain areas has also been due to the ready availability of power, water supply and transport facilities which have been developed there. It is one of the aims of national planning to ensure that these facilities are steadily made available to areas which are at present lagging behind industrially or where there is greater need for providing opportunities for employment, provided the location is otherwise suitable. Only by securing a balanced and coordinated development of the industrial and the agricultural economy in each region, can the entire country attain higher standards of living' [Sivaraman, 1981, p. 7].

The 1956 Resolution continued to remain the 'cornerstone' of government policy in industrialising backward areas.

Despite references in the Plan documents as also various Industrial Resolutions, at least for two decades since planned development began, there were no concrete policy measures 'exclusively defined' for industrial development in backward areas. A beginning was made in 1969 with the institution of two Working Groups on (a) Criteria for the Identification of Backward Areas and (b) Fiscal and Financial Incentives for Starting Industries in the Backward Areas. The criteria for

identification of backward areas was laid down by the Working Group (a) as (i) per capita income; (ii) per capita income from industry and mining; (iii) number of persons working in the registered factories; (iv) per capita annual consumption of electricity; (v) length of surfaced roads in relation to the population and the area of the State/UT and (vi) length of railway mileage in relation to the population and area of the State. Based on these criteria, the Working Group (a) identified the following States/Union Territories as Industrially Backward States - Andhra Pradesh, Assam, Bihar, Jammu and Kashmir, Madhya Pradesh, Nagaland, Orissa, Rajasthan and Uttar Pradesh; UTs all UTs other than Chandigarh, Delhi and Pondicherry. The Working Group (a) recommended a separate set of indicators of backwardness to be applied to locate the backward districts in the backward States/UTs as (i) the districts should be outside a radius of 50 miles from larger cities and large industrial projects; (ii) per capita income should be at least be 25 per cent less than the State average; (iii) population density should be relatively greater; and (iv) infrastructure (electricity, power, transport and communications) within the district should either be existing or its availability should be ensured within the coming one or two years. The Working Group (a) stressed that 'Utmost care would have to be taken in the final selection of backward districts which, inter alia, satisfy that the latent resources and also the economic and social factors are favourable enough to take advantage of the incentives that may be offered for the types and size of industries which may have potential for development' [Pande, 1969].

As regards fiscal and financial incentives, the Working Group (b) had recommended various supportive schemes for the backward areas which were mostly in the form of Central investment subsidies and concessional finances to augment industrialisation. These incentives included (i) Higher development rebate; (ii) exemption from (a) income tax/corporate tax for five years beyond development rebate, (b) import duties on plant and machinery, (c) excise duties for five years and (d) sales tax both on raw materials and finished goods for five years in selected areas; (iii) special transport subsidies for hilly and difficult-terrain districts in the North-East as also Jammu and Kashmir. It was agreed that the backward areas in *all* the States and UTs would be eligible to receive the incentives and the major finances would be channelised through all-India termlending financial and credit institutions [Wanchoo, 1969]. The Planning Commission remained the decisive authority in formulating guidelines for final selection of backward areas, in consultation with the individual State governments and financing bodies.

The State governments by using different criteria for purposes of identification included more and more districts under the backward area category. About 247 districts were selected to qualify for concessional finance from the all-India term-lending financial institutions. The concessions included lower interest rates, larger periods of both grace and amortization and such other benefits. The flow of concessional financial assistance to small scale industries is an indirect one - through IDBI's scheme of refinancing loans granted to them by the commercial banks and State Financial Corporations (SFCs). IDBI provides (a) concessional refinance to SFCs and banks in respect of term loans upto Rs 30 lakh to small and medium scale projects in specified backward areas provided the paid up capital and reserves of the recipient units do not exceed Rs 1 crore; and (b) along with IFCI and ICICI direct loan assistance up to Rs 2 crore and underwriting assistance upto Rs 1 crore on concessional terms to new projects as well as to expansions, diversification, renovation and rehabilitation programmes of existing units [Sivaraman, 1981, p. 73].

The scope of the Central Investment Subsidy Scheme has been enlarged both in terms of the number of backward areas to be selected and the rate of subsidy to be given. Out of the 247 districts declared backward 101 districts/areas were covered under this scheme: Six districts/areas in industrially backward States and three districts/areas in others. The facilities provided under this scheme included (i) Income Tax reliefs; (ii) Hire purchase of machinery of small scale units; (iii) Special facilities for import of raw materials; and (iv) Transport subsidy in selected

hilly areas, up to a maximum of 50 per cent of the cost of transport of both raw materials and finished goods [Sivaraman, 1981, p. 74].

Almost after a decade of 'regulation and development' of industry by the Central Government, with the avowed policy principle of removing regional disparities, the National Committee on the Development of Backward Areas (NCDBA), in its Report on Industrial Dispersal in 1981, evaluated the functioning of the policy of industrial dispersal during the seventies and revealed some highly disappointing facts. The broad conclusion of their exercise revealed that 'The Government has always evinced an interest in encouraging industrialisation of backward areas and several very promising approaches have been outlined in the plans. However, many of these promising approaches towards dispersal of industries have not in fact been pursued' [Sivaraman, 1981, p. 10, emphasis ours].

Taking note of the imperfections in the then policy of industrial dispersal and the resultant distortions in location of industries, a fresh approach was initiated with the statement made by the Minister of Industries in April 1983.⁷ The central concern of this policy is what was termed 'No Industry Districts' (NIDs). Regions were classified into three categories: Category A -Comprising NIDs and special areas like Assam, Jammu & Kashmir, Himachal Pradesh, Arunachal Pradesh and hilly areas (118 out of a total of 247 districts);

Category B - Comprising districts (minus Category A districts) currently eligible for Central subsidies; and

Category C - Comprising those districts (minus Categories A & B districts) eligible for concessional finance.

Certain revisions/amendments were also made in the investment subsidy scheme. The prevailing maximum limit of capital investment subsidies of Rs 15 lakh or 10 per cent was increased to Rs 25 lakh or 25 per cent. Also, those backward districts, eligible for concessional finance but not capital subsidy, were granted the benefit of the latter. However, if investments in any of the pockets (blocks, urban agglomerations, etc.) within Categories B and C districts were beyond Rs 30

crore, neither concessional finance nor Central subsidy would be entertained on such investments. In Category C districts, MRTP and FERA companies were not entitled to receive Central subsidy. Going a step ahead in promoting industrialisation in backward areas, the policy provided for at least two important proposals. Firstly, in order to develop infrastructure in one or more growth centres in the NIDs, the Centre would extend financial support up to a maximum of Rs 2 crore to the concerned governments. Secondly, the Centre would declare certain industrial units as nucleus plants which would help the growth of ancillary industries. A nucleus plant was defined as a unit which should not have 50 per cent ancillarisation and the level of employment in the ancillary units should be at least three times that of the direct employment. Such nucleus plants (only if these are not MRTP or FERA companies) would be eligible for Central subsidies.⁷

In the following we would discuss the major components of the policy of industrial dispersal.

Central Investment Subsidy Scheme

NCDBA [1981] observed that under this scheme, as on March 1978/79, 25 districts of

advanced States (not classified as backward States) had received as high as over 64 per cent of the cumulative (1972/73 onwards) disbursement of Rs 62.56 crore. Four such States, - Tamil Nadu (18.7 per cent), Gujarat (11.4 per cent), Maharashtra (9.4 per cent) and Karnataka (5.6 per cent) - accounted for over 45 per cent of the total subsidy amount disbursed. Further, two States, classified as backward - Andhra Pradesh (10.3 per cent) and Rajasthan (4.0 per cent) - could secure a fairly high proportion of the subsidy disbursement. Strangely, the shares of the States at the lowest rungs of industrial development - Assam (2.3 per cent), Bihar (2.1 per cent), Orissa (1.8 per cent) and Jammu and Kashmir (nil) - were practically negligible. Again, over 56 per cent of the total subsidy disbursed went to just 15 districts. Incidentally, most of these districts are either close to the existing industrial centres (Madurai and North Arcot in Tamil Nadu and Medak in Andhra Pradesh) or are located on the trunk route connecting industrial centres (Dharmapuri and North Arcot in Tamil Nadu and Bharuch in Gujarat), or possess large industrial estates or State Government promoted industrial areas (Dharmapuri in Tamil Nadu and Aurangabad in Maharashtra).

			(Rs Crore)
States	1972-85	1985-90	1972-90
Developed			
Gujarat	24.26 (8.3)	32.91 (5.3)	57.17 (6.3)
Haryana	8.64 (3.0)	7.00 (1.1)	15.64 (1.7)
Karnataka	20.30 (7.0)	21.15 (3.4)	41.45 (4.6)
Kerala	11.28 (3.9)	11.76 (1.9)	23.04 (2.5)
Maharashtra	19.93 (6.8)	17.88 (2.9)	37.81 (4.2)
Punjab	12.97 (4.4)	10.07 (1.6)	23.04 (2.5)
Tamil Nadu	38.44 (13.2)	36.65 (5.9)	75.09 (8.3)
West Bengal	4.97 (1.7)	12.07 (2.0)	17.04 (1.9)
Himachal Pradesh	16.99 (5.8)	40.35 (6.5)	57.34 (6.3)
Backward			
Andhra Pradesh	27.24 (9.3)	46.54 (7.5)	73.78 (8.1)
Assam	4.19 (1.4)	22.06 (3.6)	26.25 (2.9)
Bihar	3.08 (1.1)	12.20 (2.0)	15.28 (1.7)
Jammu and Kashmir	10.24 (3.5)	49.18 (8.0)	59.42 (6.5)
Madhya Pradesh	19.09 (6.5)	53.40 (8.7)	72.49 (8.0)
Orissa	7.13 (2.4)	12.93 (2.1)	20.06 (2.2)
Rajasthan	29.50 (10.1)	40.63 (6.6)	70.13 (7.7)
Uttar Pradesh	8.01 (2.7)	101.19 (16.4)	109.20 (12.0)

TABLE 1. CENTRAL INVESTMENT SUBSIDY, STATE-WISE: 1972-90

Source: CMIE (1991a).

Note: Figures in brackets indicate proportion in all India total.

Some interesting observations may be made regarding the inter-State variations under the Central Investment Subsidy Scheme (CIS), for about two decades since its introduction in 1972. Table 1 presents the relevant data. It can be seen that during 1972-85 the advanced States had been able to garner a larger share of the total capital subsidies. In the backward category, two States -Andhra Pradesh and Rajasthan - also managed to procure disproportionately higher amounts, close to one fifth of the total subsidies from the common Central pool. However, the industrially most backward States, such as Assam (1.4 per cent), Bihar (1.1 per cent), Orissa (2.4 per cent) and Jammu and Kashmir (3.5 per cent), taken together received about 8 per cent of the total subsidies. The four advanced States (Gujarat, Karnataka, Maharashtra and Tamil Nadu) could receive 35 per cent of the subsidies during the period 1972-85. The period, 1985-90 witnessed some changes in the relative position of States as far as CIS is concerned. Among the backward States' list, the share of Uttar Pradesh rose from a mere 2.7 to 16.4 per cent. Due to an improvement in the share of Jammu and Kashmir (from 3.5 to 8.0 per cent) the aforesaid four most backward States together could raise their share to 15.7 per cent. However, Rajasthan's share fell from 10.1 to 6.6 per cent between the two periods. Considering the entire period (1972-90), the combined share of 21 per cent of the five backward States (Assam, Bihar, Jammu and Kashmir, Orissa and Rajasthan) was still below that of the four advanced States (Gujarat, Karnataka, Maharashtra and Tamil Nadu) which accounted for 23.4 per cent. This is a fair indication of how the most backward States have been perpetually sidetracked even when special incentive schemes were supposed to offer them preferential treatment as compared to their developed counterparts.

Concessional Finance

The concessional financial assistance provided by the all-India term-lending institutions, cumulative (1972/73 onwards) up to 31st December 1979 indicated that about 55 per cent of the total disbursals had gone to the units located in industrially advanced States. NCDBA noted that,

'neither on a population nor on an area basis backward districts got as much as the other non-backward districts. It may also be noted that a significant proportion of the finance going to these districts does not attract concessional terms' [Sivaraman, 1981, p. 15]. The skewness in the distribution is obvious when one notes that the top 50 districts (out of a total of 247) accounted for about 70 per cent of the total assistance (Rs 778.4 crore). Most of these districts are located in the southern or western regions and close to the existing industrial centres, such as, Mysore, North Arcot, Medak and Bharuch, Backward States like Assam, Bihar, Jammu and Kashmir and Orissa received the meanest of shares - 4.2 per cent, 2.6 per cent, 2.1 per cent and 0.8 per cent, respectively.

The financial assistance provided by all-India financial institutions to individual States (cumulative figures upto March 1983 and 1991) has been presented in Table 2. It is obvious that within eight years, both the disbursal and total assistance and the backward area component therein, have increased considerably. Both the total assistance and the amount meant for backward areas have registered a four-fold increase between 1983 and 1991. However, the backward States, in general, do not seem to have received any major share of the assistance in either time period. For example, of the amount meant for backward areas in 1983 the combined share of five backward States (Assam, Bihar, Jammu and Kashmir, Orissa and Rajasthan) was a mere 15.4 per cent, whereas the four advanced States (Gujarat, Karnataka, Maharashtra and Tamil Nadu) accounted for 42.6 per cent. When we examine the situation in 1991, after eight years of stress on NIDs and development of medium and large industries through concessional finance, we note that the share of assistance for backward areas in backward States has in fact declined to 13.5 per cent. The four advanced States noted above still enjoy a major share of almost 37 per cent of the concessional finance.⁸ When we go through the figures of per capita disbursements, it is strikingly clear that almost all the backward States have received substantially lower amounts than the national average and these figures are evidently no match for their huge counterparts of the developed States.

					(Rs Crore)
		Cumulative ending			
	March	1983	March	1991	Per Capita
States	Backward	Total	Backward	Total	Disbursement (Rs)
Andhra Pradesh	545.0	1014.3	2141.0	4900.5	775.4
Assam	91.4	125.6	427.5	427.5	174.5
Bihar	129.1	479.8	293.3	1348.5	159.2
Gujarat	689.7	2039.2	2584.1	765 1.0	1893.8
Haryana	106.9	410.4	468.9	1639.7	1012.2
Himachal Pradesh	111.3	127.0	538.9	538.9	1077.8
Jammu and Kashmir	99.7	100.3	375.0	375.0	513.7
Karnataka	590.3	1118.8	1549.0	3766.3	844.5
Kerala	149.5	442.6	522.4	1338.8	450.7
Madhya Pradesh	272.7	502.6	1816.0	3142.5	498.0
Maharashtra	524.6	2901.7	2415.3	12248.9	1650.8
Orissa	150.7	397.7	663.1	1633.0	528.5
Punjab	210.8	458.5	875.9	2018.0	1029.6
Rajasthan	412.7	702.3	1289.8	2366.1	543.9
Tamil Nadu	638.4	1545.2	1765.2	5861.4	1052.3
Uttar Pradesh	398.0	1121.8	2694.1	56273	420.9
West Bengal	336.1	949.9	1058.8	3022.8	466.5
Union Territories	234.6	469.0	345.0	1646.8	NA
All India	5728.3	14944.5*	22564.9	60294.9**	733.2

TABLE 2. ASSISTANCE DISBURSED BY ALL INDIA FINANCIAL INSTITUTIONS

Source: IDBI (1983, 1991), Report on Development Banking in India 1982-83 and 1990-91. Industrial Development Bank of India, Bombay,

Notes: All India Financial Institutions refer to IDBI, IFCI, ICICI, LIC, GIC and UTI. * Including assistance of Rs 29 lakh disbursed by IDBI to Bhutan. ** Including assistance of Rs 0.3 crore disbursed by IDBI to Bhutan.

Proliferation of 'Backward Areas'

Although the Planning Commission instructed the States that only districts with development indices well below the State average should be selected as backward areas, in practice, all the districts with indices below (not well below) that of the State average were included in the list for receiving concessional finance. Hence, a large number of backward districts have been identified within the developed States even when their relative development is not equivalent to those districts in backward States. Again, the extent of area and population covered by the selected backward areas has no reference to the relative levels of development of the States.

As mentioned earlier, in order to be eligible for concessional finance, the number of backward districts has increased to a high of 233 out of a total of 365 (i.e., close to two-thirds), accounting for about 59 per cent of the total population and 64 per cent of the area in the major States. This resulted in a situation where many relatively advanced States were able to include a large number of districts in the backward category. For example, 13 out of 16 districts of West Bengal

declared as backward. In most cases, such districts are relatively better endowed with infrastructural facilities and could attract entrepreneurs to set up industries in these regions. Additionally, they received much larger level of financial incentives and other concessions from the respective States [Nair and George, 1980, Pp. 165-167].

The proliferation of backward districts, naturally, resulted in the weak impact of the Central schemes of industrial promotion. The selection of districts has been done irrespective of the development status of the States and there has been a bias in favour of districts of the advanced States. It has been remarked that so far as the yardstick of inter-State disparities is concerned the use of State average in lieu of national average has certainly supported the developed States. For instance, the backward districts of Punjab with per capita incomes at levels 25 per cent below the State average are industrially more advanced than even the developed districts of backward States like Bihar or Madhya Pradesh, Moreover, the number of districts eligible for CIS has increased greatly from the initial 44 to 124 covering even advanced States. Such proliferation eventually and 13 out of 26 districts of Maharashtra were led to the disproportionately larger flows of subsidies, incentives and concessions to the backward districts of the developed States [Nair and George, 1980, Pp. 165-167].

Industrial Licensing

Along with the provision of investment subsidy, concessional finance and other incentives, during the early seventies another important instrument of regulating industrial dispersal introduced was that of industrial licensing. Even if no special incentive was provided for in the Industries (Development and Regulation) Act for setting up units in backward areas, applications intending to do so had received a preferential treatment by the Government. Later, from the late seventies onwards, licensing policy was used as a negative instrument which did not entertain applications meant for locating industries in metropolitan areas or specified urban centres. Consequently, the share of letters of intent (LoIs) grew steadily in favour of backward areas. By the end of the seventies, about 45 per cent of the LoIs were meant for location of industries in backward areas. It was, however, observed that despite the changes in licensing policies and the more recent or ILs has hardly risen above 10 per cent.⁹

emphasis on diverting industrial growth to the NIDs, the proportion of LoIs and industrial licenses (ILs) issued to industrially more advanced States had remained practically unchanged over a two- decade period, 1970 to 1990.

Tables 3 and 4 provide information on Statewise distribution of LoIs and ILs, respectively, for three time periods - 1970-79, 1980-84 and 1985-90. During the seventies, it is clear that the advanced States accounted for over two-thirds (67.2 per cent) of the total LoIs and nearly three-fourths (72.5 per cent) of total ILs issued. For the entire period of two decades the corresponding figures are above 60 per cent and about 70 per cent of the total LoIs and ILs issued. It may also be noted that the shares of, say, only four developed States (Gujarat, Karnataka, Maharashtra and Tamil Nadu) accounted for above 42 per cent of LoIs and above 45 per cent of ILs issued, for any of the three time periods mentioned above. When we take a group, of say, even five backward States (namely, Assam, Bihar, Jammu and Kashmir, Orissa and Rajasthan) for any of the periods, the proportion for either LoIs

States	197	0-79	19	80-84	19	85-90
Andhra Pradesh	430	(5.8)	383	(7.6)	601	(9.0)
Assam	58	(0.8)	31	(0.6)	65	(1.0)
Bihar	159	(2.1)	109	(2.2)	101	(1.5)
Gujarat	923 ((12.4)	623	(12.4)	609	(9.1)
Haryana	511	(6.9)	305	(6.1)	348	(5.2)
Himachal Pradesh	60	(0.8)	79	(1.6)	123	(1.8)
Jammu and Kashmir	40	(0.5)	54	(1.1)	62	(0.9)
Karnataka	461	(6.2)	353	(7.0)	462	(6.9)
Kerala	200	(2.7)	118	(2.3)	106	(1.6)
Madhya Pradesh	278	(3.7)	271	(5.4)	350	(5.3)
Maharashtra	1,687 (22.7)	816	(16.2)	1,076	(16.1)
Orissa	99	(1.3)	134	(2.7)	126	(1.9)
Punjab	217	(2.9)	212	(4.2)	274	(4.1)
Rajasthan	247	(3.3)	214	(4.3)	238	(3.6)
Tamil Nadu	503	(6.8)	344	(6.8)	660	(9.9)
Uttar Pradesh	675	(9.1)	528	(10.5)	922	(13.8)
West Bengal	491	(6.6)	215	(4.3)	255	(3.8)
All India	7,442	(100)	5,024	(100)	6,665	(100)

TABLE 3. LETTERS OF INTENT (LOI) ISSUED, STATE-WISE: 1970-90

Source: Chandhok, H.L. and the Policy Group (1990), CMIE (1991a).

Notes: Periods refer to calendar years. Bracketed figures are percentages of respective all-India total.

States	1970-79	1980-84	1985-90
Andhra Pradesh	344 (5.6)	215 (6.4)	238 (7.3)
Assam	51 (0.8)	40 (1.2)	25 (0.8)
Bihar	160 (2.6)	78 (2.3)	54 (1.7)
Gujarat	663 (10.7)	430 (12.8)	324 (10.0)
Haryana	328 (5.3)	167 (5.0)	156 (4.8)
Himachal Pradesh	20 (0.3)	19 (0.6)	36 (1.1)
Jammu and Kashmir	19 (0.3)	25 (0.7)	21 (0.6)
Karnataka	395 (6.4)	213 (6.3)	256 (7.9)
Kerala	142 (2.3)	78 (2.3)	59 (1.8)
Madhya Pradesh	166 (2.7)	108 (3.2)	149 (4.6)
Maharashtra	1,608 (26.1)	627 (18.6)	553 (17.1)
Orissa	໌ 56 `(0. 9)	52 (1.5)	56 (1.7)
Punjab	216 (3.5)	312 (9.3)	175 (5.4)
Rajasthan	160 (2.6)	105 (3.1)	99 (3 .1)
Tamil Nadu	572 (9.3)	269 (8.0)	406 (12.5)
Uttar Pradesh	530 (8.6)	254 (7.6)	325 (10.0)
West Bengal	549 (8.9)	248 (7.4)	152 (4.7)
All India	6,168 (ÌOO)	3,363 (100)	3,240 (100)

TABLE 4. INDUSTRIAL LICENSES (IL) ISSUED, STATE-WISE: 1970-90

Source and Notes: Same as in Table 3.

That the backward areas of advanced States have been particularly favoured in terms of licensing facilities is not without evidence. Taking the cumulative figures for recent years (from 1986 to 1989) we note that as far as LoIs are concerned the aforesaid four advanced States account for 35 per cent of the total whereas the five backward States' share is only 12 per cent. The situation is much worse when we consider the proportion of ILs issued to backward areas of various States. The share of the four advanced States amount to about 40 per cent whereas the share of the five backward States less than 9 per cent.¹⁰

Although the licensing policy might have 'succeeded' marginally in encouraging industrial activity in specified backward *areas*, it did not result in establishing more industries in backward *States*. It has been argued that licensing policy, being a negative instrument cannot by itself lead to industrial development in backward States. It can, at best, impose certain restrictions on the pace of expansions in the developed areas including a ban on expansions in metropolitan centres or urban conglomerations. Such restrictions can only be indirectly effective by making it somewhat easier to attract entrepreneurs to industrially backward States or areas [Sivaraman, 1981, p. 16].

In accordance with the set objectives of balanced regional development achieving obviating concentration of ownership, the industrial licensing and regulation system has not been successful. This has been explicitly admitted by the Industrial Licensing Policy Inquiry Committee in its Report [ILPIC, 1969, p. 184]. As far as industrial location was concerned it has been observed that, 'The failure of the Indian planners to work out the space-dimension of their industrial targets, on the basis of economic efficiency constrained by State targets of overall industrial investments designed to assure the states that they would get some minimum industrialization, in effect left the field almost entirely to political pressures'. [Bhagwati and Desai, 1970, p. 268]. The consequent substantial growth in the 'uneconomic scale' plants was clearly indicative of the 'consistent bias' in the policy [Bhagwati and Desai, 1970, Pp. 267-269 and IPLP, 1967, Pp. 24-25].

The current configuration of investment by big business houses affirms that the corporate capital is characterised by regional concentration. Considerable proportions of Gujarati, Punjabi, Parsi and Southern Houses capital are concentrated in the regions of Maharashtra-Gujarat, Punjab-Delhi, Maharashtra and Bihar and the South, respectively [Banerjee and Ghosh, 1988, p. 122]. Ample evidence to the fact of favouring big business houses in terms of approving licenses, which are mostly applied for the locations in Maharashtra, Gujarat, Uttar Pradesh and Madras, exists in R.K. Hazari's report [IPLP, 1967, Vol. II, Part V, Statement - X]. Based on this Report, it was commented that investments in West Bengal, Orissa and Assam were particularly discouraged by the licensing authorities [Banerjee and Ghosh, 1988, p. 123]. Further, the gross manipulation of the licensing-plus- target system by the big business houses, being more informed and organized, to the 'detriment' of the smaller rivals has been documented in MIC [GOI, 1965, Ch. VI, Pp. 135-138]. The changing industrial demand pattern during the mid-sixties towards intermediate and capital goods coupled with the modernisation of consumer goods sector helped "agglomeration" of industries in specific locations which was taken advantage of by the big business houses. That concentration in such product-groups has increased over time (or, at least has not declined) has been established in various studies [Swaminathan, 1983, Goyal, 1979, Hazari, 1966]. The position of the poor States both in terms of number of licenses issued and invested capital has continued to remain low, particularly so in the eastern region.

TABLE 5. INDEX OF RELATIVE DEVELOPMENT OF INFRASTRUCTURE: 1966-	-90
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	Index	of relative developm	ent of infrastructure	around
States	1966-67	1976-77	1986-87	1989-90
Punjab	201	216	216	214
Haryana	129	151	149	149
Kerala	135	167	140	140
Tamil Nadu	171	152	142	139
Himachal Pradesh	-	72	85	128
Gujarat	111	122	132	125
West Bengal	152	133	123	116
Maharashtra	117	111	118	112
Uttar Pradesh	107	112	108	108
Andhra Pradesh	93	97	104	101
Kamataka	90	105	100	9 9
Bihar	98	104	99	96
Assam	73	89	96	95
Orissa	69	79	83	82
Raiasthan	59	81	79	82
Jammu and Kashmir	83	77	74	78
Madhya Pradesh	53	61	71	72
All India	100	100	100	100

Source: CMIE (1991a).

Note: States arranged in descending order, as per last column.

Be that as it may, industrial dispersal, as a policy to be effective, would squarely depend foremost upon the provision of infrastructure in a certain location. When one considers the overall development of infrastructure in important sectors (viz., Power, Irrigation, Roads, Railways, etc.), it can be seen from Table 5, that the five backward States mentioned above continue to be at the lowest rungs (and certainly below the national average) in the ranking of infrastructural development indices for the four time points of 1966-67, 1976-77, 1986-87 and 1989-90. It suggests *inter alia* as to why industrial dispersal as a policy is so constrained to produce desirable results. The fact that the chronically underdeveloped States are those with the least infrastructural development has been amply documented and established in the Indian context by several studies [Joshi, 1990, Pp. 111-129, Dadibhavi, 1990].

Policy of Industrial Dispersal in the 1980s: A Critique

A welcome step was the attempt of the 1983 Policy at reviewing and restructuring the existing scheme of incentives by systematising the same. Its implementation has however been criticised broadly on two counts - the entrepreneurial dilemma and the implicit irrationality in the policy pronouncement itself. On the one hand the Policy has devised a "calibrated" structure of incentives and set apart areas not eligible for starting industrial units and on the other, involved a great deal of "arbitrariness" in forcing location decisions on entrepreneurs with reference to specific projects. When, normally, an entrepreneur has a preference for locating the unit closer to a developed urban industrial centre (for obvious reasons of externalities), the backward State would surely be neglected; and as a policy measure the licensing system could effectively be used to both check such an occurrence and to insist that the entrepreneur establishes the unit in an NID. Experience, however, has affirmed the misuse of the licensing system, which has come to be increasingly used to force the individual units to take location decisions which would suit the interests of the political parties in power [Marathe, 1986, p. 129].

The 1983 Policy, thus provides a straightjacketed and somewhat dysfunctional solution to the whole problem of regional imbalances. The pertinent question is whether the so-called NIDs, which are often fairly large in size and suffer "least comparative advantage" (at least from the angle of the typical entrepreneur), can be provided with extensive infrastructural facilities, which would be both expensive and time-consuming so as to make them attractive for individual investors.

The NCDBA [1981], in fact, had made some recommendations, which in certain ways were different from the aforementioned ones. Unlike the 'area approach' followed in the past, the main thrust of the strategy was placed on what is called the 'growth centre approach'; whereas the former approach would entail widespread development of the entire area, the latter would concentrate on creating specific centres or nuclei of growth, almost as conceptualised by Perroux, which would generate further spread effects of growth and modernisation. It was mentioned that backward States would be given preference for such growth centres. The growth centres to be selected, it was stated, were to have attained a certain degree of urbanisation. This would reduce the initial cost of developing the area as also make it

easier to provide an infra-structural base. Apart from the above, the following criteria were suggested by the NCDBA to identify a growth centre namely i) should possess population of 50,000 or more; ii) should have less than 10,000 workers in non-household manufacturing (NHM) sector; iii) should be away from the existing centre which was defined as having more than 10,000 workers in NHM as per the 1971 Census.

Allowing sufficient time for growth centres to be fully developed, the committee granted them eligibility for receiving special assistance for a decade.

Following the above three criteria, the committee identified 126 centres [Sivaraman, 1981, Pp. 35-36]. Table 6 provides the Statewise break-up of these centres.

One important observation that needs to be made here is with respect to the share of developed and backward States. For illustration sake, let us consider two sets of States from both the categories - Set A (four developed States, namely, Guiarat, Karnataka, Maharashtra and Tamil Nadu) and Set B (five industrially backward States, namely, Assam, Bihar, Jammu and Kashmir, Orissa and Rajasthan). Set A consists of 38 (45 per cent) out of 84 existing centres whereas Set B consists of only 10 (12 per cent) such centres. Further Set A has as many as 48 (40 per cent of the total of 121) centres 'near' the existing centres, when set B has a mere 6 (5 per cent) such centres. Given this initial status of share of centres in both Sets A and B States, it is to be noted that the NCDBA has recommended as many as 38 (30 per cent of total of 126) centres as eligible ones for Set A and 32 (25 per cent) for Set B. The industrially backward States, it may be inferred, with an already poor level of modern (urban-industrial) centres have not in any way been preferred (as originally pronounced) to the developed States. Clearly, no special weightage has been given to the former, for in that case proportionately larger number of growth centres would have been chosen from the backward States. This is certainly unfortunate, for even after recognising similar anomalies during the seventies the NCDBA has not been able to get away from the same old groove!

States/UTs	Existing Centres	Centres 'near' Existing Centres	Eligible Centres
Developed			<u></u>
Gujarat	6	13	6
Haryana	1	8	2
Himachal Pradesh	-	-	1
Kamataka	7	6	8
Kerala	4	5	3
Maharashtra	12	5	17
Punjab	3	5	4
Tamil Nadu	11	24	7
West Bengal	3	13	7
Backward			
Andhra Pradesh	6	12	12
Assam	-	-	6
Bihar	5	4	11
Jammu and Kashmir	1	-	1
Madhya Pradesh	6	5	10
Orissa	1	-	5
Rajasthan	3	2	9
Uttar Pradesh	13	17	12
Others*	-	-	4
UTs**	2	2	1
Total	84	121	126

TABLE & STATE.WISE	DISTRIBUTION OF	CROWTH CENTRES
INDLE 0. DINIE-WISE	DISTRIBUTION OF	GROWTH CENTRES.

Source: Compiled from NCDBA (1981), Annexure VII, 1, Pp. 83-88. Notes: *Include Meghalaya, Tripura, Manipur and Goa, Daman and Diu. **Include Delhi, Pondicherry and Chandigarh.

centres should be paid special attention to (by both could go up to Rs 50 crore. A wide range of items State and Central governments) in terms of concentrating infrastructural and other developmental activities in these areas, the NCDBA made a number of specific suggestions.

In a fresh move at accelerating industrial growth and curtailing regional imbalances, in June 1988 the Central Government decided to establish 100 growth centres, to be promoted outside municipalities and towns both in backward and advanced districts. In view of the entrepreneurial "reluctance" to set up industries in backward areas due mainly to infra-structural inadequacies, the Government was prepared to incur an outlay of Rs 25 crore towards creation of such facilities in the specified growth centres. In addition to the existing tax concessions in exempting profits and investment allowances for industries in backward areas and growth centres, the new policy proposed a number of licensing concessions. Without observing any licensing formalities, non-MRTP and non-FERA companies could carry out projects with a maximum outlay of Rs 5 crore. If it is

In view of the fact that the selected growth meant for a specified backward area the outlay have been exempted from licensing regulations, other than those listed in a new schedule, which replaces earlier schedules 4 and 5 of the Industries (Development and Regulation) Act of 1951 [UNIDO, 1990, p. 43].

> Further, in order to achieve the highest levels of production, through capacity expansion, broadbanding of licenses and re-endorsement of capacities, both the MRTP and non-MRTP companies have been allowed to start units in backward areas. As part of this move, in March 1986, extension of delicensing scheme was made to the MRTP/FERA companies with reference to 20 industries in Appendix I of the Industries (Development and Regulation) Act of 1951. This has further been extended during 1987-88 to 27 more Appendix I industries for location in Centrally declared backward areas and to 24 non-Appendix I industries in backward districts of category A. The Appendix-I industries (Part I) delicensed from location in backward areas include castings and forgings, certain types of

electrical equipment, electronic components, automotive components, etc. The non-appendix-I List (Part-II) is mainly of processing industries involving relatively smaller capital outlay such as light structurals, hand-tools, pressure cookers, cutlery and steel furniture, lanterns of all types, fuel-efficient stoves, etc. [UNIDO, 1990, p. 111].

Promotional steps notwithstanding, backward areas failed to attract industrial capital due mainly to poor infrastructure, underdeveloped local markets, lack of skilled labour and inadequate material inputs. It has been observed that 'An important feature of the government's protective-promotional policy cum liberalization policy was that relaxation was always paralleled by a number of binding conditions... Such paralleling of opposites produced tremendous lacunas and loopholes in the policy system, leaving areas of discretion to the government' [Inoue, 1992, Pp. 104-105]. Consequently, as neither the motivation for industrial development could be sustained nor the mid-eighties "spurt" of industries spread, "disillusionment" with the government grew.

New Industrial Policy - 1991

Taking note of the "winds of change", the Industrial Policy Statement of 1991, has set objectives towards "restructuring" the economy, in continuance of the 1980s policy stress on promoting competition in the domestic market. upgradation of technology, development of capital market and modernization. Among other things, the "new" policy observes that, 'Major policy initiatives and procedural reforms are called for in order to actively encourage and assist Indian entrepreneurs to exploit and meet the emerging domestic and global opportunities and challenges. The bedrock of any such package measures must be to let the entrepreneurs make investment propositions on the basis of their own commercial judgement' (p. 4).

Accordingly, the system of industrial licensing has been abolished for all industries, except for those relating to security and strategic concerns, social, environmental and safety issues and articles of elitist concern. Since then private entrepreneurs are encouraged to enter into many areas reserved for the public sector. Further, foreign investment and technology are being 'welcomed' in order to increase export and to expand production base. The policy also states that 'the spread of industrialisation to backward areas of the country will be actively promoted through appropriate incentives, institutions and infrastructural investments' (p. 3).

The implications of the new policy are serious and telling, at least as far as spatial unevenness is concerned. Though, too early to make definite comments, at least from the pastexperience it may be argued that such policy measures would tend to aggravate the growing disparities between the rich and poor States. For one thing, left to itself, the market forces would lead to concentration of capital in areas already advanced and poor States, being poor, would be unable to catch up with the "competitiveness", access to foreign technology and the whole process of "modernisation". Even when state intervention in the form of regulating such tendencies has failed to produce expected results, doing away with the same would only make way for the danger of unchecked capital shorn of any social objectives. The new policy, it appears, would run counter to the declared plan goal of reducing regional imbalances.

However, the question remains whether the local population would receive the benefits accruing out of such area specific developmental activity. The apprehension of this kind arises to a large extent due to the undesirable experiences during the first two decades of planning in India. As is well known until 1970-71, public investments were the only major instruments aimed at removing regional disparities in industrial growth. During the two decades (1951-1971) the largest ever public investment in the industrial sector was made in just three most backward areas of the backward States of Bihar, Orissa and Madhya Pradesh to establish steel plants. These three states accounted for 60 per cent of the total public investment of Rs 11,000 crore made during the two decades. Though it cannot be claimed that the guiding motivation was to encourage industrial dispersal in backward areas, from the strictly techno-economic point of view, these locations were best suited for the steel plants. The availability of raw materials in these States was the crucial determining factor. But such high linkage Public Investment generating industries like steel plants failed to improve the lot of the local people in terms of providing greater employment or in any major way contributed to the incomes of the respective States. The spread effects were extremely limited and ancillarisation of the desired type did not take place. There exist a number of studies revealing the poor linkage between the local economy and the industrial enterprises set up in backward areas [Prasad and Sengupta, 1976; Kundu, et al., 1986; Nath, 1976; Satyanarayana, et al., 1973; and Sharma, 1977]. An important aspect in this connection is that often the nature of the industry is so sophisticated that most of such major investments absorb skilled personnel, both technical and managerial and the local populace find jobs of unskilled nature. This on the one hand limits the local income and also prevents skill formation in the locality. Socially and politically, it is not a healthy situation where local labour, being otherwise in a distressed state of unemployment is not able to benefit from a certain major industrial scheme. The situation is equally appalling even with the onset of liberalisation during the eighties, when the 'new' approach of industrial dispersal has been particularly reoriented.

The industrial estates, formed originally to develop small scale industries in backward areas with greater local participation, have been promoted towards production of items like chemicals, electronic components, pharmaceutical products, with etc.. foreign technical collaboration widespread incidence of sickness in these footloose industries has become a known phenomenon. Here again, the nature of the product is such that it demands technically skilled personnel and often it is difficult to find such people in an underdeveloped region, where promotion of technical education has hardly occurred. Consequently, the unit suffers and there is an increasing dependence upon outsiders.

Apart from the policies of industrial dispersal there have been various other Central measures for financing development through public investments and budgetary transfers. In the subsequent sections we would be discussing these aspects.

It has been widely recognised that public enterprises can be used as a conscious policy to stimulate the task of regional development. In India, although the issue of inter-temporal phasing in planning has been rigorously dealt with, its spatial aspect has been relatively neglected. The planners never systematically undertook the task of spacing out targeting industrial capacities and appropriately allocating plants among different States, not to speak of using this as an instrument for reducing regional imbalances [Eapen, 1981, p. 20].

The Third Plan had explicitly stated that, 'in the location of new enterprises, whether public or private, considerations (should be) given to the need for developing a balanced economy in different parts of the country' [Planning Commission, 1961, p. 144]. It was also held that large scale industries frequently served as 'a spearhead of intensive and broad development'. At the same time, the document admitted that economic and technical considerations were always important as far as the diffusion of activities of the large scale industries were concerned and only marginal deviations were feasible in practice. In other words, in the location of public sector units, the demands of relatively backward areas were also kept in view 'wherever this could be done without giving up essential technical and economic criteria'.

It may, thus, be inferred that the locational decisions of the public enterprises 'objectively and rationally' are contingent upon technoeconomic considerations, and the aspect of developing economically and socially backward areas are only 'secondary' in such decisions. The overriding factor in location being technoeconomic considerations, ceteris paribus, the public enterprises are in no way special compared to the private units set up in backward areas [Raj, 1978, Pp. 145-146]. Removing regional imbalances was recognised as an important objective of planning. However, the absence of a clear-cut policy statement on the role of public enterprises in this direction remains the most confounding element in public investment decision process. The government's stand on the role of public enterprises may be comprehended through the equivocal manner in which the policy makers interpret it.

There seems to be a great deal of confusion at the level of policy making regarding the role of public investment as a conscious strategy of reducing regional disparities. It has been argued that 'the objective of public policy' and 'the role of public enterprises' are to be distinguished. According to this line of argument, the mere location of a project (by government) in a backward area by no means obliges the public enterprises to bring about regional development or the development of the area, for the public enterprise 'cannot be expected to do more than operate with the utmost efficiency' [Iyer, 1991, Pp. 13-15]. In fact, analysing the role of public enterprises in developing countries, it has been strongly viewed that, 'what is of utmost importance is that the acceptance of social goals such as regional development by public enterprises should be viewed as a managerial challenge and under no circumstances should it be used as an alibi for overall poor performance of the enterprises' [Fernandes, 1981, Pp. 41-42].

TABLE 7. PER CAPITA PUBLIC INVESTMENT IN NON-DEPARTMENTAL UNDERTAKINGS

			(Closs Dicek, III Ks)
States	1971*	1981*	1989*
Andhra Pradesh	26	185	1,850
Assam	54	338	2,624
Bihar	165	507	1,207
Gujarat	58	314	1,488
Harvana	8	202	630
Himachal Pradesh	1	345	2,223
Jammu and Kashmir		17	1,448
Kamataka	34	227	587
Kerala	59	189	599
Madhya Pradesh	139	505	2,204
Maharashtra	26	291	2.577
Oríssa	215	394	2.169
Puniab	26	249	478
Rajasihan	16	106	408
Tamil Nadu	80	191	1.012
Uttar Pradesh	18	92	748
West Bengal	107	318	1.050
All India	79**	309***	1,418

Sources: For 1971, Bureau of Public Enterprises (1972), Annual Report on the Working of Industrial and Commercial Undertakings of the Central Government, 1970-71. New Delhi: Ministry of Finance, Government of India. For 1981 and 1989, respectively, Bureau of Public Enterprises (1983, 1991), Public Enterprises Survey, Vol. I. New Delhi: Ministry of Finance, Government of India.

Notes: * As on 31st March. ** Includes 'Unallocated' Rs 564.9 crore in the All India total. *** Includes 'Unallocated' Rs 2,422.14 crore in the All India total.

In Table 7 we have presented data on per capita Central investment in non-departmental enterprises. It may be noted that up to 1971, Bihar, Orissa and Madhya Pradesh have received the highest amounts reflecting the investments made in the steel plants. For the later two time points, though some of the poor States like Orissa and Madhya Pradesh have received relatively larger amounts, Rajasthan and Bihar did not improve their positions. In any case, this form of Central resource transfer does not contribute much towards reducing regional imbalances as they constitute hardly 10 per cent of the total transfers. In reality, 'politics' has also played a 'large part' in location decisions [Eapen, 1981, p. 21]. An important consequence of the absence of spatial planning of industrial targets has been the tendency for targetted industrial capacities in each industry to be competed for by numerous claimant States, thus, resulting in allocation of plants to as many States as politically necessary. A surveybased study observed that, 'our respondents were unanimous that locational decisions were purely political in nature. The guidelines or the policy statements on locational decisions emphasise the availability of raw material, nearness to markets and sources of supply, availability of port facilities, etc. Nevertheless, in actual practice, in many cases, these appear to receive only a superficial consideration' [Raj, 1978, Pp. 145-146].

It is evident from the aforesaid analysis that Central planning, following industrialisation as a strategy towards developing backward areas, has not been effective. 'It was not only private resources that began to flow into (the) pockets of development; the resources of the Central Government as well as quasi-government bodies also followed in the same direction' [Banerjee and Ghosh, 1988, p. 126].

At this juncture, it would be useful to look into the spatial pattern of agricultural growth, which has a crucial link with the industrialisation process, via, *inter alia*, rural income generation as also activating agro-based industries.

The Agrarian Dimension

Heavily skewed public investment in infrastructural development (especially, irrigation) in favour of certain regions (particularly, the north-western belt) coupled with primitive techniques of production in a traditional semi-feudal agrarian set-up had severely impaired the economy of many parts of the country, especially, eastern and southern areas. Further, private investment in agricultural infrastructure was quite low [Prasad, 1986, Pp. 3-6].

Since the mid-sixties, in the wake of massive food crisis, the new agricultural strategy was initiated to raise farm productivity and overall output. This involved adoption of a policy of concentrating public investment in promoting 'the seed- fertiliser technology' in a few areas where productive irrigation was assured or investment involved in the development of productive irrigation was low. The idea was to build buffer stocks of foodgrains, to be used (through public distribution system) whenever there was a shortfall in any region [Misra, 1990, p. 31].

This strategy of promoting 'modern agriculture' has been derived from the agricultural model of industrialised 'donor' countries which function under totally different environment. Accordingly, much emphasis has been placed upon crop homogeneity; plant breeding for yield maximization, without paying adequate attention to 'short-term variability and long-term sustainability'; high energy costs (through the use of irrigation water, fertilisers, pesticides and farm machinery) for timely delivery; and price subsidies. 'It well fits the conditions of production of a small minority of farmers in India, spatially and socially delimited, but cannot be extended to all regions and to all socio-economic groups, because of its energy costs and its general consequences, especially for employment' [Spitz, 1989, p. 67].

TABLE 8. INTER-STATE VARIABILITY IN PER CAPITA AGRICULTURAL AND INDUSTRIAL SDP: 1960-89

	Agriculture	Industry*
1960-3	0.1377 (21.94)	0.5886 (26.05)
1970-3	0.3403 (116.47)	0.5573 (51.40)
1980-3	0.4265 (304.36)	0.5566 (169.26)
1986-9	0.4121 (462.01)	0.5608 (307.73)

Sources: CSO (1985 and 1990); Census of India, various volumes.

Notes: Figures in brackets represent values of standard deviations. * Mining and Manufacturing combined.

TABLE 9. INTER-STATE VARIATIONS: STANDARD DEVIATION OF NATURAL LOGARITHMS OF VARIABLES

Variables	1962-65	1970-73	1980-83
Value of output per capita	0.2566	0.3379	0.4278
Value per worker	0.4101	0.4496	0.5089
Labour intensity	0.3680	0.3825	0.4105

Source: Krishnaji, N. and Sekhar, P. Satya, 1991, p. A-63.

Notes: The data base for these estimates has been provided in Bhalla, G.S. and D.S. Tyagi, 1989 and Census of India. Value figures are in constant (1969-70) prices.

Evidently, the so-called 'green revolution' contributed much to the aggravation of uneven development between regions. Table 8 indicates the degree of variability in agricultural SDP of 17 States over four time points. It is obvious that the post-green revolution disparities have grown notably, as compared to the same in the pre-green revolution period.

Table 9 is indicative of the inter-State disparities in the net impact of the new technology over the two decade period 1962-83. As is obvious, in all the three variables, a sharp increase has taken place showing growing disparities among the States. The magnitude of such disparities could be comprehended from the following instance of the distance between Punjab (richest) and Bihar (poorest) States. Whereas the value of output per capita during 1962-65 was Rs 487 in Punjab and Rs 192 in Bihar, the same became Rs 1,134 and Rs 153, respectively by 1980-83, widening the gap between the two states greatly. Again, the value per worker in Punjab rose from Rs 2,200 (during 1962-65) to Rs 5,063 (during 1980-83), while it remained practically unchanged for Bihar [Krishnaji and Sekhar, 1991].

That certain regions have benefited immensely from such policy measures at the cost of many others has been the conclusion of numerous research studies [Byers, et al., 1985; Zarkovic, 1987; Vaidyanathan, 1988; Rao, 1989; Bhalla and Tyagi, 1989; Krishnaji and Sekhar, 1991 and Rudra, 1992]. Without going into a detailed critique of the inherent limitations of the 'Green Revolution' strategy we would briefly discuss the effect on regional imbalances.

As the new technology was intrinsically dependent upon the availability of water, irrigated regions performed much better than the rainfed ones. This necessarily led to differentiated agricultural growth between regions. There exists notable variation in irrigated areas between States; also in the two decades (1967-68 to 1986-87) since the strategy came into being, the regional variability (as shown by the coefficient of variations of the percentage of Gross Irrigated Area (GIA) to Gross Cropped Area (GCA)) increased.¹² The major technological breakthrough in the form of high yielding variety of seeds has been achieved mainly in the case of fewer public resources for new

wheat and rice (the latter has shown much less resilience depending upon varying local conditions, including irrigation facilities). As a result, the new technology has essentially proved more productive in the north-western States than in other parts of the country. The reason why some other crops could not show as much resilience as wheat is that they could not take advantage of the 'water-intensive' method. For instance, oilseeds and pulses are grown mainly in dry or rainfed regions. Even about 60 per cent of the area under rice is in rainfed areas [Hanumantha Rao, 1989, Pp. 393-395].

Empirical results have shown that the distribution of both the input technology and investment in agriculture has been highly skewed; whereas the north-western region of Punjab, Haryana and western Uttar Pradesh have undergone spectacular changes in their agricultural production structure, the eastern and southern States have been unable to obtain the benefits of public and private investment in agriculture. The small holdings in these regions have also not benefited. Between the early sixties and early eighties the north-western region contributed as high as 53 per cent to the incremental agricultural output, whereas the eastern region accounted for only 8 per cent. This was primarily due to the appropriation of relatively large shares of modern inputs by the better-off regions. During the eighties, with about 23 per cent of total area, the north-western region accounted for over 40 per cent of total fertilisers and total irrigated area and above 60 per cent of tractors used [Bhalla and Tyagi, 1989, Pp. 55-56].

Further, the experience in the working of agricultural policies in the past, particularly since the mid-sixties, has been unfortunate. Examining three major state incentive policies, namely, price support, input subsidies and subsidised institutional credit, Subbarao concluded that 'This growth (in agriculture) in the advanced states was aided by state-induced market price distortions resulting in heavy subsidies and the easy availability of subsidised public funds. The few prosperous states which already had access to water, power and fertiliser cornered a disproportionate share of public subsidies, leaving public investments designed to spread these critical inputs in a regionally more equitable manner. The net result has been a deficiency of public investments in critical areas such as flood control and water management in the poorer eastern and central states' [Subbarao, 1985, Pp. 543-544].

Constraining Factors

While pointing to the grossly diverse agricultural performances, in terms of growth of area and yield, one needs to look into at least two crucial factors - demographic pressure and environmental differentials. In a dissagregated analysis, over the period of 1960s and 1970s, it has been shown that (i) technology and demographic forces were acting against the negative growth (NSS agro-climatic) regions, and (ii) population growth had offset yield increase induced by technology in low and very low regions [Mahendra Dev, 1985, p. A-136].¹³

It is clear that population growth, especially in rural areas, does dilute the gains of technological progress. As far as the growing surplus labour in rural areas is concerned, generation of nonagricultural employment within the regions depends largely upon the level of agrarian prosperity, as could be gauged through per capita income of the agricultural population, income distribution pattern and the degree of commercialisation.¹⁴ Moreover, labour mobility from low-growth regions to high-growth ones has been mostly inconsequential considering the size as well as the socio-cultural limits of the labour force [Vaidyanathan, 1986, Pp. 49-50]. Precisely because of this, greater investment in rural infrastructure and provision of suitable agricultural technology to depressed regions are essential. 'Changes in productivity per unit area are an equally important factor; the larger the increase in productivity, given the demographic pressure, the higher the rise in per capita output' [Vaidyanathan, 1988, p. 21].

Environmental constraints on agricultural growth are well known. Discussing aspects of this problem at length, concerned scholars have emphasised, *inter alia*, the need for better land and water management towards harnessing both surface and ground water potentials, particularly

the latter, in the agriculturally lagging regions. The significance of 'adaptive' local research (for both dryland and rain-fed farming), contributing to higher productivity and, hence, higher per capita income, has also been highlighted [Vai-dyanathan, 1988, Pp. 36-54, Ray, 1993, Pp. 264-268]. Similarly, till recently, the superiority of multiple-cropping (over monoculture), both in terms of higher gross returns and more evenly spread of labour employment, had not been recognised [Spitz, 1989, Pp. 66-67].

It is important to note that even in a relatively liberalised environment, during the eighties, though the growth of agricultural production has been 'satisfactory', public (and consequently, private) investment in agriculture as also in rural infrastructure in real terms has declined significantly. This has led to a reduction in the horizontal spread of rural infrastructure. Also, it has enhanced intensification of use of current inputs (such as, fertilisers and pesticides) in the already developed regions. If anything, regional concentration of output growth and marketed surplus has risen further during the decade [Sen, 1992, Pp. 10-11].

It has been noted that a desirable situation would probably be one which combines a slow pace of population growth with fast but sustainable rate of agricultural growth. 'Here the crying need is for greater public investment in rural infrastructure, both physical and human; and for institutional reforms which would allow better combination, both within and across regions, of surplus labour with scarce non-labour resources.

... Unfortunately, the liberalisers' priorities are far removed from these' [Sen, 1992, p. 18].

Aspects of Federal Finance

The provision of transfer of resources from the Centre to the federating units (or, States) has the primary objective of mitigating the undesirable effects of growing regional imbalances. Such transfer can take a variety of forms, which may be broadly classified as Plan, Non-Plan (Statutory) and Discretionary transfers.¹⁵ In view of the persistence of gaps between the 'felt' needs and the resource base and the 'changing complexion of federal polity', the basis of federal

fiscal transfers has been modified from time to Plan Assistance time. Despite these efforts the working of the system of federal finance has been particularly disappointing. 'The flow of financial resources from the Union to the States has tended to be grossly uneven, provoking the charge of favouritism against the Centre. A considerable degree of arbitrariness has infiltrated into the arena of fiscal devolution' [Mitra, 1988, p. viii].

We will discuss some major trends in financial flows with reference to 14 major States, over the Plan periods. The eight Special Category States of Assam, Himachal Pradesh, Jammu and Kashmir, Manipur, Meghalaya, Nagaland, Sikkim and Tripura have been excluded.

In Table 10 we have presented data on Plan-wise per capita plan assistance for State plans. As can be seen, among the advanced States, up to the end of Annual Plan periods, Punjab, Haryana, Karnataka and Kerala generally received above average assistance, with the first two receiving substantially higher shares during the first two Plan periods, Maharashtra, Gujarat and West Bengal received a lower than average amount during the same period. Among the backward States, for the same period, the shares of Bihar and Uttar Pradesh remained much below the all States average, in contrast to those of Orissa, Rajasthan, Madhya Pradesh and Andhra Pradesh.

								(KS)
States	1st Plan	2nd Plan	3rd Plan	Annual Plans	4th Plan	5th Plan	6th Plan	7th Plan
Andhra Pradesh	19(79.2)	28(107.7)	58(105.5)	39(108.3)	53(81.5)	88(86.3)	232(78.1)	372(74.0)
Bihar	14(58.3)	19(73.1)	44(80.0)	19(52.8)	58(89.2)	84(82.4)	255(85.9)	406(80.7)
Gujarat	19(79.2)	26(100.0)	50(90.9)	31(86.1)	58(89.2)	80(78.4)	242(81.5)	394(78.3)
Haryana	90(375.0)	50(192.3)	67(121.8)	50(136.9)	76(116.9)	101 (99.0)	290(97.6)	388(77.1)
Karnataka	23(95.8)	30(115.4)	63(114.5)	40(111.1)	57(87.7)	88(86.3)	193(65.0)	298(59.2)
Kerala	17(70.8)	24(92.3)	68(123.6)	45(125.0)	80(123.1)	113(110.8)	226(76.1)	532(105.8)
Madhya Pradesh	22(91.7)	32(123.1)	64(116.4)	37(102.8)	61(93.8)	80(78.4)	260(87.5)	451 (89.7)
Maharashtra	14(58.3)	20(76.9)	39(70.9)	24(66.7)	47(72.3)	67(65.7)	212(71.4)	352(70.0)
Orissa	50(208.3)	39(150.0)	74(134.5)	40(111.1)	71(109.2)	107(104.9)	345(116.2)	521(103.6)
Punjab	90(375.0)	50(192.3)	67(121.8)	38(105.6)	72(110.8)	99(97.1)	249(83.8)	345(68.6)
Rajasthan	36(150.0)	31(119.2)	74(134.5)	49(136.1)	83(127.7)	113(110.8)	281(84.6)	442(87.9)
Tamil Nadu	14(58.3)	29(111.5)	53(96.4)	32(88.9)	48(73.8)	72(70.6)	184(62.0)	349.69.4)
Uttar Pradesh	13(54.2)	17(65.4)	46(83.6)	30(83.3)	58(89.2)	90(88.2)	250(84.2)	408(81.1)
West Bengal	40(166.7)	22(84.6)	41(74.5)	27(75.0)	48(73.8)	69(67.6)	172(57.9)	274(54.5)
All States	24(100.0)	26(100.0)	55(100.0)	36(100.0)	65(100.0)	102(100.0)	297(100.0)	503(100.0)

TABLE 10. AGGREGATE PER CAPITA PLAN ASSISTANCE: I TO VII PLAN

Source: An unpublished document of the Planning Commission. Note: Figures in parentheses are Plan-wise indices.

States of Gujarat, Kamataka, Maharashtra, Punjab, Haryana, Tamil Nadu and West Bengal received in the overall, below average share. Kerala is the only State to have maintained an above average share, excepting during the Sixth Plan period. The only poor State which received higher than average shares from the Fourth to the Seventh Plan period is Orissa, Rajasthan's share declined from the above average level beginning from the Sixth Plan. Importantly, most of the backward States (Andhra Pradesh, Bihar, Madhya Pradesh and Uttar Pradesh) received less than average share throughout the last two decades,

In the later four Plan periods, the advanced i.e., from the Fourth to the Seventh Plan periods.

Statutory Transfers

The following inferences are drawn from Table 11 which gives the distribution of statutory transfers. As far as the advanced States are concerned, the per capita transfers up to the end of the Annual Plans period were above average for Gujarat, Karnataka and Kerala at least during the first two Plan periods. However, for States such as Haryana, Maharashtra, Punjab, Tamil Nadu and West Bengal the per capita receipts were

mostly below average or at best at the average level, suggesting that the Finance Commissions did not particularly favour advanced States. Among the poor States Bihar, Madhya Pradesh and Uttar Pradesh received significantly below average receipts all through. Whereas Andhra Pradesh and Rajasthan barely managed to get

approximately the same as average, the only State which has performed exceedingly well is Orissa, whose receipts have been fairly above average, throughout the period. Relatively speaking, it may be noted that, the Finance Commissions have hardly contributed anything for the poor States' efforts to improve their economic position.

TABLE 11. PER CAPITA STATUTORY RE	SOURCE TRANSFERS: II TO VII PLAN
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States	2nd Plan	3rd Plan	Annual Plans	4th Plan	5th Plan	6th Plan	7th Plan
Andhra Pradesh	24(100.0)	39(111.4)	39(100.0)	95(100.6)	178(110.0)	284(92.2)	541(92.6)
Bihar	20(83.3)	27(77.1)	26(66.7)	90(95.7)	150(93.2)	316(102.6)	604(103.4)
Gujarat	29(120.8)	50(142.9)	36(92.3)	86(91.7)	138(85.9)	282(91.6)	437(74.8)
Haryana	24(100.0)	33(94.3)	33(84.6)	75(79.5)	120(74.8)	239(77.6)	340(58.2)
Kamataka	31(129.2)	41(117.1)	55(141.0)	84(89.5)	131(81.4)	270(87.7)	465(79.6)
Kerala	23(95.8)	45(128.6)	67(171.8)	109(115.6)	225(139.8)	302(98.1)	506(86.6)
Madhya Pradesh	22(91.7)	32(91.4)	30(76.9)	82(87.4)	131(81.2)	306(99.4)	567(97.1)
Maharashtra	22(91.7)	34(97.1)	40(102.6)	97(102.4)	141(87.8)	273(88.6)	404(69.2)
Orissa	28(116.7)	64(182.9)	80(205.1)	131(138.9)	263(163.0)	373(121.1)	724(124.0)
Punjab	24(100.0)	33(94.3)	31(79.5)	84(88.6)	125(77.6)	250(81.2)	385(65.9)
Rajasthan	24(100.0)	40(114.3)	39(100.0)	103(109.1)	219(136.1)	263(85.4)	489(83.7)
Tamil Nadu	20(83.3)	32(91.4)	37(94.9)	90(95.4)	131(81.3)	310(100.6)	509(87.2)
Uttar Pradesh	19(79.2)	24(68.6)	31(79.5)	87(92.7)	153(95.0)	298(96.8)	551(94.3)
West Bengal	35(145.8)	33(94.3)	34(87.2)	101(107.4)	186(115.5)	292(94.8)	632(108.2)
All States	24(100.0)	35(100.0)	39(100.0)	94(100.0)	161(100.0)	308(100.0)	584(100.0)

Source: Gulati, I.S. and K.K. George, (1988), Pp. 42, 76-77 and 101.

Notes: Figures in parentheses are Plan-wise indices. 6th and 7th Plan periods refer to 7th and 8th Finance Commission periods.

Again there does not seem to be any important change in the pattern of statutory transfers favouring the poor States during the subsequent Plan periods, i.e., Fourth through the Seventh Plan. In fact, except Orissa, most of the poor States' share often remained below the average. In case of Andhra Pradesh and Rajasthan though Fourth and Fifth Plan periods witnessed some increase above average receipts, the same fell short of the average during the later Plan periods. A slight improvement was noticed in the shares of Bihar during the eighties (Sixth and Seventh Plan periods). Apart from Kerala and West Bengal during the Fourth and Fifth Plan periods and Maharashtra during the Fourth Plan period, the per capita receipts of all advanced States remained less than average, suggesting that a somewhat restricted approach was adopted during the later Plan periods for these States.

Discretionary Transfers

Considering the discretionary transfers, we find from Table 12 that, barring the Annual Plan periods, the advanced States (Gujarat, Kerala, Maharashtra, Tamil Nadu and West Bengal) did improve their positions during the Second Plan period over the previous one. Moreover, Punjab and Karnataka received increasing shares even during the Annual Plans. The poor States, with the exception of Orissa and Rajasthan, have received substantially low sums and the bias against poor States as a whole is the redeerning aspect of such type of transfers [George, 1987].

(Rs)

							(Rs
States	2nd Plan	3rd Plan	Annual Plans	4th Plan	5th Plan	6th Plan	7th Plan
Andhra Pradesh	20(90.9)	45(128.6)	57(139.0)	124(136.3)	83(68.0)	162(67.2)	150(65.8)
Bihar	37(168.2)	28(80.0)	45(109.8)	42(46.2)	116(95.1)	175(72.6)	154(67.5)
Gujarat	13(59.1)	39(111.4)	41(100.0)	100(109.9)	135(110.7)	312(129.5)	250(109.6)
Haryana	18(81.8)	50(142.9)	11(26.8)	172(189.0)	164(134.4)	347(144.0)	240(107.9)
Kamataka	7(31.8)	23(65.7)	46(112.2)	140(153.8)	108(88.5)	195(80.9)	248(106.8)
Kerala	26(118.2)	46(131.4)	23(56.1)	116(127.5)	91(74.6)	148(61.4)	191(85.8)
Madh ya Pradesh	23(104.5)	30(85.7)	39(95.1)	25(27.5)	91(74.6)	146(60.6)	173(75.9)
Maharashtra	20(90.9)	38(108.6)	34(82.9)	125(137.4)	109(89.3)	274(113.7)	298(130.7)
Orissa	36(163.6)	39(111.4)	52(126.8)	137(150.5)	128(104.9)	302(125.3)	234(102.6)
Punjab	18(81.8)	50(142.9)	67(163.4)	99(108.8)	293(240.2)	533(221.2)	721 (316.2)
Rajasthan	31(140.9)	53(151.4)	89(217.1)	241(264.8)	133(109.0)	364(151.0)	201(86.2)
Tamil Nadu	12(54.5)	34(97.1)	35(85.4)	82(90.1)	73(59.8)	179(74.3)	144(65.2)
Uttar Pradesh	13(59.1)	16(45.7)	25(61.0)	46(50.5)	111(91.0)	192(79.7)	181(75.4)
West Bengal	38(172.7)	41(117.1)	29(70.7)	124(136.3)	169(138.5)	290(120.3)	221(96.9)
All States	22(100.0)	35(100.0)	41(100.0)	91(100.0)	122(100.0)	241(100.0)	228(100.0)

TABLE 12. PER CAPITA DISCRETIONARY TRANSFERS: II TO VII PLAN

Source: George, K.K., 1987 and 1988, Pp. 252 and 136 respectively. Note: Figures in parentheses are Plan-wise indices.

To recapitulate the findings of the relative redistributive role of the three types of budgetary transfers at an inter-temporal level, it would be important to discuss whether the overall tendency is more towards progressivity or regressivity. Allowing for the variations in quantum of transfers between States over the Plan periods it may be stated that in the case of all the three types of transfers, the poor States have certainly not been provided with significantly above average level of funds. Particularly, during the recent three Plan periods, these States have received below average as well as declining shares. On the other hand, some of the advanced States have received sums much higher than the average at least during the early three Plan periods. Even otherwise, although their relative shares declined especially towards the recent two Plan periods, their receipts remained normally above those of the poorer States.

It has been noted that the issue of regional growth is particularly important in the early stages of development, at least for two reasons. Firstly, the 'spread effects' in poor economies are not strong enough compared to those in the better-off regions and hence, uneven distribution of benefits of development may have serious social and

political repercussions. Secondly, if corrective steps are not taken in the beginning, any later attempts at diverting resources from developed to poor regions might create tensions between regions [Ansari, 1983, p. 450]. As discussed above, there was definitely a bias favouring some of the advanced States during the early stages of planning. The overall bias against poor States continued even during the recent Plan periods. As observed by an important study in the field of federal finance, 'One thing is clear, however, ... that any attempt at persevering with the existing pattern of transfers will only accentuate, rather than rectify, inter-State disparities' [Gulati and George, 1988, p. 107].

One more point needs to be mentioned here regarding the 'dependence' of the States on the Centre for financing their plans. In addition to the distortions in the federal financial transfers, most of the poor States have stagnant and insufficient resource base. As a result they find it difficult to raise resources within their States either for financing their development programmes or for the provision of essential services. Table 13 presents evidence of the extent of States' own efforts at raising resources internally in the total plan expenditure/outlay.

							(I CICCIIIagoo)
First	Second	Third	Annual	Fourth	Fifth	Sixth	Seventh
43.0	46.8	36.0	31.4	45.4	71.3	67.5	68.8
46.1	52.6	34.9	28.6	31.7	63.3	55.5	55.1
67.7	66.2	53.1	63.2	71.8	81.9	82.4	82.5
			45.2	78.7	83.1	83.8	86.6
50.0	51.3	37.6	43.2	55.4	74.2	75.1	75.0
45.5	52.1	33.0	38.0	49.0	57.6	68.8	45.9
35.1	33.4	23.9	14.9	46.7	75.9	71.5	73.2
61.5	65.3	61.5	71.4	76.2	85.6	82.7	83.1
9.4	26.9	39.0	34.2	37.7	59.8	49.5	57.6
13.5	41.7	47.1	57.5	77.3	86.7	82.7	85.8
9.1	40.5	23.4	12.5	31.1	59.0	64.3	62.0
50.6	48.8	45.4	54.5	64.4	73.4	76.0	75.0
47.6	47.2	37.4	42.5	56.1	67.4	62.3	65.5
26.6	53.2	48.4	30.2	41.5	75.6	78.3	70.6
38.7	49.4	40.8	43.5	57.4	73. 9	72.2	72.0
	First 43.0 46.1 67.7 50.0 45.5 35.1 61.5 9.4 13.5 9.1 50.6 47.6 26.6 38.7	First Second 43.0 46.8 46.1 52.6 67.7 66.2 50.0 51.3 45.5 52.1 35.1 33.4 61.5 65.3 9.4 26.9 13.5 41.7 9.1 40.5 50.6 48.8 47.6 47.2 26.6 53.2 38.7 49.4	First Second Third 43.0 46.8 36.0 46.1 52.6 34.9 67.7 66.2 53.1 50.0 51.3 37.6 45.5 52.1 33.0 35.1 33.4 23.9 61.5 65.3 61.5 9.4 26.9 39.0 13.5 41.7 47.1 9.1 40.5 23.4 50.6 48.8 45.4 47.6 47.2 37.4 26.6 53.2 48.4 38.7 49.4 40.8	First Second Third Annual 43.0 46.8 36.0 31.4 46.1 52.6 34.9 28.6 67.7 66.2 53.1 63.2 50.0 51.3 37.6 43.2 45.5 52.1 33.0 38.0 35.1 33.4 23.9 14.9 61.5 65.3 61.5 71.4 9.4 26.9 39.0 34.2 13.5 41.7 47.1 57.5 9.1 40.5 23.4 12.5 50.6 48.8 45.4 54.5 47.6 47.2 37.4 42.5 26.6 53.2 48.4 30.2 38.7 49.4 40.8 43.5	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

TABLE 13. SHARE OF STATE'S OWN RESOURCES IN PLAN OUTLAYS/EXPENDITURE

Source: Estimated from an unpublished document of the Planning Commission.

It is clear that the dependence of the States on the Centre has declined considerably over time. The contribution of all the States combined to total plan expenditure increased from 39 per cent during the First Plan period to 72 per cent by the Sixth and Seventh Plans. Importantly, while the advanced States could self-finance large proportions of plan expenditure, the backward States were relatively more dependent on the Centre. This suggests that the backward States are unable to generate enough income from within their States and, hence, rely heavily on Central assistance. On the other hand, the magnitude of plan outlays of these States being much less than the all States' average the proportion shows an upward bias even though the Central contribution is not correspondingly high. In a disaggregated analysis, it has been noted that though the backward States have made the 'expected' efforts to improve their economic conditions, the financial transfer policy of the Centre has not been 'appropriately' progressive to prevent the growing disparities [Ansari, 1987]. Moreover, a recent intensive study in the field establishes that all the Central agencies entrusted with the task of resource allocation among the States, 'have without exception failed to bring succour to the poorer States. All the major instruments of regional policy have failed to arrest widening trend in regional disparities in India. In fact, some of the agencies wielding these instruments had actually contributed to the accentuation of the

divergent trends as they only acted as conduits for the outflow of savings from the poorer to the richer regions' [George, 1988, Pp. 235-236].

Concluding Observations

Removal of regional imbalances has remained a crucial objective of planned state intervention in India. Given the diversity of the Indian State in terms of resource endowments, population characteristics and also the historicity of the development process - the basic flaw with Indian planning has been that it lacks a spatial development perspective. This is obvious from the fact that sectoral investment strategies are taken to be the cornerstone of planning process in the country. As in many other countries, influenced mostly by the Western notion of post-war development strategy, India emphasised on industrialisation as the most notable path to progress. Consequently, until the seventies, massive public sector investments were made in the form of locating industries in the key sector in those regions, where the return to capital was considered to be the highest. The national industrial growth was supposed to percolate down to all the regions and thereby, national growth objectives were seen as coterminus with regional growth.

The disparities between regions, had in fact, risen by the beginning of the 1970s. With a greater thrust on industrialisation to encourage location

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of industries both in public and private sectors in specified backward areas, various financial support schemes were formulated. Further, industrial licensing as an instrument for preventing undesirable concentration of private capital in already developed regions was introduced. However, all these resulted in the already advanced States obtaining a lion's share of the benefits, primarily intended for the underdeveloped States. Even though in some backward States per capita public investments in non-departmental undertakings has been relatively higher, these are mostly local resourcebased key industries for national development and the concerned States have hardly benefited from them. Even the massive investment in modern agriculture, which, among other things, was supposed to buttress industrialisation has been concentrated in a few well endowed regions of the country. Our analysis of Central resource flows to the States has also suggested a bias in favour of the advanced States.

The trickier issue of intra-regional disparities could be dealt with at least as a first step, by focusing upon both the sub-sectoral as also the sub-regional (district and, more importantly, taluka) levels. One has to go beyond the mere construction of composite indices of development. Although sporadic, such detailed exercises have been carried out by a few local governments.¹⁶ The dearth of similar inquiries pertaining to underdeveloped States is a sad commentary on the lack of dynamism and vision for the future in the local governments. Above all, the occurrence and persistence of acute poverty both rural and urban, cutting across administrative boundaries - remain the most crucial challenge for development planning. The provision of basic amenities towards human existence with dignity for the deprived millions must remain the central concern of any form of development intervention.¹⁷ It is worth pondering as to whether in the absence of radical institutional changes the typical interventionist strategy carries much weight.

Under such circumstances, the local governments do have a much larger role to play, at least in locating priority areas of promotion, designing and execution of plans ensuring minimal dependence on the Centre. This necessarily involves 'a decentralised, participatory system of local planning which permit people to monitor the use of resources, bring weaknesses in implementation (including misuse of resources) to the surface and generate pressures for coercive action' [Vaidyanathan, 1988, p. 53] A stronger political will capable of articulating the regional interests in the appropriate fora and active popular participation at all levels seem to be an important way out for the neglected regions. A vigilant public can make a big difference.

The socio-political consequences of regional imbalances have already assumed serious proportions, leaving much to be desired towards preventing, if nothing more, the process of increasing regional differentiation.

NOTES

1. For discussions on historical roots of regional imbalances, see, Bagchi, [1976]; Bharadwaj, [1982]; Kundu and Raza, [1982], especially, Pp. 1-10, 38-44 and 77-83; and Banerjee and Ghosh, [1988].

2. For the most recent evidence on the patterns of regional variation in India, see the meticulous empirical exercise done by Choudhury, [1993].

3. 'Growth and diversification of economic activity in an under-developed area can take place only if the infrastructure required for this is provided in an adequate measure and programmes for conservation and development of natural resources undertaken. Within a State, development planning has to satisfy these primary needs of each region or area' [Planning Commission, 1970, Pp. 17-19]. Also, see the Chapter on 'Industry and Minerals', especially, Pp. 240-241.

4. *State', as a political and administrative entity, refers to the 'region' in the context of Indian planning.

5. The only case where it has been supported with documentary evidence related to the United States. [See Perloff, et al., 1960].

6. 'Limited success' was achieved through such planning processes in both Italy and France. For experience details see, Schachter, [1967] and Hansen, [1968].

7. See Press Note 4/1/81 - BAD (Vol. III), Government of India, Ministry of Industry, Department of Industrial Development, 27th April 1983.

8. The relative decline from 42.6 to 36.8 per cent is largely due to a big leap in the share of Uttar Pradesh from 6.9 to 11.9 per cent between the two periods. 9.

States	1970-79	1980-84	1985-90
Developed		(Perce	ntages)
Developed			
Gujarat, Karnataka, Maharashtra and Tarnil	48.1	<i>Lol</i> 42.4	42.0
Nadu	52.5	45.7	47.5
Backward			
Assam, Bihar, Jammu &		Lol	
Kashmir, Orissa and	8.0	10.9	8.9
Kajasulan	7.2	8.8	7.9

10. These proportions are estimated from data presented in Table 9.23 in CMIE [1991a].

11. See, A Handbook of Information on Public Enterprises (Comprehensive Volume) [1969], Bureau of Public Enterprises, New Delhi, p. 79. Quoted in Raj, [1978], p. 145. 12. Percentage of GIA to GCA for 17 major States:

	1967-68	1986-87
SD	14.88	21.41
CV	0.6409	0.6522

Source: Estimated from CMIE [1991a].

13. In a subsequent study he has observed further that, 'Growth of labour productivity in the group of high growth regions was due to rapid growth in land productivity, multiple cropping and relatively less pressure on land. Against this, the groups of low and negative growth regions have shown relatively high growth in work force and low growth in yield and multiple cropping' [Mahendra Dev, 1986, p. A-72].

14. For an excellent exposition, see, Vaidyanathan, [1986, Pp. A-139-142].

15. Plan assistance is given in the form of grants and loans through the Planning Commission towards bridging the gap between the Plan outlay of the States and their own resources. Since the beginning of the Fourth Plan (i.e., 1969), the allocation has been based on what is known as the Gadgil formula (or, the Modified Gadgil formula since the Sixth Plan), where population, tax efforts, irrigation level and special problems of regions are taken into consideration. The non-Plan or statutory transfers are awarded by the Finance Commissions. The quantum of discretionary transfers is determined by the Central ministers subject to the approval of the Ministry of Finance. This includes investments under Central Plan schemes and centrally sponsored schemes.

16. Two such imaginative and rich reports are of the Government of Maharashtra and Government of Gujarat, under the chairmanship of V.M. Dandekar [1984] and I.G. Patel [1984], respectively. Emphasising taluka as the micro unit of planning they have made a wide range of area and sector specific recommendations worthy of serious attention by other States as also the Central Planning authorities.

17. For some fresh, perceptive policy suggestions, see, Vaidyanathan, [1992] and Kundu, [1993].

ABBREVIATIONS

CIS	Central Investment Subsidy.
CMIE	Centre for Monitoring Indian Economy Pvt. Ltd.
CSO	Central Statistical Organisation.
FERA	Foreign Exchange Regulation Act.
GIC	General Insurance Corporation.
GOI	Government of India.
ICICI	Industrial Credit and Investment Corporation of India.
IDBI	Industrial Development Bank of India.
IFCI	Industrial Finance Corporation of India.
ILPIC	Industrial Licensing Policy Inquiry Committee.
ILs	Industrial Licenses.
IPLP	Industrial Planning and Licensing Policy.
LIC	Life Insurance Corporation of India.
LoI	Letters of Intent.
MIC	Monopolies Inquiry Commission.
MRTP	Monopolies and Restrictive Trade Practices.
NCDBA	National Committee on Development of Back- ward Areas.
NHM	Non-Household Manufacturing.
NID	No Industry District.
SFCs	State Finance Corporations.
UNIDO	United Nations Industrial Development Organi-
x 1/171	salion.
	Unit trust of India.
UIS	Union Territories.

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PATTERNS OF INTER-REGIONAL MIGRATION IN INDIA: 1961-81 A SPATIO-TEMPORAL ANALYSIS

M.R. Narayana

This paper argues that in a cross-section data as in India, migration by different durations of residence can provide information on temporal distribution of migration during a period. Since this information is also available for migration between different regions (or states) as well as for sectoral and gender patterns of migration, this paper undertakes a systematic analysis of the spatio-temporal patterns of inter-regional migration in India. These analyses imply, among others, that migration is a dynamic process occurring in time and space and its distinctive patterns between regions, sectors and gender may add new insights into the actual disaggregate migration process. These implications are hoped to providing perspective for researchers on determinants and consequences of inter-regional migration in India.

1. Introduction

Apart from fertility and mortality, migration is an important determinant of size, growth and composition of human population in open nations, or open regions within a nation. In a democratic society like India, people have the freedom to live in and work at the location of their choice. In general, this choice is influenced, among others, by a set of social, economic, cultural and political factors. In fact, these factors may influence different migrants differently at a point in time and space, as well as over a period of time. Or, different migrants may respond differently to these factors at a point in time and space, as well as over a period of time, or the same migrants at a place may respond differently over a period of time. The outcome of this process forms the alternative patterns of spatio-temporal migration in a society.

This paper analyses the spatio-temporal patterns of inter-regional (or, inter-state) migration in India. Previous studies on the descriptions of migration patterns in India are many. For instance, Skeldon [1986] provides a detailed comparison of migration patterns between 1971 and 1981 censuses with special reference to inter-sectoral flows and sex composition. Throughout, his analysis was based on all India figures, and, thereby, concealed its underlying inter-regional diversities. On the other hand, in studies like Dutta [1985], net lifetime migration data are used from a particular census report to describe the patterns of migration between states. These descriptions, however, do not unearth the underlying temporal dimension of migration. Thus, the need for an integrated analysis of

spatio-temporal patterns of inter-regional migration is an imperative in India. Further, both the previous studies above have highlighted the difficulties in analysing migration patterns purely from different census data. In recent past, National Sample Survey (NSS) data on migration are made available in India and the task of comparison between data sources is not only between different censuses but also between different censuses and sample survey data.

This paper argues that in a cross-section migration data as in India, migration by different durations of residence can provide information on temporal distribution of migration during a period. Since this information is also available for migration between different regions and for sectoral and gender patterns, the spatio-temporal patterns of inter-regional migration in India can be analysed in sufficient detail.

This paper identifies the important data sources on inter-regional migration by duration of residence in India and analyses its patterns with special reference to sectoral (rural and urban) composition, gender characteristics and reasons for migration. While no attempt will be made to relate the patterns of inter-regional migration to the patterns of regional economic development, this brief documentation serves to be a guide to the available information and provides perspective for researchers to undertaking migration studies on the patterns of inter-regional migration in India.

The rest of the paper is organised as follows. Section 2 discusses the availability and comparability of different data sources of inter-regional migration by duration of residence in India. In

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section 3, patterns of inter-regional migration is analysed in detail. Section 4 includes concluding remarks and implications of the study.

2. Data Sources

In India, two important sources of inter-regional migration data may be identified. They are the migration tables of population census reports and national sample surveys.¹ Both the sources provide the cross-section data on state-specific inmigration, but only the census reports contain selected data on inter-state migration flows. On the other hand, time-specific migration data from the census and survey reports are available in the form of migration by different durations of residence.

Migration data on duration of residence were collected for the first time in the 1961 census. And, the migration data of 1991 are yet to be published. Hence, my analysis of census data will

cover from 1961 census to 1981 census. Broadly speaking, these spatio-temporal data can be distinguished into two categories. First, data on gross flow of inter-regional migration, and second, data on inter-regional migration only at the state level of aggregation.

Table 1 lists the available cross-section data on gross flows of inter-regional migration by different durations of residence. The sources exhibit diversities in the classification, characteristics and durations of residence of migration in the 1961 census and in the 1981 census since no information on the gross flows by duration of residence is available in the 1971 census or in any national sample survey reports between 1961-81. An important advantage of data on gross flows is that they can generate alternative inter-regional patterns within the sectoral level, such as, ruralto-rural migration, rural-to-urban migration, urban-to-rural migration and urban-to-urban migration.

TABLE 1. AVAILABLE CROSS-SECTION DATA ON INTER-REGIONAL FLOW OF MIGRATION IN INDIA BY DURATION OF RESIDENCE: 1961-81

Nature of data	Classifi- cation of migrants	Characteristics of migrants	Duration of residence	Coverage (number of states)	Data source
(1)	(2)	(3)	(4)	(5)	(6)
I. CENSUS DATA					
1961 Census	Place of birth	(i) Rural-urban distinctions; (ii) Male-female characteristics.	Less than one year; One-five years; Six-ten years; Eleven-fifteen years; and Sixteen years and over.	15	Migration Table: D-III, Census of India (1966).
1981 Census	Place of last residence	(i) Rural-urban distinctions; (ii) Male-female characteristics.	Less than one year; One-four years; Five-nine years; Ten-ninteen years; and Above twenty years.	22	Migration Table: D-2, Census of India (1988).
1981 Census	Place of last residence	(i) Rural-urban distinctions; (ii) Male-female characteristics; (iii) Reasons for migration (employ- ment, education, family moved and others).	Less than one year One-four years; Five-nine years; and Above ten years.	22	Migration Table: D-3, Census of India (1988).
1981 Census	Place of last residence	(i) Rural-urban distinctions; (ii) Male-female characteristics; (iii) Age structure (0-2; 3-7; 8-12; 13-17; 18-22; 23-27 and 28-32).	Less than nine years.	22	Migration Table: D-15, Census of India (1988).

Source: Compiled by the author.
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Nature of	Classifi- cation of	Characteristics of migrants	Duration of migration	Coverage (number of	Data source		
(1)	(2)	(3)	(4)	(5)	(6)		
I. CENSUS DATA							
1971 Census	Place of last residence	 (i) Rural-urban distinctions; (ii) Male-female characteristics; (iii) Marital status (never married; married; and divorced/widowed); (iv) Age structure (0-14, 15-19; 20-24; 25-49 and above 50). 	Less than one year; One-nine years; Above ten years.	22	Migration Table: D-VI, Census of India (1977).		
1981 Census	Place of last residence	 (i) Rural-urban distinctions; (ii) Male-female characteristics; (iii) Occupational structure (main workers, marginal workers, persons seeking/available for work, non-workers); (iv) Age structure (0-14; 15-19; 20-24; 25-29 and above 30). 	Less than one year; One-four years; Five years and above.	22	Migration Table: D-4, Census of India (1988).		
1981 Census	Place of last residence	Total migrants from rural areas out- side the state of enumeration reporting employment as a reason for migration by Age: (0-14; 15-19; 20-24; 25-29; 30-34; 35-39 and above 40), Sex: (Male/female) and Educational level (literate but below matric; matric but below graduate; technical diploma or certificate not equal to degree; gradu- ate and above other than technical degree; and technical degree or diploma equal to degree or post gradu- te degree)	Less than one year; One-four years; Five-nine years; Ten years and above.	22	Migration Table: D-7, Census of India (1988).		
1981 Census	Place of last residence	Total migrants from urban areas out- side the state of enumeration reporting employment as a reason for migration by age, sex and educational level as above.	Less than one year; One-four years; Five-nine years; Ten years and above.	22	Migration Table: D-8, Census of India (1988).		
1981 Census	Place of last residence	Total migrants reporting employment as a reason for migration, now avail- able or seeking for work by age, sex and educational level as above. This data is available only for urban areas.	Less than one year; One-four years; Five-nine years; Ten years and above	22	Migration Table: D-9, Census of India (1988).		
1981 Census	Place of last residence	Total migrants reporting education as a reason for migration, now available or seeking for work by age, sex and educational level as above. This data is available only for urban areas.	Less than one year; One-four years; Five-nine years; Ten years and above.	22	Migration Table: D-10, Census of India (1988).		
II. SURVEY DATA							
N.S.S. 387H ROUND (Jan-Dec. 1983)	Last usual place of residence	(i) Rural-urban distinctions; (ii) Male-female characteristics.	Last one year; Last five years;	22	Table 8.1 and 8.2, N.S.S.O. (1990).		

TABLE 2. Available Cross-section Data on Inter-regional Migration Only at State Level of Aggregation and by Duration of Residence in India: 1961-83

Source: Compiled by the author.

Information on the available data on interregional migration only at the state level of aggregation and by duration of residence are given in Table 2. First of all, the NSS data during 1983 is the only source of survey information close to the year 1981.² However, unlike usual sample surveys, the NSS does not provide information at an individual level of migration. Second, as compared to other sources, the 1981 census provides additional information on various important characteristics of migrants in a common set of duration of residence. These additional information include the age, sex and educational levels of (i) total migrants from rural (and, separately from urban) areas outside the state of enumeration reporting employment as a reason for migration; and (ii) total migrants reporting employment (or education) as a reason for migration, now available for or seeking work in urban areas. Thus, the migration data of 1981 census is the most comprehensive and latest

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available information on spatio-temporal distribution of inter-regional migration.

It is pertinent to note the following differences while comparing the NSS and census data on migration. First, the NSS data on migration is obtained only from a part of quinquennial survey of employment and unemployment and is the outcome of a limited sample in different states. Table 3 makes this point clear for 1983 data where the sample migrants of last one year of residence (or last five years of residence) as a percentage of total persons surveyed is below five (ten) in most of the states, especially in rural areas. On the contrary, the 1981 Census of India has collected information of migration by enumerating all persons in every household in the country. These persons include (i) those who normally resided and present in the household during the entire period of enumeration (February 8-28, 1981); (ii) those who were known to reside normally

FABLE 3. SAMPLE MIGRANTS OF THE 38 TH RC	ound of NSS on I	EMPLOYMENT AND UNEM	PLOYMENT, 1983
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States	Total s perso the su	ample ns of irvey	Sample migra year of res percentage of persons of	nts of last one idence as a f total sample the survey	Sample migrants of last five years of residence as a percentage of total sample persons of the survey	
(1)	Rural (2)	Urban (3)	Rural (4)	Urban (5)	Rural (6)	Urban (7)
1. Andhra Pradesh	26.716	15 403	324	5 45	873	14 25
2. Assam	19,895	3.929	0.59	1.61	2.57	6.11
3. Bihar	42.567	10,813	0.32	1.16	0.75	4.02
4. Gujarat	14.658	11.498	1.20	1.99	4.32	8.71
5. Haryana	7,209	2,975	2.39	4.87	7.14	15.26
6. Himachal Pradesh	10.291	1.220	2.12	9.18	6.49	17.95
7. Jammu & Kashmir	16.015	7.882	0.80	1.73	2.65	4.66
8. Kamataka	18,503	11.413	1.88	4.55	6.70	13.84
9. Kerala	16,302	7.154	2.78	3.96	6.99	9.45
10. Madhya Pradesh	31,765	14.507	1.96	3.32	5.66	9.93
11. Maharashtra	27,756	24.394	3.01	3.85	9.00	11.49
12. Manipur	6,278	3,188	N.A.	N.A.	N.A.	N.A.
13. Meghalaya	4,446	1.696	N.A.	4.07	2.16	8.96
14. Nagaland	N.A.	870	N.A.	N.A.	N.A.	N.A.
15. Orissa	15,887	4,330	1.84	5.17	6.22	15.08
16. Punjab	14,723	8,782	1.35	5.48	3.82	13.02
17. Rajasthan	19,546	9,202	1.85	3.61	6.46	11.37
18. Sikkim	1,339	827	1.49	5.08	7.54	27.08
19. Tamil Nadu	19,919	18,923	2.54	4.02	7.05	12.62
20. Tripura	3,951	1,242	16.20	3.38	4.07	13.85
21. Uttar Pradesh	56,501	22,878	1.07	3.08	4.63	8.31
22. West Bengal	27,181	14,734	0.95	3.61	6.21	10.78
Total	414,723	208,492	1.78	3.66	5.44	10.55

Note: N.A. refers to not available, either due to non-coverage in the survey or non-reporting of the survey information. Source: Computed by the author based on the information in table 8.1 and 8.2 in NSSO (1990).

in the household and who had actually stayed there during a part of the enumeration period but were not present at the time of enumeration; (iii) those who were known to reside normally in the household and who were not present at the time of enumeration but were expected to return within the period of enumeration; and (iv) visitors who were present in the household at the time of enumeration and who would be away from their usual place of residence during the entire enumeration period. Second, the classification/definition of migrants is also different between census and survey sources. For instance, according to 1961 census' place of birth criterion, a person is called a migrant if he/she was born at a place other than the place of enumeration. According to 1971 or 1981 census' place of last residence criterion, a person is called a migrant if his/her place of previous residence was different from the place of enumeration. In the 38th Round of NSS, a normal resident member of a sample household is treated as a migrant if the person's village/town/state of enumeration is different from his/her last usual place of residence (village/town/state). The last usual place of residence was defined as a village/town different from the village/town of enumeration, where the person had stayed continuously for at least six months immediately prior to moving his residence to the place of enumeration. (This definition of last usual place of residence is not uniform between NSS reports. For instance, in the 28th Round from which in-migration and outmigration rates are available for different states, a person was considered a migrant if his/her residence one year ago was different from the place of enumeration). Thus, the NSS definition of a migrant is different from the census definitions based on place of birth and place of last residence criterion.

It is well known that migration data on place of birth excludes information on last residence for persons who make multiple moves. This limitation is often attributed as a reason for marginal increase in the number of migrants according to place of last residence criterion over the place of birth criterion, if the population has a greater possibility of experiencing frequent moves. Consequently, migration according to place of birth criterion is considered to be a lower estimate.

It is important to note that the coverage of migration data in tables 1 and 2 shows that the number of states is a variable between 1961 and 1981 census. During this period, 6 Union Territories (Himachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim and Tripura) got statehood and Haryana was administratively separated from Punjab to become a separate state in the Indian federation. In fact, the variability in number of regions does not permit to making one-to-one comparison of migration patterns of a state across sources and over time. In order to avoid this problem in my analysis below, I shall provide available data on all migration patterns for 22 states as in 1981 census. Also, for simplicity of comparison, the name of states as in 1981 census will be used in all tables below. Accordingly, Mysore will be replaced by Karnataka in all its information relating to 1961 and 1971 census and Madras will be replaced by Tamil Nadu in its data relating to 1961 census.

3. Patterns of Inter-regional Migration

It is often remarked [see, for instance, Skeldon, 1986, p. 775] that migration in India is becoming more urban oriented, female oriented, etc., based on patterns of migration at the national level. However, because of India's subcontinental size, there may exist diversities in migration patterns with respect to different regions, sectors and gender. Such diversities may contradict the conclusions based on spatially aggregated data. In what follows, I analyse the patterns of inter-regional migration in India in a step-wise spatial disaggregation approach. To start with, I aggregate inter-regional migration in all durations of residence and reasons for migration. This is a classic example of cumulative migration data. Next, I disaggregate inter-regional migration only by different durations of residence. Finally, I disaggregate migration by reasons for migration in different durations of residence.

3.1. Spatial Patterns of Cumulative Inter-regional Migration

To start with, I analyse the spatial patterns of cumulative inter-regional migration from 1961 to 1981 based on the information summarised in Table 4 through 6. The tables show that few states have large absorption of total inter-regional migration in the country. For instance, the share of Bihar, Karnataka, Madhya Pradesh, Maharashtra, Uttar Pradesh and West Bengal put together was about 68 per cent in 1961, 56 per cent in 1971 and 62 per cent in 1981. The decline in the share of these states in 1971 is contributed by redistribution of migration in favour of other states, such as, Gujarat whose share had increased from 3.94 per cent in 1961 to 14.3 per cent in 1971. On the other hand, the increase in the share of these states in 1981 is attributable to the increase in the absorption of Maharashtra from 16.82 per cent in 1971 to 21.06 per cent in 1981. In addition, states like Andhra Pradesh, Tamil Nadu, Rajasthan and the North Eastern States also show an increasing trend over the censuses. Thus, marked variations are observable in the spatial distribution of inter-regional migration between 1961-81.

TABLE 4. SPATIAL PATTERNS OF CUMULATIVE INTER-REGIONAL MIGRATION IN INDIA: 1961 CENSUS

		Spatial distribution of inter- regional migrants (%)					Inter-regional migrants as a % of internal migrants			
States/ Union Territories (1)	Rural		Urban			Rural		Urban		T-4-1
	Males (2)	Females (3)	Males (4)	Females (5)	(6)	Males (7)	Females (8)	Males (9)	Females (10)	(11)
1. Andhra Pradesh	4.05	5.66	3.27	4.85	4.35	3.79	3.05	12.59	10.43	5.10
2. Assam	10.03	3.67	1.99	0.92	3.65	21.12	8.48	45.99	25.51	16.70
3. Bihar	7.31	9.49	4.19	5.34	6.34	8.98	3.09	23.65	19.28	6. 0 7
4. Gujarat	3.12	2.55	4.70	5.02	3.94	6.98	2.45	22.06	13.97	7. 9 6
5. Haryana	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6. Himachal Pradesh*	1.15	0.86	0.18	0.20	0.53	27.07	9.01	49.99	48.21	15.70
7. Jammu & Kashmir	0.35	0.24	0.16	0.26	0.24	5.26	2.09	12.39	12.68	4.70
8. Kamataka	9.24	8.26	6.19	8.45	7.75	12.45	7.58	28.82	23.67	13.81
9. Kerala	3.62	2.47	0.72	0.94	1.74	6.49	3.89	11.07	7.62	5.59
10. Madhya Pradesh	12.17	13.60	8.76	10.73	11.02	11.00	6.58	40.69	30.49	12.62
11. Maharashtra	7.86	7.38	26.98	25.50	18.24	6.26	3.42	40.28	29.76	15.33
12. Manipur*	0.17	0.10	0.04	0.03	0.08	8.60	4.14	44.22	27.26	7.33
13. Meghalaya*	N.A.	N.A.	N.A.	N.A.	N.A.	N. A .	N.A.	N.A.	N.A.	N.A.
14. Nagaland*	0.22	0.04	0.06	0.02	0.08	33.51	18.23	48.88	16.36	31.91
15. Orissa	3.16	3.74	1.56	1.91	2.47	8.29	3.17	28.47	22.16	6.12
16. Punjab	4.96	8.18	4.10	4.19	5.30	11.26	8.28	25.62	18.03	12.19
17. Rajasthan	5.69	8.89	2.26	3.49	4.82	16.82	7.82	24.33	17.85	11.40
18. Sikkim*	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
19. Tamil Nadu	3.08	2.87	4.84	6.50	4.38	4.67	2.28	14.91	11.12	6.48
20. Tripura*	0.39	0.21	0.04	0.05	0.15	11.59	7.31	43.24	37.58	10.75
21. Uttar Pradesh	6.45	13.58	5.49	8.01	8.24	5.61	2.96	15.69	14.00	5.12
22. West Bengal	16.99	8.19	24.46	13.59	16.68	22.96	5.60	59.87	36.91	22.99
Total	100.00	100.00	100.00	100.00	100.00	9.67	4.30	30.59	20.43	10.07

Notes:

1. Cumulative migration in this table refers to migration in all duration of residence and for all reasons.

2. All figures in this table exclude migrants who were unclassifiable in the census report.

3. N.A. refers to not available. In 1961, Haryana was not a state as it was only part of Punjab.

For Meghalaya and Sikkim no separate figures are available as they were clubbed under Frontier Agency.

4. Asterisk (*) refers to Union Territory.

Source: Computed by the author based on the information in Census of India (1966).

		Spatial d regior	istribution	t of inter- ts (%)		Inter-regional migrants as a % of internal migrants				
States	Rural		Ur	Urban		Rural		Urben		
(1)	Males (2)	Females (3)	Males (4)	Females (5)	(6)	Males (7)	Females (8)	Males (9)	Females (10)	(11)
1. Andhra Pradesh 2. Assam 3. Bihar 4. Gujarat 5. Haryana 6. Himachal Pradesh 7. Jammu & Kashmir 8. Karnataka 9. Kerala 10. Madhya Pradesh 11. Maharashtra 12. Manipur 13. Meghalaya 14. Nagaland 15. Orissa 16. Punjab 17. Rajisthan 18. Sikkim 19. Tamil Nadu 20. Tripura 21. Utar Pradesh	3.82 5.80 4.72 9.50 6.28 1.44 8.34 6.86 8.38 5.79 0.25 0.30 3.34 5.26 0.13 2.87 0.37 0.37 0.37 0.37 0.37	4.76 2.21 7.43 16.19 8.47 0.93 0.33 6.56 1.77 10.13 5.40 0.12 0.25 0.07 3.47 7.45 0.04 2.73 0.17 11.45	3.31 2.07 9.97 2.70 0.55 0.27 5.24 8.10 27.72 0.05 0.33 0.31 3.25 2.54 0.06 5.08 2.006 5.08	3.90 1.20 4.65 14.31 3.66 0.60 0.33 9.58 23.98 0.25 0.08 2.37 3.59 0.04 5.97 0.08 6.39	3.93 2.59 5.24 12.57 5.14 12.57 6.10 9.04 16.82 0.33 0.19 0.33 0.19 0.33 0.19 0.33 0.19 0.33 0.277 3.40 0.06 4.24 4.25 0.06 4.24 4.22 0.06	4.56 12.58 20.84 40.86 17.99 59.48 10.78 9.05 6.89 11.62 13.70 32.83 8.14 1.57 15.70 32.83 8.14 1.57 15.10 4.64 9.47 7.44	3.369 3.299 3.675 23.13 3.357 7.564 13.508 19.280 19.280 8.37 7.622 3.858 13.508 19.280 8.37 7.622 19.280 19.280 19.280 24.10 2.640 3.531	12.60 37.965 235.455 320.366 23.717 39.589 39.422 39.545 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.583 39.553 39.553 39.553 39.553 39.553 39.553 39.553 39.553 39.553 39.553 39.5555 39.555 39.555 39.555 39.555 39.555 39.555 39.555 39.555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.5555 39.55555 39.55555 39.55555 39.555555 39.5555555555	9.86 24.28 18.21 33.32 43.25 43.263 18.75 20.10 9.19 27.91 30.57 130.57 130.57 14.64 53.25 44.09 23.71 24.78 19.16 55.05 11.16 255.43 11.84	5.53 11.46 6.24 23.58 31.27 13.06 29.16 12.43 5.91 10.35 21.92 43.48 7.61 6.36 11.47 46.60 6.745 9.588
Total	100.00	<u>6.40</u> 100.00	100.00	8.20	11.37	9.69	5.60	30.09	29.47	11.35

TABLE 5. SPATIAL PATTERNS OF CUMULATIVE INTER-REGIONAL MI	GRATION IN INDIA: 1971 CENSU:
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Notes: 1. Cumulative migration in this table refers to migration in all duration of residence and for all reasons. 2. Sikkim got statchood in 1975. Thus, it is included as a state in migration tables of the 1971 census published in 1977. Source: Computed by the author based on the information in Census of India (1977).

TABLE 6. SPATIAL PATTERNS OF CUMULATIVE INTER-REGIONAL MIGRATION IN INDIA: 1981 CENSU

		Spatial (regio	listribution nal migrar	n of inter- nts (%)			Inter-region	onal migra ternal mig	unts as a % grants	
States	R	ural	U	rban	Tetal	R	Rural		Urban	
(1)	Males (2)	Females (3)	Males (4)	Females (5)	(6)	Males (7)	Females (8)	Males (9)	Females (10)	(11)
1. Andhra Pradesh 2. Assam 3. Bihar 4. Gujarat 5. Haryana 6. Himachal Pradesh 7. Jammu & Kashmir 8. Karnataka 9. Kerala 10. Madhya Pradesh 11. Maharashtra 12. Manipur 13. Meghalaya 14. Nagaland 15. Orissa 16. Punjab 17. Rajasthan 18. Sikkim 19. Tamil Nadu 20. Tripura 21. Uuar Pradesh	2.94 N.A. 4.34 5.60 5.12 0.68 0.33 6.21 1.64 8.88 26.83 0.19 0.46 0.49 0.46 0.49 3.61 4.02 4.17 0.19 2.43 0.17 4.66	4.45 N.A. 7.49 3.77 7.74 0.33 7.18 1.34 11.44 16.31 0.27 0.18 4.08 4.04 8.05 0.10 2.76 0.12 0.12 10.82	5.08 N.A. 4.25 6.07 4.35 1.53 2.58 8.77 22.84 0.11 0.47 0.37 4.55 5.08 8.77 2.84 0.11 0.47 0.374 4.55 5.021 7.05 0.26 6.20	5.41 N.A. 4.80 5.73 5.59 1.11 0.64 8.24 2.23 9.81 19.33 0.07 0.34 0.20 2.38 4.97 6.26 0.14 7.57 0.22 9.53	4.32 N.A. 5.49 5.08 5.97 0.45 7.35 1.83 9.92 21.06 0.30 0.30 0.30 0.338 4.31 6.07 0.15 4.37 0.18	3.81 N.A. 9.93 12.61 39.29 11.57 8.42 11.72 4.57 12.20 19.97 16.64 20.43 33.28 11.55 21.09 13.46 30.51 4.87 6.99 8.36	3.14 N.A. 3.28 4.14 22.24 4.99 3.58 8.21 7.29 8.88 7.33 19.48 21.10 5.01 9.54 8.20 16.76 2.91 4.66 3.73	15.51 N.A. 27.53 21.41 54.38 46.41 26.71 25.64 28.42 29.77 48.82 47.28 37.29 30.71 55.91 14.01 24.81 21.52	13.17 N.A. 18.81 15.40 47.87 45.69 21.36 21.27 12.29 24.56 23.80 147.58 42.24 23.64 27.57 22.64 55.84 12.10 20.50 16.34	5.13 N.A. 5.58 9.06 30.89 12.20 8.44 12.58 11.31 16.13 12.58 11.31 16.13 26.21 32.49 8.34 16.82 11.96 8.46 6.07
Total	100.00	100.00	8.34 100.00	<u> </u>	100.00	13.67	5.80	25.15	19.50	10.32

Notes: 1. Cumulative migration in this table refers to migration in all durations of residence and for all reasons. 2. N.A. refers to not available, since 1981 census could not be conducted in Assam. Source: Computed by the author based on the information from the Migration Tables [D-3] in the Census of India (1988).

In addition, the tables also show marked sectoral patterns and its associated gender characteristics. For instance, except for Gujarat, Maharashtra, Tamil Nadu and West Bengal, all the remaining states show (both for males and females) the predominance of rural composition of interregional migration in 1961. The same is true in 1971 as well, except for female migration in Gujarat. But the pattern is reversed in 1981 where the predominance of urban composition is evident only in Andhra Pradesh, Karnataka, Kerala and Himachal Pradesh. Thus, the nature of spatial distribution of inter-regional migration is mainly characterised by migration to rural sector during the period.

Further, cumulative inter-regional migration as a percentage of internal migration in the tables show the significance of inter-regional migration in the context of overall internal migration of

different states, such as, Himachal Pradesh, Maharashtra, West Bengal, Karnataka, Madhya Pradesh, Nagaland, Tripura, Gujarat, Haryana, etc. For all states, this percentage has increased from 10.07 in 1961 to 11.35 in 1971 but has declined to 10.32 in 1981. Whereas the increase is attributable to overall increase in both male and female migration to rural sector, the decline is evident by the fall in the male migration to urban sector. Nevertheless, in absolute terms, both male and female migration (more particularly, the male migration) to urban sector clearly dominates over migration to rural sector, not only in all states but also for all states put together. Thus, in the context of India's internal migration, inter-regional migration is relatively an urban phenomenon and predominantly a male phenomenon in both rural and urban sectors.

TABLE 7. SPATIAL PATTERNS OF CUMULATIVE INTER-REGIONAL MIGRATION IN INDIA: 1961 CENSUS SOME FURTHER INFORMATION ON SECTORAL AND GENDER CHARACTERISTICS

	- <u> </u>					
States/ Union Territories	Male inter- regional migration as a % of total inter-regional migration	Inter-regional migration to urban sector as a % of total inter-regional migration	Rural male inter-regional migration as a % of total inter-regional migration	Urban male inter-regional migration as a % of total inter-regional migration	Rural male inter-regional migration as a % of rural inter-regional migration	Urban male inter-regional migration as a % of urban inter-regional migration
	(2)	(3)	(4)	(3)	(0)	
1. Andhra Pradesh	43.40	49.73	16.97	26.43	34.13	52.57
2. Assam	69.30	75.44	50.11	19.20	66.42	78.17
3. Bihar	44.32	58.69	21.02	23.29	35.82	56.38
4. Gujarat	56.45	30.74	14.43	42.02	46.95	60.67
5. Haryana	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6. Himachal Pradesh*	51.45	80.11	39.46	12.00	49.26	60.30
7. Jammu & Kashmir	50.50	52.90	27.03	23.47	51.11	49.83
8. Kamataka	49.89	48.55	21.74	28.14	44.79	54.70
9. Kerala	52.64	73.78	38.01	14.63	51.52	55.80
10. Madhya Pradesh	48.12	51.20	20.14	27.98	39.34	57.33
11. Maharashtra	59.93	18.04	7.86	52.08	43.55	63.54
Manipur*	57.03	74.32	39.86	17.16	53.64	66.83
13. Meghalaya*	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
14. Nagaland*	83.79	65.42	53.64	30.15	81.99	87.19
15. Orissa	45.47	61.35	23.28	22.18	37.95	57.40
16. Punjab	44.30	55.90	17.07	27.23	30.54	61.75
17. Rajasthan	38.05	68.00	21.54	16.51	31.68	51.60
18. Sikkim*	N.A.	N.A.	N.A.	N.A.	N A	N.A.
19. Tamil Nadu	51.75	29.32	12.84	38.91	43 78	55.05
20. Tripura*	57.46	82.23	47.18	10.29	57 37	57.87
21. Uttar Pradesh	37.76	55.76	14.29	23.47	25.63	53.04
22. West Bengal	70.21	30.94	18.58	51.63	60.04	74.77
Total	53.45	43.41	18.24	35.21	42.02	62.22

Notes:

1. Cumulative migration in this table refers to migration in all duration of residence and for all reasons.

All figures in this table exclude migrants who were unclassifiable in the census report.
 NA. refers to not available. In 1961, Haryana was not a state as it was a only part of Punjab.

For Meghalaya and Sikkim no separate figures were available as they were clubbed under North-East Frontier Agency. 4. Asterisk (*) refers to Union Territory.

Source: Computed by the author based on the information in Census of India (1966).

States (1)	Male inter- regional migration as a % of total inter-regional migration (2)	Inter-regional migration to urban sector as a % of total inter-regional migration (3)	Rural male inter-regional migration as a % of total inter-regional migration (4)	Urban male inter-regional migration as a % of total inter-regional migration (5)	Rural male inter-regional migration as a % of rural inter-regional migration (6)	Urban male inter-regional migration as a % of urban inter-regional migration (7)
1. Andhra Pradesh	44.45	50.48	17.67	26.77	35.01	54.07
2. Assam	66.23	63.91	40.79	25.45	63.81	70.51
3. Bihar	41.16	54.84	16.36	24.80	29.83	54.92
4. Gujarat	38.95	48.68	13.74	25.21	28.21	49.13
5. Haryana	38.93	66.95	22.23	16.70	33.20	50.54
6. Himachal Pradesh	52.99	62.18	31.70	21.28	50.99	56.26
7. Jammu & Kashmir	90.58	90.83	85.74	4.85	94.39	52.88
8. Karnataka	47.71	49.54	20.41	27.30	41.20	54.11
9. Kerala	53.70	68.31	36.21	17.49	53.01	55.20
10. Madhya Pradesh	45.32	47.23	16.84	28.48	35.66	53.96
11. Maharashtra	58.61	14.97	6.26	52.35	41.80	61.57
12. Manipur	59.71	75.15	43.55	16.16	57.95	65.04
13. Meghalaya	61.86	51.40	30.46	31.40	59.26	64.61
14. Nagaland	79.91	38.29	28.42	51.49	74.21	83.45
15. Orissa	46.34	55.90	21.90	24.44	39.18	55.43
16. Punjab	46.58	45.49	16.24	30.34	35.70	55.66
17. Rajasthan	38.12	64.38	20.66	17.47	32.08	49.04
18. Sikkim	69.32	52.48	36.90	32.42	70.31	68.23
19. Tamil Nadu	50.31	29.76	12.30	38.01	41.34	54.12
20. Tripura	57.75	72.83	43.23	14.52	59.36	53.44
21. Uttar Pradesh	36.72	58.34	15.33	21.39	26.28	51.34
22. West Bengal	68.21	37.45	22.18	46.03	59.23	73.59
Total	49.95	45.30	18.17	31.78	40.12	58.10

TABLE 8. SPATIAL PATTERNS OF CUMULATIVE INTER-REGIONAL MIGRATION IN INDIA	: 1971 CENSUS
Some Further Information on Sectoral and Gender Characterist	ICS

Notes:

1. Cumulative migration in this table refers to migration in all duration of residence and for all reasons.

2. Sikkim got statehood in 1975. Thus, it was included as a state in migration tables of the 1971 census, published in 1977. Source: Computed by the author based on the information in Census of India (1977).

Table 7 through 9 present further characteristics of cumulative inter-regional migration. First, rural (or, alternatively urban) migration as a percentage of total inter-regional shows an increasing (or declining) trend in most of the states like Andhra Pradesh, Karnataka, Uttar Pradesh, West Bengal, etc. and a declining (or increasing) trend in states like Kerala, Himachal Pradesh, etc. However, states like Bihar, Madhya Pradesh, Maharashtra, etc., show mixed or fluctuating trends. Second, on the whole, male migration as a percentage of total inter-regional migration has declined from 53.45 per cent in 1961 to 49.95 per cent in 1971 and to 46.62 per cent in 1981. This decline is common for different states except for Gujarat and Kerala. Further, in only about 10 states, male composition of total inter-regional migration had a share of more than 50 per cent. Alternatively, these declining trends and lesser significance of male migration show

the increasing trend of female migration in the total inter-regional migration during the same period. This trend is also evident in the tables by the lower proportion of male migration to rural (urban) sector in the total inter-regional migration.

Interestingly, the gender characteristics of inter-regional migration above are reversed if sex composition within the migration to urban and rural sectors are separately identified. This is evident is the tables 7-9 by the higher proportion of male inter-regional migration in the rural (urban) destinations in each state and for all states as compared to the male migration in the total inter-regional migration. This underlines the significance of male migration within the rural and urban sectoral migration and, thereby, reverses the characteristics of inter-regional migration at the sectoral level of aggregation.

States (1)	Male inter- regional migration as a % of total inter-regional migration (2)	Inter-regional migration to urban sector as a % of total inter-regional migration (3)	Rural male inter-regional migration as a % of total inter-regional migration (4)	Urban male inter-regional migration as a % of total inter-regional migration (5)	Rural male inter-regional migration as a % of rural inter-regional migration (6)	Urban male inter-regional migration as a % of urban inter-regional migration (7)
1. Andhra Pradesh	40.81	54.51	19.20	21.60	35.23	47.49
2. Assam	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3. Bihar	36.54	69.10	22.32	14.23	32.30	46.04
4. Guiarat	53.07	56.55	31.11	21.96	55.02	50.53
5. Harvana	37.61	68.72	24.21	13.40	35.23	42.83
6. Himachal Pradesh	50.91	46.81	20.54	30.38	43.87	57.11
7. Jammu & Kashmir	47.47	46.44	21.16	26.30	45.57	49.11
8. Kamataka	45.13	57.32	23.83	21.29	41.58	49.89
9. Kerala	51.44	50.70	25.43	26.01	50.16	52.75
10. Madhya Pradesh	41.54	64.86	25.28	16.27	38.97	46.28
11. Maharashtra	55.92	62.54	35.97	19.95	57.51	53.25
12. Manipur	59.32	73.26	43.53	15.78	59.42	59.03
13. Meghalaya	57.85	59.66	34.80	23.05	58.33	57.13
14. Nagaland	67.37	65.34	45.17	22.21	69.13	64.06
15. Orissa	45.11	71.62	30.16	14.95	42.11	52.68
16. Punjab	45.79	58.53	26.34	19.45	45.00	46.91
17. Rajasthan	34.78	64.91	19.39	15.39	29.88	43.85
18. Sikkim	60.87	56.62	34.86	26.01	61.57	59.96
19. Tamil Nadu	45.35	37.31	15.69	29.66	42.04	47.31
20. Tripura	53.11	49.95	26.32	26.79	52.69	53. <i>5</i> 3
21. Uttar Pradesh	30.75	62.95	16.48	14.28	26.18	38.53
22. West Bengal	61.17	75.18	46.39	14.78	61.71	59.55
Total	46.62	62.53	28.23	18.39	45.14	49.08

TABLE 9. SPATIAL PATTERNS OF CUMULATIVE INTER-REGIONAL MIGRATION IN INDIA: 1981 CENSUS
SOME FURTHER INFORMATION ON SECTORAL AND GENDER CHARACTERISTICS

Notes:

1. Cumulative migration in this table refers to migration in all durations of residence and for all reasons.

2. N.A. refers to not available, since 1981 census could not be conducted in Assam.

Source: Computed by the author based on the information from the Migration Tables [D-3] in Census of India (1988).

3.2. Spatial Patterns of Inter-regional Migration by Duration of Residence

regard to duration of residence of less than one year.

Table 10 through 12 summarise the spatial patterns of inter-regional migration by duration of residence from the census of 1961, 1971 and 1981 respectively. Table 13 provides data on the patterns from the 38th Round of National Sample Survey in 1983.

Between censuses, it is evident that only 1961 and 1971 censuses have comparable durations of residence and these two censuses are comparable with the 1981 census data only with regard to duration of residence of less than one year and less than nine years. In addition, the survey data is comparable with the 1981 census only with From the tables above, the following important patterns are observable. First, migration in duration of residence of less than one year (or one-four years) is relatively less (or more) as compared to migration in other durations of residence. This pattern is common in migration to rural and urban areas and for both male and female migration, although in general male migration clearly dominates over female migration. If migration in duration of residence of one-four years is a proxy for medium term migration, then spatial patterns of inter-regional migration may be characterised predominantly by medium term migration. Second, there has been a decline in the migration of

		TABLE 10.	SPATIAL	PATTER.	NS OF INT	ER-REGIO	DIW TVN	RATION B	Y DURAT	ION OF R	ESIDENCI	IN [NDI/	v: 1961 CE	SUS		
,	Nu reside	unber of 1 nce of les total inter	nigrants is than on r-regiona	in duratio le year as l migrant	n of a % of s	Nur residen	nber of <i>n</i> se of one inter-re	nigrants i -five year gional m	a duration s as a % (igrants	t of of total	Nur residen	nber of m ce of six inter-re	igrants in ten years gional m	duration as a % of grants	of Ttotal	Number of migrants in duration of
Union	Ŗ	ural	วั	ban	Ē	Ru	ral	۳ŋ	an	F	Ru	E	ก	ur	E	residence of less than ten years as a
l en lones	Males	Females	Males	Females	10131	Malcs	Females	Males	Females	16101	Males	Females	Males	Females	1 Otal	% of total inter-regional
(1)	6	(3)	(4)	(5)	(9)	e	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	migrants (17)
1. Andhra Pradesh	19.18	9.27	19.14	13.54	14.58	31.14	22.10	35.30	32.11	29.51	16.03	17.63	16.80	18.98	17.46	61.55
2. Assam	12.76	1.46	15.29	10.78	11.80	27.36	25.13	32.27	35.46	28.17	15.41	17.36	18.96	19.01	16.78	56.75
3. Bihar	18.71	6.27	12.97	10.45	11.20	27.11	17.19	28.02	25.21	23.24	15.12	15.92	18.27	19.27	16.90	51.34
4. Cujarat	5).YC	N N	N A	N 4	80.61 N N	CC.97	5.0 V		21.00 N N		10.CI		10. /0 N N	77-17	10.24 N A	01.4/ MA
6. Himachal Pradesh*	39.53	11.7	28.06	20.05	25.33	24.45	19.72	40.12	30.66	24.90	1017	14 51	11 23	15 10	17 45	60 68
7. Jammu & Kashmir	29.44	15.21	34.89	31.47	27.52	42.06	23.55	40.21	36.68	35.57	12.09	17.39	9.6	10.57	12.53	75.61
8. Karnataka	28.00	14.56	18.76	13.31	18.37	34.02	27.90	32.48	31.02	31.25	16.14	18.33	17.38	19.90	17.95	67.57
9. Kerala	17.46	13.32	28.52	15.57	17.38	27.35	27.36	30.75	32.92	28.50	17.64	19.42	14.54	17.57	17.81	63.69
10. Madhya Pradesh	30.78	13.26	19.62	14.02	18.72	25.93	20.70	41.76	35.48	30.72	11.67	15.53	11.62	15.49	13.65	63.10
11. Maharashira	78.67	13.83	10.91	0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	14.71	20.02	71.12	50.87	01.12	80.22	11.69	14.95	18./1	19.43	86.22 21.28	57.48
12. Manipurt	5	0 7 7	C8.7	21.01 N N	5.1 • N	69.CE	25.49	£.4×	21.04 N	38.40 N A	73.20 N	24.8/	C4.2	73.12 N	23.00	68.82
12. Mcguaiaya	14 80	12.21	13 44	15.47	14 17	51 73	54 47	53 73	43 50	55 20 55 20	4.4 7 12	N.A. 15 31	15 45	N.A. 15.25	N.A.	70 00
15. Orissa	15.45	8.32	14.86	12.12	12.06	25.16	23.43	31.48	29.08	26.55	17.88	16.80	17.52	18.22	17.45	56.05
16. Punjab	39.42	9.89	27.31	18.15	21.07	28.45	16.51	40.67	32.84	27.88	11.46	14.92	13.37	16.58	14.19	63.14
17. Rajasthan	15.67	5.74	18.20	11.48	10.83	30.57	19.16	34.58	28.88	25.67	15.52	17.12	15.35	16.35	16.36	52.86
18. Sikkim*	N.N.	N.A.	N.A.	N.N.	N.N.	N.A.	N.A.	YZ Z	N.A.	NA.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
19. Lamu Nacu	10.07		14.9		2/-71		52.22	21.10	20.00	81.0	2.0	14.71	10.43	67.07	20.01	03.00
20. Inpuration	30,6	11-71	10 21	1.42	22.61	76.07		10110	2.5	20.10	00.01	14.10	6. 7	00.77	16.70	8.10
22. West Bengal	20.33	10.68	8.84	9.90	11.39	25.92	23.08	26.36	27.62	26.09	17.90	20.48	23.29	21.87	21.69	59.17
Total	23.37	10.15	13.81	11.88	14.22	28.12	21.03	30.74	29.63	27.58	15.11	16.73	18.52	18.97	17.54	59.34
Notes: 1. Cumulative migration	t in this u	able refen	s to mign	tion in a	ll duration	n of resid	ence and	for all rea	isons.							

PATTERNS OF INTER-REGIONAL MIGRATION IN INDIA

All figures in this table acclude migrants who were inclassifiable in the census report.
 A. refers to not available. In 1961, Haryana was not a state as it was a part of Punjab.
 For Meghalaya and Sikkim no separate figures were available as they were clubbed under North-East Frontier Agency.
 Asterisk (*) refers to Union Territory.
 Source: Computed by the author based on the information in Census of India (1966).

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	Nurr resid % 0	ber of m ence of l f total in	igrants ess than ter-regio	n duratio one year nal migr	on of rasa ants	Num resi % o	ber of m dence of f total in	nigrants f one-nir ter-regio	in duratione years a mal migr	n of is a ants	Number of migrants in duration of res-
States	Ru	ıral	Ur	ban	Total	Ru	ral	Ur	ban	Total	than nine years as a %
	Males	Fema- les	Males	Fema- les	10141	Males	Ferna- les	Males	Fema- les	Total	inter-regional migrants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Andhra Pradesh	18.90	9.80	14.78	9.93	12.77	44.62	34.52	46.16	45.10	41.83	54.59
2. Assam	21.51	3.15	5.69	2.66	6.96	63.88	20.76	30.65	16.09	29.97	36.93
3. Bihar	19.64	4.63	6.34	4.84	7.55	40.42	30.64	43.31	41.81	37.66	45.21
4. Gujarat	23.96	8.59	8.41	6.52	10.12	43.33	32.07	38.50	37.46	36.65	46.76
5. Haryana	21.18	9.37	12.09	8.75	12.35	37.26	30.11	51.53	46.57	37.97	50.32
6. Himachal Pradesh	33.20	15.69	16.42	17.63	21.72	40.72	34.11	58.35	53.71	44.60	66.32
7. Jammu & Kashmir	2.91	17.77	22.82	19.56	5.35	3.97	27.11	53.71	50.40	9.57	14.92
8. Karnataka	20.16	10.11	10.34	7.04	11.52	44.86	37.73	40.77	39.36	40.39	51.91
9. Kerala	16.18	9.89	18.61	11.51	13.92	45.91	47.46	46.86	46.53	46.66	60.58
10. Madhya Pradesh	22.37	12.21	9.78	6.16	11.76	36.72	29.27	39.06	40.73	36.10	47.86
11. Maharashtra	24.23	13.17	4.95	4.56	6.75	45.75	37.66	37.68	39.03	38.62	45.37
12. Manipur	13.29	4.42	5.48	4.95	8.50	54.19	43.39	51.63	45.58	49.62	58.12
13. Meghalaya	8.16	5.51	9.81	9.06	8.28	44.06	46.01	51.25	52.86	48.24	56.52
14. Nagaland	16.90	12.08	16.28	6.82	15.07	61.43	70.30	59.78	68.12	62.14	77.21
15. Orissa	15.58	9.70	8.66	8.10	10.42	42.02	33.77	52.52	53.86	44.11	54.53
16. Punjab	25.32	10.69	15.85	13.15	15.23	42.41	33.40	49.94	47.19	43.21	58.44
17. Rajasthan	22.34	9.24	17.51	10.58	13.63	33.13	31.62	45.29	42.29	36.25	49.89
18. Sikkim	0.09	0.02	0.23	0.09	0.08	1.53	0.30	1.18	0.61	0.77	0.85
19. Tarnil Nadu	9.98	5.68	7.91	6.67	7.38	53.37	45.58	44.50	44.79	45.87	53.25
20. Tripura	22.17	14.40	16.10	11.63	17.66	50.16	51.35	52.63	56.69	51.70	69.36
21. Uttar Pradesh	22.98	7.77	14.39	8.72	11.71	40.79	29.31	45.34	41.84	37.04	48.75
22. West Bengal	4.35	2.51	2.62	3.40	3.12	44.22	35.58	31.21	35.47	35.47	38.58
Total	16.40	8.01	7.61	6.30	8.98	37.83	30.31	38.65	38.62	36.15	45.13

TABLE 11. SPATIAL PATTERNS OF INTER-REGIONAL MIGRATION BY DURATION OF RESIDENCE IN INDIA: 19	71 CENSUS
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Notes:

1. Cumulative migration in this table refers to migration in all duration of residence and for all reasons.

2. Sikkim got statehood in 1975. Thus, it was included as a state in the migration tables of the 1971 census, published in the year 1977.

Source: Computed by the author based on the information in Census of India (1977).

less than one year duration of residence as a percentage of inter-regional migration of all durations of residence in all the censuses. In the same way, migration of less than nine years of residence shows a consistent decline from 1961 to 1971. These general decline are also relevant for migration in duration of residence of one-four years and five-nine years in 1961 and 1981 censuses and for migration of male and female migration to rural and urban sectors.

The survey data in table 13 exhibit few qualitative similarities and differences with the 1981 census data. For instance, the predominance of male migration over female migration in all the

durations of residence, greater (lesser) volume of migration in duration of residence of less than five (one) years (year), etc., are evident in both the survey data and census data. As compared to survey results, the percentage of inter-regional migration in duration of residence of less than one year is smaller in 1981 census, except for female migration to urban sector where the percentages are almost the same.

Thus, the spatial patterns of inter-regional migration by durations of residence are also marked by wide variations in sectoral and gender characteristics.

	Nu reside	umber of n nce of less total inter	nigrants s than on r-regiona.	in duratio e year as I migrant	n of a % of	Nur residen	nber of n ce of one- inter-re	iigrants ii -four yeai gional mi	n duration s as a % , igrants	1 of of total	Nun residenc	nber of m e of five- inter-re	igrants i nine yea gional m	n duration rs as a % igrants	ı of of total	Number of migrants in dura- tion of residence
States	R	ural	'n	ban	1	Ru	ral	n4)an		Ru	ral	Ъ	ban	E	of less than nine years as
	Males	Females	Males	Females	lotal	Males	Fernales	Males	Females	lotal	Males	Females	Males	Females	i otal	a % of total inter-regional
(1)	(3)	(3)	(4)	(2)	(9)	(L)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	mgrants (17)
1. Andhra Pradesh	10.29	5.31	8.13	6.16	7.08	26.14	19.00	29.34	26.52	24.40	16.42	15.56	18.15	18.72	17.04	48.51
2. Assam	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3. Bihar	5.51	2.34	11.80	4.01	4.67	18.44	14.65	22.46	21.40	17.73	16.89	14.89	16.86	18.84	16.28	38.68
4. Gujarat	13.18	11.49	7.14	5.53	9.78	25.66	21.96	25.25	24.65	24.41	16.66	16.35	16.64	18.08	16.88	51.07
Haryana	17.81	7.63	11.66	7.38	10.59	26.71	16.56	29.42	25.83	22.40	16.00	14.11	17.83	19.33	16.00	48.99
6. Himachal Pradesh	28.96	12.22	23.24	15.78	19.82	24.64	17.70	27.97	29.50	24.93	12.66	13.05	16.01	18.36	15.08	59.83
7. Jammu & Kashmir	23.70	17.60	17.04	13.71	17.68	41.73	27.85	38.08	35.46	35.55	11.48	10.78	15.26	14.98	13.25	66.49
8. Kamataka	7.38	4.52	7.66	5.76	6.14	26.53	20.72	27.62	25.28	24.55	16.31	15.34	17.21	17.85	16.51	47.19
9. Kerala	9.95	6.89	14.76	10.02	10.44	29.38	26.81	33.32	33.10	30.62	16.99	17.77	18.16	19.50	18.07	59.14
10. Madhya Pradesh	10.05	5.35	8.06	5.51	7.01	20.64	16.62	23.44	22.19	19.80	15.06	15.07	15.55	17.50	15.61	42.41
 Maharashtra 	7.55	7.60	4.87	4.52	6.50	22.48	21.82	20.35	20.18	21.48	16.36	16.09	15.08	16.59	16.07	44.05
12. Manipur	4.94	3.80	4.42	4.23	4.44	25.67	16.65	25.54	26.82	23.09	14.32	13.17	16.76	14.93	14.43	41.96
13. Meghalaya	6.45	6.46	7.18	8.48	6.97	28.25	27.30	31.43	33.07	29.58	18.34	19.10	17.47	17.64	18.21	54.76
14. Nagaland	11.83	10.17	6.77	7.49	9.83	33.05	34.01	33.51	36.38	33.76	20.59	20.20	23.71	22.76	21.47	65.06
15. Orissa	7.78	4.49	12.12	6.70	6.92	20.18	17.10	23.04	22.29	19.62	16.85	17.17	16.33	19.35	17.24	43.78
16. Punjab	15.03	6.94	9.37	6.46	9.44	34.38	20.92	34.71	27.92	28.69	16.85	17.37	17.34	19.00	17.58	55.71
17. Rajasthan	13.49	6.40	18.21	60.6	10.12	25.43	16.57	27.18	24.59	21.50	15.07	14.61	14.98	17.21	15.27	46.89
18. Sikkim	19.22	12.51	16.27	14.04	16.09	36.99	31.02	42.83	38.93	37.55	17.75	19.59	18.65	20.17	18.81	72.45
19. Tamil Nadu	4.71	3.77	5.72	5.23	4.98	22.94	21.56	25.88	24.89	24.16	15.94	17.08	18.40	19.75	18.17	47.31
20. Tripura	30.95	14.29	13.53	11.70	17.87	19.60	22.80	29.36	25.32	24.30	11.93	16.31	15.41	18.67	15.46	57.63
21. Uttar Pradesh	11.82	3.62	10.52	4.72	6.21	24.31	15.56	27.59	23.66	20.56	15.51	13.90	16.11	17.68	15.34	42.11
22. West Bengal	3.52	3.33	3.26	3.69	3.44	13.79	15.91	15.22	17.86	15.02	14.29	15.75	14.03	15.65	14.81	33.27
Total	8.90	5.68	8.32	5.82	7.10	22.33	18.33	24.71	23.65	21.65	15.84	15.40	16.24	17.86	16.15	44.89
Note: N.A. refers to not Source: Computed by th	available te author	e, since 19 based on	81 censu the infor	is could n mation fr	ot be con om Migra	ducted in tion Tab	Assam. le [D-3] i	n Census	of India ((1988).						

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TABLE 12. SPATIAL PATTERNS OF INTER-REGIONAL MIGRATION BY DURATION OF RESIDENCE: 1991 CENSUS

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PATTERNS OF INTER-REGIONAL MIGRATION IN INDIA

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	Migra	nts of last on	e year of re	sidence	Migra	nts of last five	e years of n	esidence
States	R	ural	Uı	rban	R	ural	Uı	rban
(1)	Males (2)	Females (3)	Males (4)	Females (5)	Males (6)	Females (7)	Males (8)	Females (9)
1. Andhra Pradesh	3.73	3.81	3.82	3.19	6.04	4.32	5.57	4.59
2. Assam	8.52	4.85	3.99	2.80	5.65	3.19	8.45	2.98
3. Bihar	9.37	5.44	8.10	8.93	11.73	17.17	8.54	16.38
4. Gujarat	2.95	N.R.	1.87	1.11	18.84	14.32	19.98	14.72
5. Haryana	35.65	23.86	30.60	15.66	34.38	18.98	32.19	23.64
6. Himachal Pradesh	12.95	4.83	20.92	4.44	21.10	21.21	18.30	16.76
7. Jammu & Kashmir	19.73	7.19	20.03	2.99	33.60	30.61	24.21	20.76
8. Karnataka	8.22	7.11	11.42	6.65	20.64	20.46	20.44	21.09
9. Kerala	15.13	6.38	12.83	5.24	9.94	7.26	15.13	7.81
10. Madhya Pradesh	17.24	11.06	8.59	6.66	10.57	11.89	18.39	16.46
11. Maharashtra	8.21	4.03	7.62	4.34	19.62	16.44	23.01	18.17
12. Manipur	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
13. Meghalaya	22.37	N.R.	32.53	50.60	52.40	50.60	56.91	51.46
14. Nagaland	N.R.	N.C.	N.C.	N.C.	N.R.	N.R.	N.R.	N.R.
15. Orissa	8.09	3.57	6.44	2.55	7.66	7.06	7.09	7. 6 7
16. Punjab	35.58	12.47	24.31	7.41	56.35	47.14	51.44	38.30
17. Rajasthan	26.00	11.33	18.21	9 <i>.</i> 45	19.03	14.75	13.42	12.03
18. Sikkim	52.42	N.R.	72.58	75.87	32.79	19.27	60.99	59.97
19. Tamil Nadu	7.98	5.16	5.98	4.20	12.28	9.89	11.18	9.02
20. Tripura	17.28	N.R.	10.66	3.75	6.61	6.90	8.41	4.93
21. Uttar Pradesh	30.58	8.76	20.08	4.87	29.93	23.93	20.90	15.59
22. West Bengal	6.78	6.64	6.87	4.06	29.61	17.55	29.92	16.49
Total	13.59	7.55	10.87	5.67	23.14	18.29	22.35	17.50

TABLE 13. SPATIAL PATTERNS OF INTER-REGIONAL MIGRATION BY DURATION OF Residence: 38TH Round of the NSS, 1983

Note: NC refers to not covered in the survey. NR refers to not reported as the number of sample migrants was less than 20. Source: Table 8.1 and 8.2 in NSSO (1990).

3.3. Spatial Patterns of Inter-regional Migration by Durations of Residence and by Reasons for Migration

The 1981 census uniquely provides detailed information on four important reasons [employment, education, family moved and marriage] for inter-regional migration by different durations of residence. Tables 14, 15 and 16 provide information on spatial patterns by these reasons for inter-regional migration in duration of residence of less than one year, one-four years and five-nine years, respectively.

The four reasons above together account for 69.12 per cent of inter-regional migration in less than one year of residence, 84.95 per cent in one-four years of residence and 86.37 per cent in five-nine years of residence. Thus, relatively speaking, medium term migration as well as long term migration may be said to be mostly driven by the four reasons above. Of the four reasons, employment and family moved are the major

influencing ones and education is the least important one, for migration in all durations of residence to urban/ rural destinations in different states. On the other hand, in all durations of residence, gender characteristics are particularly evident in different reasons for migration. For instance, employment and educational reasons have a dominant influence on male migration and marital reason has a decisive influence on female migration to both rural and urban areas. Surprisingly, migration due to family moved reason is higher as compared to other reasons for migration to both rural and urban areas and considerably higher for both males and females. Since migrants for this reason are invariably dependents, the higher male component underlines that women are not necessarily the only dependents along with migrating persons.

It is interesting to note that the analysis of reasons for migration above based on all-states average would remain qualitatively the same for most of the individual states as well. Thus, the

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	Mignut reas	ats who re on for mi	sported a gration au	mployma • • % of t	otal	Migra	nts who n n for mig	eported e	ducation a a % of tot	-	figrants v reason	who report for mignat	ed family	y moved as	Nige A	ants who reason fo	reported f	amily man t as a % of	riage as total	Number of migrants who
	inter, or	regional : te year di	migrants aration of	with less [residenc	c than	inter-r 00(egional n e year du	aignants v ration of 1	vith less th residence	Ę	inter-rej one j	țional mig year durati	rants wit ion of rea	h less than idence	II	ter-region	al migrant r duration	* with less of residenc	and s	reported major cessons for migra-
States	R	E	5	9		Rur	1	-tr	9		Rural		Urben			Rund		rhen		ion as a % of total inter-regional
					Total -					l'otal				Tot					Total	migrants in
	Males	Females	Males	Females		Males F	emales	Males F	emales	4	fales Fe	males Ma	ules Fer	Dales	Male	s Femal	es Males	Females		duration of resi-
																				dence of less than one year
(1)	જ	(6)	(4)	ତ	(9)	ε	(8)	6)	(10)	(11)) (21	13) (1	•	15) (16	(17)	(18)	(61)	(02)	(12)	(22)
1. Andhra Pradesh	26.46	10.00	23.56	425	16.77	224	1.07	2.41	2.18	1.96	5.37 4:	5.42 28	16.1	38.	23 0.6	1 14.2	0.35	14.10	.e 8	63.92
2. Assum	N.A.	N.A.	ν γ .	N.A.	N.A.	NA.	NA.	N.A.	NA.	N.A.	N.A. P	V.A.N	Z V	N. N.	A. N.	N.N.	. N.A.	NA.	N.A.	N.A.
3. Bihar	35.33	8.08	29.06	4.98	22.36	4.37	1.67	3.20	4.89	3.39 2	3.85 32	2.35 17	.65 40	45 25.	1.1 66	4 28.25	0.47	22.99	10.38	62.12
4. Gujarat	62.79	33.53	44.71	9.88	44.71	1.05	0.74	3.65	2.20	1.51 2	4.46 44	1.56 22	71 41	.21 32.	23 0.2	1 9.6	0.46	22.26	5.75	84.20
5. Haryana	64.00	17.26	44.00	7.05	38.96	1.03	0.84	1.99	2.04	124 1	6.12 25	9.71 28	.97 43	.11 25.	74 0.3	0 12.5	0.62	23.89	121	73.15
6. Himachal Pradeah	68.28	12.57	34.03	6.28	35.78	0.96	0.74	2.82	3.05	1.97 1	6.05 47	1.43 17	.76 49	.68 27.1	85 0.1	8 13.13	0.35	9.33	4.00	69.61
7. Jammu & Kashmir	61.79	17.61	47.53	13.88	36.94	0.77	66.0	1.55	121	1.12 3	0.61 64	5.11 33	.42 63	43 47.	19 0.2	4 8.20	0.35	11.15	4.58	89.82
8. Karnataka	45.18	15.81	39.13	11.66	29.60	3.95	з.59	7.53	4.05	4.83 2	2.07 35	3.72 21	.32 39	.18 28.	18 0.3	2 16.66	0.55	12.70	6.90	69.51
9. Kernla	59.01	22.37	30.63	9.72	31.45	1.71	2.14	1.43	3.15	2.00 1	8.43 4(0.15 21	90 47	.18 29.	75 12	5 14.88	1.17	9.76	5.40	68.60
10. Madhya Pradesh	51.46	14.46	47.24	8.49	33.11	3.19	1.09	3.20	2.05	2.39 2	1.29 3(5.02 22	90 41	.63 29.0	36 0.6	5 17.05	0.35	19.50	8.35	72.91
11. Maharashtra	34.98	8.12	35.39	6.34	23.21	1.67	0.62	4.93	2.20	1.90 2	4.13 44	4.82 22	.62 37	78 31.	1.0 66	7 9.68	0.18	16.92	5.17	62.27
12. Manipur	62.06	15.09	46.59	30.71	44.42	1.66	1.05	3.41	1.71	1.78 2	3.95 60	00 30	111 49	.57 36.	75 0.5	5 10.18	1.14	10.26	4.10	87.07
13. Meghalaya	35.86	3.75	35.42	3.21	21.49	7.64	6.19	8.93	420	6.89 2	8.45 64	3.16 38	.34 72	.86 49.	29 0.7	6 8.31	0.63	8.13	4.02	81.68
14. Nagaland	49.27	5.52	44.13	5.37	35.19	1.73	2.76	3.55	3.81	2.42 1	8.98 6	3.17 24	00 61	.53 33.(02	7 11.12	0.32	11.96	3.65	74.27
15. Orissa	26.56	7.88	24.81	4.78	18.24	3.07	0.59	2.11	2.66	2.10 2	3.88 4(11 17.0	.07 43	33 29.	15 0.6	0 16.66	69.0	14.61	6.77	56.27
16. Punjab	64.23	24.54	45.37	7.68	42.67	1.44	0.75	3.16	2.07	1.70 1	9.89 39	9.18 26	53 42	43 29.	13 0.2	5 15.63	0.18	25.50	7.68	81.19
17. Rajasthan	43.95	8.40	27.39	6.72	22.55	3.06	1.32	2.52	2.80	2.36 2	0.63 24	4.28 19	123 38	.52 24.	46 0.7	7 14.64	66.0	15.81	7.46	56.83
18. Sikkim	49.80	6.63	51.74	9.54	36.91	2.79	2.05	2.32	2.55	2.51 1	4.82 51	8.43 20	1.14 55	38 29.	74 0.0	5 13.86	0.23	8.33	3.69	72.85
19. Tamil Nadu	35.92	5.36	32.40	5.74	19.24	5.56	3.51	3.54	2.54	3.49 2	8.93 3.	5.75 31	.84 45	35 36.	74 0.5	3 30.76	0.40	18.31	11.61	10.17
20. Tripura	75.01	45.66	55.71	17.62	56.81	0.40	0.41	1.59	1.01	0.74 1	5.88 31	8.61 27	.14 60	22 29.	21 0.1	3 4.95	000	5.04	1.76	88.52
21. Uttar Pradeati	46.84	15.10	29.53	7.45	27.22	3.33	0.89	3.99	328	2.82 1	8.41 21	7.04 24	93 41	.71 26.	37 0.4	0 22.00	0.63	24.32	10.46	66.87
22. West Bengal	60.07	29.61	47.64	23.34	45.90	1.39	68.0	4.58	2.59	1.82	8.12 3-	4.86 25	.53 41	. 30 26:	33 0.2	1 11.17	0.31	10.81	4.42	78.47
Total	48.70	15.05	35,80	8.05	30.33	2.16	1.13	3.58	2.65	2.26 2	1.78 3	7.45 23	25 42	.19 29.	5 9 0. 3	9 14.32	0.50	17.67	6.94	69.12
Note: N.A. refers to not Source: Computed by th	available e author	e, since l based on	981 Cens the infor	rus could mation fi	not be co om Migr	nducted	in Assem	in Censu	is of India	(1968).										

PATTERNS OF INTER-REGIONAL MIGRATION IN INDIA

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	Number ment a total int	of mign s a reasol er-region esidence	n for mig al migran	reported ration as its in dur our years	employ- a % of ation of	Number tion as total inte	r of mign a reason z-regions residence	for mign I mign I mignun of one-fu	reported e Ition as a 15 in durat wr ycar	duca- 96 of ion of	Number moved as total inter r	of migrani a reason f -regional i sidence of	s who re or migra nigrant one-fou	ported family tion as a % o in duration of	riage	aber of mi as a rease nter-region residenc	grants wh a for mig tal migna e of one-f	o reported Filtion as 1 Bits in durn Four years	mar- 1 % of tion of	Number of migrants who reported major reasons for migra-
States	Ru	Ē	ħ	5		Rui	Ē	fn	5		Run	-	Urben			Rural	5	Ę		inter-regional
					Total				.	Total				Tota				.	Total	mignut in
	Males	Females	Males	Females		Males	Females	Males	'cmales		Males F	emales M	laics Fe	males	Malc	Females	Malcs	Females		duration of resi- dence of less
(1)	(2)	(3)	(4)	(2)	(9)	ε	(8)	(6)	(10)	(11)	(12)) ([1])	14) (15) (16)	(11)	(18)	(19)	(30)	(21)	than one-four year (22)
1. Andhra Pradesh	25.30	3.09	32.61	5.67	16.00	5.40	1.95	6.55	322	4.18	36.43 3	13.36 3-	96.4	21.90 38.15	2.56	47.07	1.04	27.53	20.87	79.2A
2. Assam	NA.	N.A.	ΝĄ	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	V.A.	I.A. NA	٩N	.N.A.	N.A.	NA.	N.A.	N.A.
3. Bihar	44.19	3.77	41.73	4.90	20.22	9.08	2.04	8.87	4.34	5.37	28.90	13.38 2	9.84 3.	5.95 28.54	5 15	1 62.62	0.69	44.77	33.70	87.84
4. Gujarat	67.01	11.37	51.27	8.58	38.02	2.96	1.86	6.63	3.07	3.57	3.94	16.47 2.	5.41 4	1.67 29.0	9.0.6	5 40.05	0.47	34.27	16.92	87.53
5. Haryana	63.35	6.28	47.85	5.57	29.92	4.50	2.04	4.79	2.12	325	21.78	17.16 3	5.71 4;	2.04 30.11	80.8	5 55.48	0.82	42.80	27.47	90.82
6. Himachal Pradesh	59.97	7.06	36.70	4.28	27.15	3.12	1.50	525	4.09	3.81	22.64	16.87 2.	9.62 5.	2.06 35.61	0.3	3 43.29	0.24	20.66	13.80	80.36
7.Jammu & Kashmir	66.41	13.94	45.99	8.45	34.51	1.34	1.62	5.01	2.36	2.71	26.46	i5.76 3.	5. 5 0 64	0.23 44.25	4.0	\$ 22.50	0.42	20.27	10.20	69''6
8. Karnataka	44.16	9.13	46.76	10.87	27.55	7.87	3.72	11.44	4.55	6.82	27.54 3	13.68 2	5.06 4	1.52 31.76	1	40.06	0.65	30.11	18.40	84.52
9. Kerala	52.56	15.92	38.98	8.80	29.59	4.09	1.62	3.56	3.49	3.24	27.90 4	12.25 3.	2.70 5.	2.55 38.64	4.5	29.90	3.07	20.90	13.66	85.13
10. Madhya Pradesh	47.86	5.15	46.88	525	24.46	8.59	2.02	723	3.29	5.02	26.54 3	0.53 3	1.60 44	.72 31.84	191	52.01	0.86	40.90	26.54	87.87
11. Maharashtra	53.87	4.97	48.46	6.54	31.86	5.43	2.56	7.60	3.58	4.76	20.76 4	0.63 2	3.49 4	101 29.8	0.5	2 33.45	0.56	32.87	14.74	81.17
12. Manipur	67.30	12.56	44.30	25.07	46.19	2.69	2.80	5.40	4.18	3.38	18.85 4	19.28 2.	5.44 4;	2.32 29.50	9.0	1 28.48	0.79	18.46	8.90	16.18
13. Meghalaya	37.99	6.32	41.66	6.29	25.50	11.67	7.52	13.95	7.10	10.39	21.75 4	13.58 2	7.50 5!	9.60 35.48	4.5	1 26.51	0.98	15.88	10.91	82.28
14. Nagaland	47.52	726	47.27	8.92	34.10	3.83	2.48	4.80	4.71	3.89	20.17 6	3.63 2.	1.45 64	0.14 34.65	5 0.4	16.43	0.37	17.09	5.90	78.54
15. Orissa	30.40	3.17	39.34	5.80	18.37	3.29	0.61	3.27	1.80	2.09	35.13 3	17.88 2	7.66 4!	9.08 36.94	1.4	1 44.37	0.63	28.85	21.01	78.41
16. Punjab	70.62	6.07	53.56	5.94	38.30	1.88	1.74	5.54	3.24	3.00	16.64 3	0.06 2	7.15 4	0.05 27.28	0.5	49.96	0.52	40.18	20.64	89.23
17. Rajasthan	51.09	5.31	45.90	6.06	23.88	6.95	1.57	627	3.95	4.26	2 16.12	5.33 3.	1.33 31	3.84 30.01	11	58.25	1.06	42.46	30.47	88.62
18. Sikkim	54.75	16.7	56.32	13.54	38.14	4.31	3.50	4.16	3.04	3.90	19.16 4	6.13 2.	2.02 5:	3.18 31.05	0.7	9 38.13	0.62	21.69	12.57	85.64
19. Tamil Nadu	44.72	6.05	40.53	5.87	22.70	16.7	2.60	8.52	4,41	5.89	28.19 3	0.16 3	0.80 4;	2.84 34.35	4.1	0 48.02	0.63	30.24	19.97	82.94
20. Tripura	38.82	920	52.63	8.10	29.28	2.55	122	522	2.47	3.10	38.71 4	6.82 2	9.19 5-	1.30 41.21	6.0	0 26.94	0.35	21.73	11.54	85.13
21. Uttar Pradeah	38.19	4.07	33.89	4.87	16.64	11.15	1.47	12.50	3.39	5.97	29.39	9.32 3	6.02 3:	3.11 28.05	01	66.53	0:00	50.63	37.03	87.73
22. West Bengal	51.01	6.78	45.05	6.42	31.30	6.88	1.82	9.01	3.46	525	23.46 3	7.92 2	6.30 40	3.20 30.61	0.7	38.10	0.44	31.31	15.75	82.95
Total	51.53	609	44.68	6.53	27.50	6.01	2.12	7.68	3.55	4.72	24.11 3	12.50 2	3.93 4	1.56 31.20	10	46.83	0.77	35.77	21.53	84.95
Note: N.A. refers to not	available	, since 15	%1 Central	us could	not be co	nducted i	in Assam.								ļ					

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	ment a total ini	r of mign 16 a reaso 16 - region residence	nts who n for mig al migrar	reported gration as nts in dur tine years	employ- a % of ation of	Numbe tion as total intu	r of migra i a reason tr-regiona residence	for mign I mignal I migran	reported c ttion as a s in durat ine year	duca- % of ion of	Number moved a total inte	of migra is a reasol r-regiona esidence	nts who i 1 for mig 1 migrant of five-ni	eported fa ration as a s in duration ne year	mily Seof r mof to	Number iage us tal inter-	of migrar reason fo regional i idence of	r migra nigrants five-nin	eported m tion as a % in duratio e years	ra for for for for	Number of migrants who reported major asons for migra
States	Ru	t and	้าว้	a di		Ru	le.	f rD	5		Rur	- 	f.	5		Rura	_	Urbe		ž -	inter-regional
	Males	Females	Males	Females	Total	Males	Females	Males I	cmales	lotal	Males	females	Males F	iemales	M .	lales Fe	males N	ales F	amales 1	otal	migrants in duration of residence of five-nine veare
(1)	(2)	(3)	(4)	(2)	(9)	£	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	17)	(18)	(61	(20)	21)	(22)
1. Andhra Pradesh	21.84	1.51	30.89	3.99	12.68	4.02	1.31	4.80	3.49	3.19	42.74	27.03	37.44	44.10 3	6.81	3.86 5	9.55	1.38	14.62 2	9.32	82.00
2. Assam	N.A.	NA.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	NA	N.A. Y	V.A.	V.A.	N.A.	N.A.	٨.A.	N.A.
3. Bihar	52.64	3.62	48.07	4.37	21.67	8.18	1.75	6.70	3.58	4.32	26.06	18.47	28.65	32.11 2	4.36	1.68 7	1.80	1.31	64.20 4	1.77	92.13
4. Gujarat	68.29	10.05	50.34	7.67	36.11	2.40	1.42	3.77	2.39	2.45	17.33	32.36	26.67	39.65 2	8.19	0.77 4	6.31	0.43	8.31 2	0.55	87.31
5. Haryana	61.06	3,88	49.46	4.92	24.76	2.64	0.83	2.75	1.40	1.68	25.20	20.21	35.58	35.55 2	1.03	1.65 7	0.05	; 66.0	61.89 3	9.25	92.71
6. Himachal Pradesh	55.21	2.61	34.40	3.73	22.24	3.20	1.42	4.64	3.00	3.20	22.84	23.47	29.01	45.52 3	11.27	0.61 6	1.47	0.25	8.11 2	1.97	78.69
7.Jammu & Kashmir	70.25	9.25	49.68	8.15	32.34	1.87	1.14	1.7.1	1.79	3.46	17.38	20.50	29.25	38.20 2	8.03	1.32 6	0.96	129 4	14.10 2	5.75	90.59
8. Karnataka	42.39	5.94	46.04	6.73	23.61	3.78	1.31	5.26	2.73	3.10	31.59	30.72	26.91	39.99 3	12.22	1.68 5	1.04	0.88	17.58 2	5.17	84.10
9. Kerala	51.78	14.09	34.44	6.68	26.55	1.67	1.62	3.47	3.38	2.56	29.73	38.54	38.14	50.08	9.23	6.03 3	6.81	3.50	4.88 1	7.75	86.09
10. Madhya Pradesh	50.20	4.09	48.34	4.43	22.58	5.41	128	5.30	1.99	3.09	28.63	26.09	33.13	36.46 5	0.04	2.26 6	1.97	0.87 4	8.13 3	\$.57	90.29
11. Maharashtra	57.82	3.93	48.73	4.71	32.18	4.51	2.29	523	2.84	3.75	19.35	36.05	24.74	36.92 2	36,73	0.67 4.	2.32	65.0	9.39 1	8.73	82.65
12. Manipur	45.40	7.68	31.44	13.80	29.03	1.33	121	4.04	2.42	1.92	32.13	46.92	25.60	42.62 3	6.13 (0.83 3	9.00	0:30	0.15 1	3.64	80.71
13. Meghalaya	34.46	3.42	48.15	60.9	24.64	7.10	4.08	8.13	4.98	6.18	26.13	46.10	23.21	53.91 3	15.35	6.73 3.	2.63	1.69	3.73 1	273	81.39
14. Nagaland	38.54	5.48	42.95	5.93	29.05	1.96	1.67	3.59	4.39	2.63	21.77	63.16	18.31	54.82 3	3.14 (0.59 2	1.28	0.43 2	2.53	1.37	72.18
15. Orissa	25.41	1.8.1	34.63	3.47	13.67	2.12	0.65	2.10	1.51	1.42	39.93	35.72	31.96	45.40 3	(7.89	1.92 5	1.51	0.91	7.22 27	.S	80.55
16. Punjab	62.50	4.89	49.79	4.01	27.83	1.72	1.03	3.09	1.74	1.77	22.27	23.54	29.22	30.65 2	9.00	0.91 6	3.39	0.85	2.68 3	3.08	88.68
17. Rajasthan	51.74	3.09	48.52	4.87	19.66	326	0.72	3.28	2.14	1.91	30.26	18.31	32.86	32.24 2	5.89	1.63 7.	2.55	1.30	3.85 4	601	91.52
18. Sikkim	45.20	4.98	55.97	7.33	28.27	4.31	2.06	2.67	2.62	3.00	29.43	33.13	25.31	44.76 3	2.19	1.72 5.	5.06	0.62 3	6.36 2:	36	86.82
19. Tamil Nadu	46.66	3.73	40.97	3.90	20.88	3.51	1.30	5.25	2.34	3.16	29.37	25.71	31.17	38.12 3	12.31	1.91 5	7.06	0.85 3	7.85 22	20.70	82.05
20. Tripura	31.06	3.48	31.98	2.78	16.49	1.92	1.00	4.31	227	2.43	48.87	41.58	44.92	50.66 4	9.20	9.96 4	1.36	0.07	8.14 11	.42	83.84
21. Uttar Pradesh	37.76	2.26	36.56	3.28	13.59	5.53	0.89	6.94	2.30	2.94	35.53	15.31	37.79	27.47 2	5.24	1.58 7.	5.71	122 5	9.79 48	.43	90.20
22. West Bengal	58.67	4.76	50.34	3.96	35.20	5.68	1.62	6.33	3.35	428	19.05	31.16	24.60	39.26	5.68	R 26.0	0.55	0.74 3	9.40 2(0.18	85.34
Totai	52.89	4.16	45.23	4.74	25.36	4.34	1.39	4.93	2.52	3.10	24.73	26.92	29.77	36.86 2	8.8	1.41 51	8.41	94	3.99 21	8	86.37

Note: N.A. refers to not available, since 1981 Census could not be conducted in Assam. Source: Computed by the author based on the information from Migration Tables (D-3) in Census of India (1988). reasons for migration and the reasons for different durations of migration do not significantly vary across states and over time.

4. Concluding Remarks and Implications

Inter-regional migration in India is a dynamic process occurring in time and space and has distinctive patterns between regions, sectors and gender. A detailed analysis of its data sources and observed patterns adds the following insights.

1. The cross-section migration data by duration of residence in India provide rich information on temporal distribution of migration between different regions (or states) and for alternative patterns of migration. However, of all the available sources, 1981 census provides the most comprehensive and latest information. Due to different classifications, characteristics, durations of residence, etc., no two sources seem to be strictly comparable. Nevertheless, this paper has singled out the broad patterns of migration that are comparable between different sources. This comparison establishes continuity between different sources over time.

2. There exists distinctive spatial patterns of inter-regional migration during the census period 1961-81. This implies that aggregation of different patterns of migration in time and space may not be valid. This fact justifies a disaggregate approach to studies on inter-regional migration in India.

3. Surprisingly, the observed patterns of migration are mostly driven by the same major reasons for migration (i.e., employment, education, family moved and marriage) across states and over time. Thus, different patterns of inter-regional migration in India will only respond differently for a given set of reasons. From the analytical viewpoint, this implies that one may model migration as being influenced by a common set of factors and estimate the differential propensities of migration to these factors.

It might be added here that, in reality, employment and education are the manifestation of various policy and non-policy changes that influence them directly or indirectly. In the same

way, family moved and marriage are the manifestation of various social and institutional factors that influence them. For instance, employment level in a region may be the outcome of favourable natural resource endowment, public incentive policy for production and marketing, market wage rates, etc. This implies that one has to identify these factors which make up employment as a reason for migration and estimate the behavioural response to them by each pattern of migration. Such estimates will add additional insights into the factors which can encourage/discourage the pattern of migration and thereby, if controllable, aid policy makers in being their instruments.

5. Throughout my analysis, the one-to-one comparison of figures between censuses (e.g., migration in duration of residence of less than one year in 1961 and 1981 census) was totally independent of any of their underlying pure demographic changes, such as, changes in fertility, mortality, etc. This limitation can be avoided by adopting a cohort-migration (e.g., age-cohort migration) approach which can possibly incorporate the impact of changes in pure demographic factors (e.g., through survival techniques) on the migration between time periods.

The implications above may serve as factual bases for a realistic design of empirical studies on determinants of spatio-temporal patterns of inter-regional migration in India.³

FOOTNOTES

1. In general, population registration system is also an important source of migration data in countries like Japan. In India, the population (sample) registration system does only accounts for vital statistics but not anything on migration. Secondly, in principle, population growth surveys (e.g., national family health/fertility surveys) should also be an important source of individual data on inter-regional migration in India. However, in practice, such studies accord top (or low) priority to fertility and mortality (or migration) as the determinants (or determinant) of population changes. Thus, these studies are notorious for assessing only birth and death rates, to the complete exclusion of population movement [Goldstein and Goldstein, 1981, p. 14].

2. More recent survey data on migration is available from the 43rd Round of the NSS during 1987-88 in NSSO [1992].

3. For an early study on determinants of inter-regional migration by durations of residence, see Greenwood [1971]. For an excellent summary of internal migration in developing countries, see Todaro [1976].

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EMPLOYMENT GROWTH IN MODERN SMALL SCALE INDUSTRIES IN INDIA

Bishwanath Goldar

Analysing employment growth in modern small scale industries in India for the period 1972 to 1987-88, the paper finds that employment growth in the small scale sector was rapid and much faster than that in the large scale sector. Bulk of the employment increase took place in units very small in size and in industries other than chemicals and engineering. Employment per unit fell markedly. Productivity grew significantly, but real wages declined. In terms of employment growth in small and medium industries, India performed worse than Korea, Indonesia, Malaysia and the Philippines.

1. Introduction

The importance of small scale industries as a means of achieving the objective of employment generation has always been recognized in Indian planning.¹ The First Five Year Plan (1951-55) document stressed the need for a proper development of small scale industries in the country. To this end, a concept of common production plan (of different industries) was employed for reserving certain spheres of production for small scale units, for regulating capacity expansion of large units and for imposing a cess on large units where necessary. In the Second Five Year Plan (1956-61), under the influence of the then Prime Minister, Pandit Jawaharlal Nehru and his close adviser, P.C. Mahalanobis, the main focus was on heavy and machine building industries. It was recognized, however, that these industries being highly capital intensive, the scope of employment generation was limited. To counter-balance the highly capital intensive and producer-good oriented industrialization drive, the Mahalanobis model kept a place for small and household industries, which were supposed to supply the increased demand for consumer goods with very little investment but greatly increased employment

By the beginning of the Second Five Year Plan, the main administrative framework for the government encouragement for both traditional and modern small scale enterprises was in place. Also, the policy for the promotion of small scale industries was established, which has held ever since. Some of the components of this policy are protection of small scale enterprises by taxing and banning medium and large scale enterprises which compete with them, direct subsidization of small scale enterprises, tax exemptions to such

units and preferential treatment of small scale units in government purchases.²

In the late 1970s, the government's efforts for promotion of small scale enterprises received a major boost.³ A significant increase was made in the number of items reserved for the small scale sector. Powerful encouragement to small scale enterprises was given by exempting them from excise duties or by reducing the tax rates, depending on production level. Special attention was paid to 'tiny' sector, i.e., small scale units with investment in plant and machinery up to Rs 100 thousand and situated in towns with population less than 50,000. A major step taken for the promotion of small scale industry was the District Industries Centre Programme. Under this programme, District Industries Centres were set up in each district all over the country with a view to provide under a single roof, all services and support assistance required by small scale entrepreneurs.⁴

Since a good deal of effort has been made in the past for the promotion of small scale industries in India primarily with a view to generate employment, it is important to study how far the small scale sector has been successful in creating new job opportunities. This requires an examination of the extent and pattern of employment growth in small scale industries, especially in the period after the late 1970s when promotional efforts became stronger.

Within the small scale sector, one can distinguish between the traditional sector (which includes handlooms and handicrafts) and the modem sector.⁵ There is in general a paucity of data on the small scale sector. This is more serious in the case of traditional small scale industries, which are known to be larger in terms of employment compared to the modem small scale

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industry.⁶ There is an impression that the traditional small scale industries have been growing slowly,⁷ while the modern small scale sector has achieved a rapid growth in terms of number of units, production level and employment. In this paper, we confine our attention only to the modern small scale sector and in the discussion that follows we shall use the phrase small scale industry to refer to only the modern small scale industry.

An all-India census of modern small scale units⁸ was undertaken by Small Industries Development Organization (SIDO) in 1973-74. The reference year of the census was 1972. Data were collected on production, capacity, employment, capital, outstanding loans, etc. The fieldwork started with a frame of 258 thousand units and data were tabulated for about 140 thousand units. Nearly 100 thousand units (about 38 per cent of the units in the frame) were found to be closed or nontraceable.

Recently, there has been another all-India census of modern small scale units," undertaken by the Office of the Development Commissioner, Small Scale Industries (Government of India). The reference period of the census was 1987-88. The number of units in the frame was 987 thousand, out of which 57 thousand could not be traced and 305 thousand were found to be closed. For working units, data were collected on production, capacity, employment, investment, etc., using definitions similar to those used in the previous census. Data were tabulated for 582 thousand working units. Information was collected also for closed units (say, regarding the reasons for their closure) and this information was tabulated for 305 thousand units.

The Reports on the first and the second all-India census of modern small scale units are the basic source of data for the present study.¹⁰ We also make use of *Annual Survey of Industries* (ASI) (Central Statistical Organization, Government of India), which is the prime source of data on organized industry in India. The period covered for the analysis is 1972 to 1987-88, covering roughly the last two decades.

While the main focus of the study is on the extent and pattern of employment growth in the small scale sector in India, for a proper appreciation of India's achievements it is important to make a comparison with other countries. Keeping this in view, we make a comparison of India's experience with the experiences of some other Asian developing countries and of Japan.

The organization of this paper is as follows. In Sections 2 through 6, we present our analysis of employment growth in the modern small scale sector in India. Section 2 deals with the rate of growth of employment in small, medium and large scale industries in India. Section 3 looks into the changes in the average size of small scale units in terms of employment. Section 4 analyses the inter-industry pattern of employment growth in the small scale sector. In Section 5, similar analysis is carried out at a disaggregated level for 20 important industries. In Section 6, correlation analysis is applied with a view to identify some of the factors influencing inter-industry differences in employment growth rates. In Section 7, the experience of India in terms of employment growth in small and medium scale industry is compared with the experiences of some other Asian developing countries and Japan. Finally, in Section 8, some concluding remarks are made based on the study.

2. Employment Growth

Table 1 presents a comparison of growth rates of the number of units and employment among small, medium and large scale industries in India in the period 1972 to 1987-88. The computations for the small scale industry are based on the two censuses mentioned above. For large scale industry and for organized small and medium scale industry, ASI data have been used. Since ASI data are not available for 1972-73, the ASI results for 1973-74 and 1987-88 have been used to compute the growth rates. Organized small and medium scale industry is defined as comprising units registered as "factories" and employing 10 to 99 persons. Large scale industry is defined as comprising factories employing 100 persons or more.¹¹ Within the organized small and medium scale industry, we are able to make a distinction between units employing up to 49 persons and units employing 50 to 99 persons.

		1972*	1987-88	Growth rate (per cent per annum)
Small scale industry	units #	140	582	9.96
	emplmt #	1.653	3,666	5.45
Organised small & medium scale industry	units	56	91	3.52
	emplet	1.315	2,143	3.55
- employing 10-49	units	49 837	80 1.352	3.49 3.48
- employing 50-99	units	7 477	12	3.76 3.68
Large scale industry	units	8	11	2.61
	emplmt	4,505	5,642	1.62

TABLE 1. GROWTH OF SMALL, MEDIUM AND LARGE SCALE INDUSTRY IN INDIA: 1972 TO 1987-88

* For large scale industry and for organised small and medium scale industry, data for 1972 are not available. Therefore, data for 1973-74 have been used.

Both number of units and employment are in '000 numbers.

Note: Large scale industry includes factories amploying 100 or more persons. Organised small and medium scale industry includes units registered as "factories" and employing 10 to 99 persons.

It is seen from the table that the number of small scale units has grown rapidly in the period 1972 to 1987-88. The rate of growth was nearly 10 per cent per annum. In 15 years time, the number of working small scale units has increased by about 440 thousand. The growth in employment has also been rapid, at the rate of 5.45 per cent per annum, Between 1972 and 1987-88, about 2 million additional jobs have been created in the small scale sector. By contrast, the growth has been relatively slower in the organized small and medium scale industry. Both the number of units and employment have grown at the rate of about 3.5 per cent per annum. Of the two million new jobs created in the small scale industry in the period under study, about a quarter million was in the organized small scale industry, i.e., the small scale units registered as factories.¹² The growth has been relatively much slower in large scale industry. The number of units has increased at the rate of 2.61 per cent per annum while employment has grown at the rate of 1.62 per cent per annum. Though the growth rate of employment in large scale industry has been slow, in terms of absolute increase in jobs created the figure is not small. Between 1973-74 and 1987-88, large scale industry has provided employment to an additional one million persons. A sizeable part of this increase has taken place in the public sector units.

Due to differences in the growth rates of employment in small and large scale industries, there has been a significant change in the structure

of industrial employment. While in the early 1970s, the levels of employment in small and large scale industries were in the ratio 1:3, this ratio changed by the late 1980s to 2:3.

It should be noted here that the official definition of small scale industry has undergone changes over the years. In 1972, the investment limit in plant and machinery (original value) for being a small scale unit was Rs 0.75 million. In 1987-88, the investment limit in plant and machinery for small scale units was Rs 3.5 million. This is mostly a reflection of the increase in prices of machinery. The price index of machinery in 1987-88 was nearly three times higher than that in 1972. However, it cannot be denied that, over the years, there has been an upward revision in the definition adopted for small scale industry, because of which the coverage of small scale industry has enlarged. This may have caused some over-estimation of the growth of employment in small scale industry. It seems, however, that the over-estimation of employment growth in small scale industry caused by the raising of the investment limit is not serious, since an examination of the size distribution of small scale units for 1987-88 reveals that units having plant and machinery over Rs 2 million in that year constituted a very small part of the small scale industry.

Another point to be noted here is that the industrial coverage of the second census of small scale units was larger than that of the first census. Thus, Rice milling, Flour milling, Dal milling,

Oil milling and Manufacture of Bidi are some of the industries which were brought under the purview of the SIDO after the first census (and therefore got covered in the second census but not in the first). The value of production of such industries was Rs 49,260 million in 1987-88. which constituted 11 per cent of the total value of production of small scale industry (modern) reported in the census. Based on the results of the two censuses, the growth rate of production (at constant prices) is found to be 11.62 per cent per annum. If one excludes Rice milling and other such industries which were not covered in the first census, the growth rate is found to be 10.71 per centper annum. Evidently, such correction of data will also reduce the estimated growth rate of employment in small scale industry (probably by half a percentage point).

The up-shot of the above discussion is that during the period 1972 to 1987-88 the small scale

industry in India grew rapidly and made a significant contribution to employment generation in India.

3. Average Unit Size

One interesting development in the Indian small scale sector is that the average size of small scale units in terms of employment has gone down substantially. This may be seen from Table 2. At the aggregate level, the average size has declined from 12 employees per unit to 6 employees per unit between 1972 and 1987-88. This pattern has been quite widespread. Thus, when comparisons are made industry by industry, one finds a marked fall in the average size in most cases. One major exception is Chemicals. In this industry, the average size declined only marginally from 13 to 12 employees. The decline in average size has been small also in the case of electrical and electronic products, from 15 to 11 employees.

TABLE 2. CHANGES IN THE AVERAGE SIZE OF EMPLOYMENT IN SMALL SCALE UNITS IN INDIA: 1972 TO 1987-88

Industry	Average size (numbers)		
	1972	1987-88	
Food products	20	5	
Hosiery and readymade garments	11	5	
Wood products	8	4	
Paper products & printing	11	36	
Leather and leather products	6	3	
Rubber and plastic products	11	7	
Chemicals	13	12	
Basic metal industries	22	14	
Metal products	9	6	
Machinery and parts	11	7	
Electrical and electronic products	15	11	
Transport equipment	14	9	
Other industries & services	15	6	
All industries	12	• 6	

Source : Sandesara (1993).

Another way of looking at this development is to consider the increases in the number of small scale units according to various employment size classes. This is shown in Table 3. It is seen from the table that the number of units in the employment size classes 1-4 and 5-9 has increased much faster than that in the higher size classes. The increase in the number of units in the employment size class 1-4 has been very rapid. As a result, the

proportion of units in this size class has increased from 34 per cent in 1972 to 65 per cent in 1987-88. Out of the 442 thousand additional working small scale unit in the second census (1987-88) compared to the first census (1972), 328 thousand units belong to this size class. Evidently, most of the new units have been of relatively smaller size and this has brought down the average size of small scale units in various industries.

Employment size class	Number	Ratio	
	1972	1987-88	
(1)	(2)	(3)	(3)/(2)
1-4 5-9 10-49 50-99 100 & above Total	47,764 50,416 36,865 3,039 1,493 1,39,577	3,75,828 1,35,577 64,114 4,733 2,116 5,82,368	7.87 2.69 1.74 1.56 1.42 4.17

TABLE 3. GROWTH IN NUMBER OF UNITS BY EMPLOYMENT SIZE CLASS SMALL SCALE INDUSTRY IN INDIA: 1972 & 1987-88

Note: Computed from the results of the First and the Second Census of Small Scale Units.

per unit in the Indian small scale industry (almost across the board) is quite remarkable. This phenomenon requires a close examination. However, the data which are readily available are inadequate for this purpose. An attempt is made here, nevertheless, to provide some tentative explanation.

It should be noted that in terms of value of production and value added (both at constant prices) there has been no marked decline in the average size of small scale units. Rather, the value of production per unit at 1972 prices has increased from about Rs 186 thousand in 1972 to about Rs 232 thousand in 1987-88. In regard to value added per unit at 1972 prices there has been only a slight decline in this period from Rs 60 thousand to Rs 55 thousand. Again, in terms of fixed capital stock per unit at constant prices, there has been only a slight decline.

It would be useful to consider in this context the trends in productivity and capital intensity of small scale industry in India at the aggregate level during the period 1972 to 1987-88. There has been a significant increase in labour productivity at the rate of 3.73 per cent per annum. There has been a marginal increase in capital productivity. Total factor productivity¹³ has grown at the rate of 1.29 per cent per annum. The ratio of fixed capital (at constant prices) to labour has increased at the rate of 3.42 per cent per annum.

Considering the trends in productivity and capital intensity, it seems that the observed phenomenon of declining employment per unit in the Indian small scale industry can be explained in part by the growing efficiency and increasing mechanization in production in small scale units.

Our finding of a marked decline in employment It should be noted further that since the late 1970s the small industry policy in India has laid special emphasis on tiny units. The various selfemployment programmes (for example, the Self-Employment for Educated Unemployed Youth programme) and the District Industries Centres programme, through entrepreneurship development activities and provision of assistance of various kinds, have helped in the setting up and survival of many very small units. This may have caused the size structure of the small scale industry to change in favour of relatively smaller units.

> Another aspect to which attention should be drawn is the growth of wage rate in the small scale sector vis-a-vis the large scale sector. In the large scale sector (factories employing 100 persons or more) the average wage rate (annual) in nominal terms has increased from Rs 4,896 in 1973-74 to Rs 21,604 in 1987-88. The rate of growth has been 11.2 per cent per annum. Deflating the nominal figures on wage rate by the wholesale price index for manufactures, the growth rate of real wages is found to be 3.5 per cent per annum. In the small scale sector, the annual wage rate of hired workers has gone up from Rs 3,728 in 1972 to Rs 7,725 in 1987-88. This involves a growth rate of 5.0 per cent per annum. Deflating wage rates by the wholesale price index for manufactures, it is found that real wages have declined at the rate of 2.7 per cent per annum.

> The finding of a relatively slow increase in the wage rate in the small scale sector may in part be due to changes in the size structure and industrial composition of the small scale sector. Yet, it is quite clear from the figures presented above that the gap in wage rate between large and small scale

industry has widened significantly over time. The high wages in large scale units must have constrained employment generation in such units, while low wages in small scale units may have helped them grow rapidly in number as well as employment.

4. Employment Growth: Inter-industrial Pattern

Table 4 shows industry-wise growth rates of employment in the small scale sector between 1972 and 1987-88. The fastest growth in employment has taken place in (1) Food products and (2) Other industries and services.¹⁴ The annual growth rates in employment in these two industries have been 9.06 and 7.79 per cent, respectively. On the other hand, employment

growth has been very slow for metal products and transport equipment. In these cases, the growth rates have been 1.46 and 1.23 per cent per annum, respectively. If the chemicals and engineering industries are taken together, it is found that the employment has increased from 0.86 million in 1972 to 1.4 million in 1987-88. The annual growth rate has been 3.25 per cent. By contrast, the industries other than chemicals and engineering have achieved an increase in employment from 0.79 million in 1972 to 2.26 million in 1987-88. The growth rate has been 7.1 per cent per annum. Comparing these figures it is evident that bulk of the increase in employment in the Indian small scale industry during the period 1972 to 1987-88 has taken place in industries other than chemicals

TABLE 4. EMPLOYMENT GROWTH IN SMALL SCALE INDUSTRY IN INDIA 1972 TO 1987-88: COMPARISON ACROSS MAJOR (TWO-DIGIT) INDUSTRIES

T. J .	Employmer	Growth rate	
Industry	1972	1987-88	— (per cent per annum)
Food products	1,31,220	4,81,682	9.06
Hosiery & readymade garments	75,346	1,98,387	6.67
Wood products	94,703	2,29,061	6.07
Paper products & printing	89.146	1,99,389	5.51
Leather and leather products	31.775	81.667	6.50
Rubber & plastic products	81,690	1.88.784	5.74
Chemicals	1.59.013	3.13.986	4.64
Basic metal industries	1.09.626	2.02.463	4.17
Metal products	3.00.060	3,72,711	1.46
Machinery and parts	1.45.333	2,79,292	4.45
Electrical & electronic products	65,908	1.37.260	5.01
Transport equipment	83,492	1.00.360	1.23
Other industries and services	2.85.866	8.80.768	7.79
All industries	16,53,178	36,65,810	5.45

Source: Sandesara (1993).

It needs to be pointed out here that the change in the industrial coverage in the second census, compared to the first census, has affected the estimate of the growth rate of employment of food products group. Rice milling and flour milling are two major industries included in the second census but not in the first. If data for these two industries are excluded from the second census, the growth rate of employment for food products is found to be 6.2 per cent per annum which is much less than the growth computed from unadjusted figures (9.06 per cent per annum).

Table 5 presents a comparison of employment growth rates between the small scale sector and

the factory sector (i.e., the organized manufacturing industry) according to two-digit industrial classification. It has been possible to make such a comparison for 12 industries. The factory sector includes large scale industry as well as organized small and medium scale industry. One cannot compare directly, for different industries, the growth rates of employment in small and large scale industry, as the available statistics do not permit segregation of data pertaining to large scale industry from those pertaining to medium and small scale industry. However, the factory sector is dominated by large scale units and the growth rates computed for the factory sector would therefore not be very different from the growth rates achieved by the large scale sector. Accordingly, the growth rates computed

for the factory sector may be used for drawing inferences about the comparative growth performance of large and small scale industry.

TABLE 5. COMPARISON OF EMPLOYMENT GROWTH RATE: 1972 TO 1987-8	8
SMALL-SCALE AND LARGE-SCALE INDUSTRY IN INDIA	

	Growth rate (per cent per annum)		
Industry	small scale	large scale #	
Food products	9.06	2.81	
Hosiery & readymade garments	6.67	5.02	
Wood products	6.07	-0.10	
Paper products & printing	5.51	1.27	
Leather and leather products	6.50	4.04	
Rubber & plastic products	5.74	4.66	
Chemicals	4.64	3.99	
Basic metal industries	4.17	2.25	
Metal products	1.46	1.24	
Machinery and parts	4.45	2.32	
Electrical & electronic products	5.01	2.90	
Transport equipment	1.23	1.55	
All industries	5.45	2.21	

The growth rates relate to the Factory sector, which includes the organised small and medium scale industry. Industry-wise data are not available separately for the large scale sector.

Comparing the employment growth rates given in Table 5, the following inferences can be drawn. (1) In almost all two-digit industries, employment growth in the small scale sector has been faster than that in the large scale sector. (2) In metal products and transport equipment, employment growth has been slow in both small and large sector. (3) In certain industries, employment growth has been fast both in large and small scale units. This includes Hosiery and readymade garments, Leather and leather products and Rubber & plastic products. (4) In some cases, employment growth in the large scale sector has lagged far behind that in the small scale sector.

It is seen from the table that in the case of Food products the growth rate of employment in the small scale sector has been much faster than in the large scale sector. It has to noted, however, that due to changes in the industrial coverage in the second census *vis-a-vis* the first census, the growth rate of employment in small scale units is over-estimated. If corrections are made for the differences in industrial coverage, the gap between large and small scale industry in regard to employment growth rate will be reduced.

Another interesting case is that of Wood products. While small scale units have achieved a rapid growth of employment at the rate of 6.67

per cent per annum, the large scale units in this industry experienced a marginal decline in employment. There has been a marked change in the size structure of this industry in favour of small scale units. While the number of units in the factory sector has increased from 2,932 to 3,407 between 1973-74 and 1987-88, the number of units in the small scale sector has increased from 94,703 to 2,29,061. Further, the growth rate in production at constant prices has been around two per cent per annum in the large scale sector, whereas it was much higher at about ten per cent per annum in the small scale sector.

A plot of the employment growth rates in the small and large scale sectors is given in the Graph. Taking data for all the 12 industries, the correlation coefficient between employment growth rates in small and large scale sectors is found to be 0.43. It is positive, but not statistically significant. An examination of the graph brings out that the experience of Wood products has been different from that of the others, in that the growth rate of employment in the small scale sector has been very high compared to that of the large scale sector. When this industry is excluded, the correlation coefficient (based on 11 observations) is found to be 0.69. It is statistically significant. Thus, it may be inferred that relatively faster

employment growth in the large scale sector was generally associated with relatively faster growth in employment also in the small scale sector. It appears that in some industries rapid expansion in demand enabled both small and large scale sectors to grow fast, while in some other industries sluggish demand constrained growth of both

large and small scale sectors. Further, in some industries in which there are significant linkages between large and small scale units (e.g., transport equipment), slow growth in the large scale sector may have constrained the growth of the small scale sector.

EMPLOYMENT GROWTH RATES



LARGE AND SMALL SCALE INDUSTRY

5. Dominant Industries

In the Report on the first census of small scale units, data were provided at disaggregated level for 31 dominant industries. It would be interesting to study what has been the experience of these industries in regard to employment generation. One difficulty in carrying out such an analysis is that the industrial classification used in the second census is different from that in the first census. Also, the Report on the second census contains aggregate level have also been shown in the table.

disaggregated results for only 100 important 4-digit industries and not for all industries at 4-digit level of disaggregation. For 20 out of the 31 dominant industries, it has been possible to get more and less comparable data for 1972 and 1987-88. For these industries, growth rates of employment and labour productivity have been computed and these are shown in Table 6. For purposes of comparison, the growth rates of employment and labour productivity at the

	Employme	Employment (numbers)		Growth rate (per cent per annum)	
Industry	1972	1987-88	employment	labour productivity	
Allonathic medicines	10,299	18,329	3.92	4.08	
Castings and forgings of iron & steel	82,088	70,428	-1.02	6.81	
Ready-made garments	21,959	76,920	8.72	8.78	
Structural metal products	25,264	62,714	6.25	9.19	
Drams and other metal containers	23,787	24,676	0.24	5.99	
Itensile	56.471	42,944	-1.81	4.54	
Washing soan & powder	22,205	22.068	-0.04	7.08	
Paints & varnishes	8 267	10.353	1.51	3.60	
Polte & mate	12,766	12,688	-0.04	2.90	
Hume nines & other cement products	16.452	20,791	1.57	11.09	
Cashewant processing	71,121	24,993	-6.73	4.66	
Biovole parts & accessories	17 051	15,031	-0.84	3.02	
Sawing and planning of wood	24,810	59,401	5.99	8.63	
Manufacture of wooden fumiture	29,156	75.095	6.51	4.68	
Agricultural hand-tools and implements	43,164	40.242	-0.47	5.67	
Cotton knitted ware	18 743	9514	-4.42	12.46	
Auto parts and accessories	37 754	39,906	0.37	455	
Bread	11 673	20133	3 70	6.93	
Leather shoes	10.733	32,282	7 67	15 53	
Drinting of books journals ato	48 051	05146	1.52	410	
All industries	16,53,178	36,65,810	5.45	3.73	

TABLE 6. GROWTH OF EMPLOYMENT IN SELECTED SMALL SCALE INDUSTRIES IN INDIA: 1972 TO 1987-88

Note : Computed from the results of the First and the Second Census of Small Scale Units.

It is interesting to note from the table that in a number of cases there has been a decline in employment. These industries are Casting and forging of iron and steel, Manufacture of utensils, Washing soap and soap powder, Bolts and nuts, Cashewnut processing, Bicycle parts and accessories, Agricultural handtools and implements and Cotton knitted ware.¹⁵ In some other cases, the growth rate of employment has been low, though not negative. These include Auto-parts and accessories.

From the analysis presented earlier, based on data at two-digit industry level (i.e., major industries), one gets the impression that there has been an all round increase in employment in the Indian small scale industry. The data presented in Table 6 brings out, however, that this has not been so. In a number of important industries, the performance in terms of employment generation has been poor; employment declined in some cases and grew very slowly in some other cases. If we take together the 20 industries shown in Table 6, the growth rate of employment in these industries between 1972 and 1987-88 has been only 1.79 per cent per annum, as against the growth rate of employment of 5.45 per cent per annum at the aggregate level. The share of these 20 industries in total employment of the modern small scale sector has declined from 35.8 per cent in 1972 to 21.1 per cent in 1987-88.

It is evident from the above that in a number of industries which were dominant in the small scale sector in 1972 the growth of employment has been slow or negative. Thus, a rapid employment growth has been achieved by the Indian small scale industry at the aggregate level because (1)some of the dominant industries have grown rapidly in terms of employment and (2) some industries which were not important in 1972 have grown rapidly and become important over time. Among the first group of industries one can mention ready-made garments. Employment in this industry has grown from 21,959 in 1972 to 76,920 in 1987-88 (at the rate of 8.7 per cent per annum). The second group has many industries. One example is the manufacture of TV sets and antenna. Employment in this industry has increased from 364 in 1972 to 9,201 in 1987-88. Similarly, employment in small scale units manufacturing plastic moulded products has gone up from 2,323 in 1972 to 9,334 in 1987-88. To analyze this aspect further we have considered the 50 leading small scale industries (four-digit) in 1987-88 and made an attempt to get employment data from the Report on the first census of small scale units. We find a number of cases where there has been rapid employment growth between 1972 and 1987-88. These include Manufacture of vegetable and essential oils, Wooden boxes and barrels, Synthetic resin, Processed stone/marble, Manufacture of polythene bags, Manufacture of iron and steel wires, Manufacture of insulated wires and cables and Manufacture of furniture and fixtures of metal.

Turning back to Table 6, it is seen that in a majority of cases the growth rate of labour productivity has been more than 4 per cent per annum, while at the aggregate level, the growth rate of labour productivity has been 3.73 per cent per annum. It is interesting to note that some industries have achieved both a fast growth in employment and a substantial improvement in labour productivity. These industries include Ready-made garments, Leather shoes, Structural metal products, Sawing and planning of wood and Manufacture of wooden furniture.

6. Correlation Analysis

Thus far, we have discussed the extent and pattern of employment growth in the Indian small scale industry during the period 1972 to 1987-88. It would have been useful to carry out a detailed econometric analysis of the inter-industry variation in employment growth, since that would have provided insight into the factors which influenced the growth of employment in the Indian small scale sector. But, such an analysis could not be carried out as the required data were not available. Instead, some simple correlation analysis has been undertaken. The results are discussed below.

The analysis has been undertaken using data at two-digit level of aggregation. Data for 13 industries have been used. The first twelve industries are the same as the first twelve listed in Table 4, except that the data for food products have been adjusted to exclude Rice and Flour milling which are two important industries covered in the second census but not in the first. The thirteenth industry included for the analysis is Repair and other services (combining the groups Repair service and Other services).

It is needless to say that the nature of the analysis

has been dictated by the availability of the data (type of information, level of aggregation, etc). Since, in the Report on the second census, data are generally provided at two-digit level of aggregation, the analysis had to be carried out at that level of aggregation. Further, for computing growth rates of employment, comparable data are needed from the first and the second census. The industrial classifications in the two censuses not being the same, some two-digit industries had to be left out.

Using cross-sectional (cross-industry) data, correlation coefficients have been computed between employment growth rate (during 1972 to 1987-88) and the following variables:

- (1) growth rate of number of units (1972 to 1987-88);
- (2) growth rate of production at constant prices (1972 to 1987-88);
- (3) proportion of self-employed among persons engaged (in 1987-88);
- (4) wage rate of hired employees (in 1987-88);
- (5) ratio of closed units (units in the frame which closed during the 1980s or earlier) to working units (in 1987-88);
- (6) share of items reserved for small scale industry in the total value of production (in 1987-88).

The computed correlation coefficients between employment growth and the above variables are presented in Table 7.

One would expect a strong positive correlation between growth in employment and growth in number of units as well as between growth in employment and growth in production. As may be seen from Table 7, we do find a high positive correlation coefficient between these variables. The correlation coefficient between growth in employment and growth in number of units is found to be 0.89 and that between growth in employment and growth in production is found to be 0.62. Both the coefficients are statistically significant. The regression coefficients, which give the elasticities, are found to be 0.55 for growth in number of units and 0.53 for growth in production. Both coefficients are less than unity. It follows that the growth in number of units and growth in production had a less than proportionate effect on employment generation in the Indian small scale industry. Such a relationship is expected because, as noted earlier in the paper,

the Indian small scale sector experienced a marked and almost across-the-board fall in employment per unit and there was a significant increase in labour productivity.

 TABLE 7. FACTORS INFLUENCING EMPLOYMENT GROWTH IN THE MODERN SMALL SCALE SECTOR IN INDIA:

 1972 TO 1987-88 - CORRELATION ANALYSIS: CROSS-INDUSTRY

Correlation of employment growth with:	Correlation coefficient	
1. Growth in number of units	0.89*	
2. Growth in production (at constant prices)	0.62*	
3. Proportion of self-employed among persons working in the unit	0.73*	
4. Wage rate of hired employees	-0.28	
5. Ratio of closed to working units	-0.35	
6. Share of reserved items in total value of production	-0.05	
6A. Share of reserved items in total value of production excluding Repair & other services	0.37	

Note: Correlation coefficients are based on data for 13 two-digit industries.

* Statistically significant.

A significant positive correlation is found between employment growth and the proportion of self-employed among the persons engaged. The correlation coefficient is 0.73. It may be mentioned here that the proportion of selfemployed among persons engaged in the Indian small scale industry has increased between 1972 and 1987-88 from 12.9 per cent to 18.8 per cent. Also, it has been noted above that the average size of small scale units in India in terms of employmenthas declined from 12 in 1972 to 6 in 1987-88. A high proportion of new units established during this period was in the employment size class 1-4. Clearly, in units of that size class, the proportion of self-employed should be relatively higher. Our finding of a significant positive relationship between employment growth and the proportion of self-employed among the persons engaged probably reflects these developments in the Indian small scale sector.

For wage rate of hired employees and the ratio of closed units to working units, the correlation coefficients are found to be negative; both are statistically insignificant. The finding of a negative correlation coefficient between employment growth and wage rate is to be expected, because low wages are important for competitiveness (and therefore for growth) of small scale units. A

negative relationship is expected also between employment growth and the ratio of closed to working units¹⁶ because a high rate of failure of small scale units is indicative of the difficulties (probably marketing) being faced by such units and a rapid growth of the industry is therefore not likely to occur.

While reservation has been a major policy instrument for the promotion of small scale industry, no significant correlation is found between employment growth and extent of reservation. When data for all the 13 industries are used, the correlation coefficient is found to be -0.05. This result is due to the fact that the Repair and other services industry has no reserved item; but it experienced the highest rate of growth in employment (over 11 per cent per annum). When this industry is excluded, the correlation coefficient is found to be 0.37. It is positive but not statistically significant. Thus, from the correlation analysis there is no strong evidence to indicate that reservation policy has greatly helped in the growth of small scale units.¹⁷

To sum up the results of the correlation analysis, we find growth of employment to be strongly positively correlated with growth in the number of units and the level of production. However, increases in the number of units and the level of production are found to have had a less than proportionate effect on employment. A positive relationship is found between the proportion of self-employed and employment growth. No significant correlation is found between employment growth and reservation of products or the rate of closure of small scale units. Also, wage rate and employment growth are not found to be signifi-

7. Inter-country Comparative Analysis

cantly correlated.

The experience of the Indian small scale industry in terms of employment growth during the last two decades has been discussed above. It was noted that the growth rate of employment in the small scale sector was much higher than that of the large scale sector and that the absolute number of new job opportunities created in the small scale sector (modern) was substantial. For a proper appreciation of these achievements, it is important to compare the Indian experience with the experiences of other Asian developing countries. Since small scale industry has played a very important role in the Japanese industrial economy, a comparison with Japan is also very useful. In this context, it is important to consider what has been the objectives underlying small industry promotion and what measures have been adopted for this purpose.

Small Industry Promotion Policies

Promotion of small scale industry has a relatively long history. In Latin America, well organized programmes existed as early as the mid-1950s.¹⁸ There were financial assistance programmes for small scale industry in Mexico, Venezuela and Argentina. These initiatives were followed by Brazil, Chile and Colombia, who launched their own programmes in the 1960s. The objectives and the instruments were more or less the same. The programmes were oriented towards creating a layer of modern small scale manufacturing units, facilitating transition from household or handicraft enterprises. Generation of employment was a major objective.

In Africa, programmes oriented towards supporting small scale industries appeared soon after independence, in the mid-1960s; Tanzania and Kenya were among the earliest to adopt those policies. African programmes have emphasized provision of industrial estates and training of entrepreneurs. These programmes were often linked to Africanisation policies in which assistance was provided to facilitate transfer of business to indigenous nationals.¹⁹

Among the Asian countries, the Indian government created a very elaborate system for small industry promotion in the early 1950s. However, India's concern for handicrafts and village industries can be traced back to the early years of this century. Long before Independence (1947), Gandhiji who had led the country to freedom, had included the revival of village industries as one of the main planks of what he used to call the "Constructive Programme". The revival of village crafts and industries figured in the Directive Principles of State Policy in the Indian Constitution adopted in 1950. Even earlier, in the First Industrial Policy Resolution, 1948, it was specifically stated that the cottage and small scale industries were particularly suited for the better utilization of local resources and the achievement of local self sufficiency in respect of certain types of essential consumer goods. It was, however, recognized that the healthy expansion of cottage and small scale industries depended upon a number of factors like provision of raw materials, cheap power, technical advice, organized marketing of products, education of workers and, where necessary, safeguard against competition by large scale manufacturing enterprises. These were and continue to be the key elements of the cottage and small scale industry promotion policies in India. One distinguishing feature of the Indian programme, in contrast to the Latin American approach, is that the Indian

occurred in those countries. Rather there has been an increase in the average size of small scale units in terms of employment in Malaysia from 4.6 in 1963 to 7.7 in 1981. Similarly, in Korea, the average size of small and medium enterprises has gone up from 29.6 in 1975 to 31.8 in 1985 and in the Philippines the average size of small and medium scale units has gone up from 13.7 in 1967 to 28.4 in 1978.

8. Concluding Remarks

The analysis presented in the paper has brought out that the modern small scale industry in India grew rapidly in the last two decades. It achieved an employment growth rate of 5.45 per cent per annum between 1972 and 1987-88. Additional employment opportunities were created for about two million persons. This is an impressive achievement, especially considering the fact that the growth of employment in the large scale sector has been very slow.

It was found that between 1972 and 1987-88 there was a marked fall in the average size of modern small scale enterprises in terms of employment (from 12 to 6) and that the bulk of the new units set up during this period were in the lowest employment size range of 1-4. Two other interesting findings of the study are: (1) most of the increase in employment has taken place in industries other than chemicals and engineering and (2) the gap between the wage rates in large and small scale units has considerably widened over time. All these developments are somewhat disturbing because most of the new units being set up are too small to be efficient and technologically dynamic and the quality of employment generated in them (in terms of wages paid, working conditions, etc.) is also poor.

It is known that among the developing countries, India has the most comprehensive and forceful set of promotional policies for the small scale sector. Yet, in an inter-country comparison, the performance of the Indian modern small scale sector is not found to be distinctly superior to that in other Asian developing countries. This raises questions about the effectiveness of the system of small industry promotion in India.

NOTES

1. See Little [1987] and Ghosh [1988].

2. For a discussion on government policies and the various promotional measures taken, see Little [1987], Little *et al.* [1987], Ghosh [1988], Sandesara [1988, 1988a], Kashyap [1988], Vepa [1988] and Rao and Nagaiya [1991].

3. In the Industrial Policy Statement of 1977, it was stated, "It is the policy of the Government that whatever can be produced by small and village industries must only be so produced". Such thinking is reflected also in the Industrial Policy Statement of 1980.

4. See Little [1987], Ghosh [1988] and Vepa [1988, Pp. 21-23].

5. In view of the heterogeneous nature of industries in the small scale sector and the variety of development problems, the small scale sector has been divided into seven broad groups, namely, handicrafts, handloorns, *khadi* and village industries, coir, sericulture, powerlooms and small scale industries (residual). The first five groups are traditional while the last two groups are non-traditional. The last one, which we shall refer to as modern small scale industry, is under the purview of the Small Industries Development Organization (SIDO), Government of India.

6. According to the estimates presented in the Eighth Five YearPlan document, in 1989-90, modern small scale industry provided employment to about 12 million persons. The employment provided in the powerloom sector was 4.5 million and that in the traditional small scale industries was 19.4 million. Evidently, in terms of employment, the modem small scale industry constituted a small part of the small scale sector in India. It should, however, be noted that in terms of value of production, the modern small scale industry had the dominant share.

7. See Ghosh [1988, Pp. 318-19]. It may be mentioned here that data on employment in small scale industries given in the Seventh and Eighth Five Year Plan documents indicate that employment in the traditional small scale industries was growing at the rate of about 4 per cent per annum during the period 1979-80 to 1989-90. During this period, the growth rate of employment in the modern small scale industries was about 6 per cent per annum. A much faster growth in employment was achieved by the powerloom sector at the rate of about 15 per cent per annum.

8. Report on Census of Small Scale Industrial Units, Vol. I and II, Development Commissioner, Small Scale Industries, Ministry of Industry, Government of India, 1977.

9. Report on the Second All-India Census of Small Scale Industrial Units, Development Commissioner, Small Scale Industries, Ministry of Industry, Government of India, 1992.

10. Both the first and the second census of small scale units were confined to units registered with the State Directorates of Industries. It is known that there are a large number of modern small scale units which are not registered. According to official estimate the unregistered units constitute nearly one third of the total modern small scale industry. Clearly, the results of the census understate the size of the modern small scale industry in India.

11. In a number of earlier studies, employment size of 100

persons has been taken as the dividing line between small and medium scale industry and large scale industry. See Jin and Jan-Won [1992].

12. This is brought out by comparison of small industry data according to size classes, which is shown later in the paper.

13. Total factor productivity has been computed in the following way:

where g_A , g_V , g_L and g_K are respectively the annual growth rates of total factor productivity, value added, labour input and capital input. s_L and s_K are the income shares of labour (27 per cent) and capital (73 per cent). For computing the labour share in value added, it has been assumed that the labour income of a self-employed person was the same as the average wage rate of the hired employees.

14. The data for 1972 (first census) are given for 16, while those for 1987-88 (second census) are given for 21 two-digit industries. Of these, 12 listed in the table are more or less comparable. The remaining four industries of first census and nine industries of the second census have been grouped into "Other industries and services". The nine industries of the second census included in this group are Beverages, Tobacco and tobacco products; Cotton textiles; Wool, Silk and Synthetic fibre textiles; Jute, Hemp and

Mesta textiles; Non-metallic mineral products; Miscellaneous manufacturing industries; Repair services; Services not elsewhere classified; and Other services and groups.

15. A sharp fall in employment is found for Cotton knitted ware from 18,743 in 1972 to 9,514 in 1987-88. However, it should be noted that during this period there has been widespread substitution of products made of cotton by products made of synthetic fibers or mix of cotton and synthetic fibers. In 1987-88, the employment in small scale units producing knitted ware of synthetic fibers was 12,609 (according to the second census). Thus, taking all knitted ware, cotton as well as synthetic fibre, there has probably been no marked fall in employment.

16. This ratio ranges from about 30 per cent to about 90 per cent.

17. The results of the second census of small scale units show that between 1985-86 and 1987-88 the production of reserved items has grown at the rate of 10.3 per cent per annum. During this period, the production of unreserved items has grown at a higher rate of 13.0 per cent per annum.

18. Uribe-Echevarria [1992].

19. Uribe-Echevarria [1992].

20. See Lim [1992a] and Bery and Mazumdar [1991].

21. See Berry and Mazumdar [1991] and Bruch and Hiemenz [1984].

22. Lim [1992a].

23. This table is based on various sources including Lim [1992], Clapman [1985] and Onn [1990].

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MONEY - OUTPUT DYNAMICS OVER THE BUSINESS CYCLE A Case Study of India

Neeraj Hatekar

This paper attempts to study whether growth rates of money supply (M1, M3 and high powered money) are neutral over the business cycle. A relatively new technique is employed for identifying the business cycle. Causality studies over the cycle indicate two way causality from GDP to M3 and high powered money, respectively. Univariate causality from GDP fluctuations to M3 is stronger than the reverse causality from M3 to GDP fluctuations, as indicated by Geweke causal measures. Also, causality from high powered money to GDP is stronger than the reverse causality. Two small VAR models have been constructed and innovation accounting exercises have been carried out. They indicate that unanticipated money supply shocks give rise to an oscillatory convergent dynamic time path of GDP, with the overall impact being negative.

In recent years, economic theorists have reopened the debate about the importance of monetary policy variables with renewed vigour. The earlier Keynesian models, which relied on the naive Phillips curve, implied that employment could be increased with monetary expansion. The Keynesian model posited a direct relationship from money supply to output. However, it was also pointed out that the causality need not be unidirectional. The criticism of these models by Phelps and Friedmann and later the rational expectations revolution which Robert Lucas ushered in, consolidated the position that only unanticipated monetary shocks would matter. Anticipated monetary policy, by and large, was thought to be neutral. This strand of thinking finally culminated in the Real Business Cycle models, where anticipated as well as unanticipated outside money is neutral. For these theorists, nominal money does not cause fluctuations in output. It is output that causes money and not the other way around, at least for broader financial services, which can be considered as inputs into the production process, assert these theorists [King and Plosser, 1984]. Monetery variables achieve the equilibrium real balance level in the economy.

The real business cycles discussion implicitly has a competitive well behaved economy in the background. All markets clear instantaneously. Prices adjust to bring demands and supplies into line. In such an economy, the classical dichotomy comes into its own. Hence, money supply and other nominal aggregates do not have any real effects. Output fluctuations have only real causes.

these developments. It was soon realised that it was impossible to build money into a perfectly competitive and well behaved economy. Either the assumption of competition had to be given up or some rigidity introduced. Following this research agenda, nominal rigidities were incorporated and rationalised in models involving monopolistic competitive structures. In such a market structure, it is relatively simpler to show why prices/wages would be rigid [Taylor, 1979b, 1980, Akerloff and Yallen, 1985a, 1985b, Ball, Mankiw and Romar, 1988]. Real rigidities were also similarly incorporated. It can be shown that in the face of nominal/real rigidities, anticipated as well as unanticipated monetary policy would be non-neutral. However, this requires the output supply curve to be extremely elastic.

If one wants to state the positions directly, the two positions would have to be stated as follows: 1) The Keynesian Position:

a) Nominal money fluctuations, anticipated as well as unanticipated, do cause output fluctuations. They can be a cause of the business cycle.b) Output fluctuations may or may not cause fluctuations in money supply.

2) The Real Business Cycle Theory Proposition:a) Nominal money fluctuations do not cause output fluctuations.

b) Output fluctuations cause fluctuations in the broader money aggregates. This is because financial services are regarded as inputs into the production process and show positive comovements with the business cycle.

It was thought that understanding the implications of money supply for the cyclical behaviour of the Indian economy would be

There was a Keynesian backlash in response to

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interesting. Several researchers have studied the money output causality in India. (However, attempts to study the causality over the cycle are not known to us.) Hence, it would be interesting to study the dynamics of real output and nominal money supply over the cycle.

Sections I and II of the paper are devoted to separating out the cyclical components of aggregate output, M1, M3 and high powered money series in India, as well as the real GDP. The data are annual from 1951-52 - 1984-85. Section II takes Granger causality tests for studying the effects of the cyclical component of money supply on the cyclical component of GDP and for causality the reverse way. Geweke causal measures which give an explicit indication of the strength of causality are also computed in that section. Section III concludes the study.

SECTION I

Logically, a correct identification of the "business cycle" should precede any attempt to test various theoretical propositions. For a long time, it was the common practice in macroeconomics to associate the cycle with residuals from a linear or quadratic deterministic trend. The predicted values from such a regression were interpreted as the secular component of the time series, the residuals being thought of as the business cycle. For example, see Bodkin [1969], Lucas [1973], Barro [1978], Sargent [1978], Taylor [1979a], Hall [1980], Kydland and Prescott [1980]. For similar exercises relating to India, see Chitre and Paranipe [1987]. These exercises presume that the secular component of the time series is deterministic. However, the secular components do not necessarily have to be deterministic functions of time. The random walk is a classic example of a secular process that is fundamentally stochastic. If the secular component is stochastic rather than deterministic, then models based on time trend residuals are misspecified. Chan. Hayya and Ord [1977] and Nelson and Kang [1981] have examined the properties of the residuals from a regression of a random walk on time. In particular, the autocorrelation function of the residuals is entirely a function of the sample size and implies strong positive autocorrelations at low lags with pseudo-periodic behaviour at long lags.

Granger and Newbold [1974] have shown that an OLS regression between two variables that behave as random walks with drift is bound to find a measure of "significance" independent of any deep behavioural link. In a seminal paper, Nelson and Plosser [1982] consider two different classes of non-stationary processes as alternatives. The first class of processes is the "trend stationary class", which consists of those non stationary processes that can be expressed as a deterministic function of time. The deviations from a deterministic trend are assumed to have a representation as a stationary and invertible ARMA process. The second class of nonstationary processes is that for which the first or the higher order differences are stationary. This is referred to as the difference stationary class of non-stationary processes. The difference stationary class is fundamentally stochastic in nature whereas the trend stationary class is fundamentally deterministic. A time series which has a secular component following a random walk would belong to the difference stationary class. The problem of misspecification that arises when a time series belonging to the difference stationary class is treated as one belonging to the trend stationary class is alluded to above. Also, whether output is difference stationary or trend stationary has important implications for the behaviour of the business cycle [Nelson and Plosser, 1982]. For example, if the time series is difference stationary, a random shock would tend to remain in the series for all the future history. On the other hand, for series that fall into what Nelson and Plosser call the trend stationary class, unanticipated output shocks tend to be transitory. For instance, a monetarist explanation on the assumption that transitory money shocks would lead to transitory fluctuations in output would be ruled out for a real income series that has a unit root in it. Identification of business cycles itself hinges on the time series properties of the variables of interest.

Most macroeconomic time-series show substantial comovement, but it is important to distinguish between a comovement that arises because of a shared trend, and one that arises through behavioural linkages, even without any economic rationale. Consider the simple case of a process with a unit root:

$$x_{1} = a + bx_{1-1} + e_{1}$$
 (1)

where e_t is an independent disturbance, and b equals unity. The constant a, represents a drift, which allows for a secular movement of x_t . Granger and Newbold pointed out that two variables which behave as above would be significantly correlated even without any meaningful relationship.

Subtracting $\mathbf{x}_{t,1}$ from both sides of equation 1 yields equation 2

$$\Delta X_{t} = a + (b - 1)X_{t,1} + e_{t}$$
(2)

A unit root would be associated with a zero coefficient on the lagged value of x_{t-1} . On the other hand, rejection of the null hypothesis would imply (b-1) is less than zero. The significance of (b-1) (under the null hypothesis that there is a unit root) can be calculated using the t distribution, but the estimator of (b-1) does not follow the standard t

distribution under the null hypothesis. Dickey and Fuller [1979] have provided alternative critical values. (See also Dickey and Fuller [1981]). A modification of the Dickey - Fuller test is the augmented Dickey - Fuller test (ADF) which We state below in a form without a drift:

$$\Delta X_{t} = a + (b-1)X_{t-1} + \sum_{i=1}^{p} \Delta X_{t-i} + e_{t}$$
(2a)

where p is any suitably chosen lag-length. The simple t statistic might again be defined and compared to the Dickey-Fuller critical values. In the table below, we report Dickey Fuller (DF) and Augmented Dickey Fuller (ADF) tests for the series under investigation. DF stands for the Dickey Fuller statistic, while ADF(1) stands for the augmented Dickey Fuller statistic with p = 1. We have considered models that incorporate a trend along with those that do not.

TABLE 1.				
Series	Witho	ut Trend	With	Trend
	DF	ADF (1)	DF	ADF (1)
GDP	2.0510	2.8824	-0.65234	0.29735
M1	7.0098	5.0760	3.1345	3.1048
M3	33.8019	4.2384	18.0027	4.1072
hpm	8.3332	5.6040	4.1491	4.0433
5% critical values	(-2.9528)	(-2.9558)	(-3.5514)	(-3.5562)

As is clear from table 1 above, no test statistic falls in the critical region and hence we accept the hypothesis of a unit root for each of these series. This in itself, is an important finding as far as the impact of unanticipated money supply is concerned. According to Robert Lucas, unanticipated money shocks lead to transitory deviations of output from its long run equilibrium level. However, since the series considered here have unit roots, a transitory shock to GDP would be preserved in the GDP level for all time to come. This is clearly counter to the monetary misperceptions model of the business cycle at least in its more extreme forms. For a model where unanticipated monetary shocks have permanent effects on output in the Lucas framework [see Hatekar, 1992]. The conventional Lucas hypothesis does not seem to be being significantly

istic at work in the Indian GDP time series.

SECTION II

It is important to identify the cyclical component correctly for understanding the interaction of money supply and output over the business cycle. The problem assumes added weight in the presence of unit roots as in our series. It is now well understood that when unit roots are present, the approach equating the cycle with residuals from a deterministic time trend is ruled out. This is because the growth component, in the presence of unit roots, becomes stochastic.

The issues have been considered in detail in section one above. The alternative is to difference the series till stationarity is obtained. The method that we have used in this paper has long been in use for smoothing actuarial tables, and has also been successfully used in astronomy and ballistics as well. The method known as Whittaker-Henderson type A has also been recently used for business cycle analysis [Hodrick and Prescott, 1980, Danthine and Girardine 1989]. This approach faces squarely the problem of decomposing each raw series $\{y_t\}$ into a growth component $\{g_t\}$ and a cyclical component $\{c_t\}$ The method can be specified as follows:

$$\min_{\{\mathbf{g}\}_{t=1}^{n}} \sum_{t=1}^{n} c_{t}^{2} + \lambda \sum_{t=3}^{n} [\{\mathbf{g}_{t} - \mathbf{g}_{t-1}\} - \{\mathbf{g}_{t-1} - \mathbf{g}_{t-2}\}]^{2}$$
(3)

st $c_t = y_t - g_t$

The first term measures the fit of $\{g_t\}$ to $\{y_t\}$ while the second measures the degree of smoothness in $\{g_t\}$. λ is the crucial parameter here that determines one of these characteristics of $\{g_t\}$ to the detriment of the other. To convert (3) into matrix notation,

 $\min c'_{t}c_{t} + \lambda(\overline{K}g_{t})'Kg_{t}.$ (4)

where

K =	1 -2 1	00	000	8
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	000	0 0 0	·1-2	1

Danthine and Girardine [1989, appendix 2] show that the solution to (4) is reached for $g_t = A^{-1}y_t$, where $A = I + \lambda K' K$.

Since A is near singular for most cases, a Cholesky factorisation was used prior to A's inversion. This filter has certain advantages relative to the linear trend filter and the first difference filter. The linear trend filter passes the maximum number of low frequencies, while the first difference filter passes the least number of low frequencies. Both these types of filters might be undesirable for an analysis of business cycles, since a business cycle analyst would be interested in medium as well as high frequencies. By an appropriate choice of the value of λ the relevant frequencies can be retained in the data. The

problem with this method however, is the arbitrary value of λ . A high value of λ results in a smooth $\{g_{\lambda}\}$. Higher the λ , higher is the variability attributed to the cycle in the observed series. An infinitely high value of λ would result in all variability in the observed series being attributed to the cycle. As a consequence, a smooth linear trend will emerge. On the other hand, lower values of lambda would mean that higher variability gets assigned to the trend. If λ is set to zero, the trend would replicate the observed series, the cyclical components on the observed path all being identically equal to zero. Unfortunately, there is no unique or theoretical unambiguous manner in which to determine λ exactly. But see Hodrick and Prescott [1980]) for one acceptable way of settling λ . They assume that g varies smoothly over time and choose rather high values for λ . This was not found acceptable for most series that we have analysed. In the face of uncertainty regarding the appropriate value of λ , we have used a procedure that is not exact, yet is satisfactory. This procedure requires the analyst to have a (4) definition of the cycle prior to the choice of λ . For instance, in our case, we have defined the cycle as a stationary process. Starting from a nonstationary time series and a very high value of λ , we keep on progressively reducing λ till we get a stationary cycle. Other criterion are also possible. For instance, it is possible to define the maximum time duration of a cycle and then choose λ accordingly. We have chosen the requirement of stationarity as it does not preclude any theoretical analysis before hand. When applying this method to Indian data, we found that low values of λ fitted the data better. Thus, majority of the variability has been assigned to the growth component, more particularly in the case of M1, M2, and M3. It is equivalent to saying that in the Indian situation, the trend innovations outweigh the cyclical innovations. The cyclical component is relatively small. Table 2 gives the values of λ for each of the series.

TABLE 2

Series	λ	
GDP M1 hpm M3	2 0.5 0.5 0.5	

Once having determined the cyclical components, it was essential to determine causal precedence The subject of Granger causality has been discussed in a number of papers [Granger, 1969, 1980, Geweke, 1982, 1984, Florens and Mouchart, 1985, etc.]. The central axiom of Granger's definition of causality is as follows: Given two time series X and Y, if Y can be predicted better on the basis of the past histories of both X and Y, than on the basis of the history of Y alone, X is said to cause Y in the Granger sense.

A number of tests are common in the literature. Four types can be distinguished.

- 1) Sim's Original (1972) (OS) test
- 2) Sim's Modified (1974) Test (MS)

3) Granger's (1969) test

4) Geweke's (1982a) test (GW).

Under certain mild conditions, the four tests are theoretically equivalent. Geweke [1982b, 1984] establishes the equivalence of the GW test and the GR and MS test. Florens and Mouchart [1985] have proved the equivalence of the OS, MS and GR tests under very general conditions. However, in finite samples, the tests might yield conflicting results. Monte Carlo investigations in this regard have been conducted by Nelson and Schwert [1982], Guilkey and Salemi [1982] and Geweke, Meese and Dent [1983]. Though there are methodological differences, a fair amount of unanimity is evident. One may broadly infer that the GR test is superior in small samples to both the MS and the GW tests, which in turn are superior to the OS test [Nachane, 1991]. However, the GW test has a unique feature: It allows an explicit judgement of the strength of causal inference. (For an excellent discussion of the Geweke test, see Nachane [1991]). Stated briefly, suppose a stationary series x is regressed on its own past values in stage one. In stage two, it is regressed on its own past values and the past values of another stationary series, say y. The ratio of the t (biased) sum of squared errors from stage two to those from stage one yields nonnegative Geweke causal measures, which are also indicative of the strength of causality from y to x. In what follows, We have tested for Granger causality from cyclical components of M1, M3 and highpowered money to the cyclical component of real GDP.

and reverse. Since this test is superior to all the other tests as the discussion above indicates, the causal inference from this test is accepted. The use of the reported Geweke causal measures is restricted to the determination of the strength of causality. (In this case, the two tests complement each other.)

Results of the Granger Causality tests.

I. Causality from M1 to GDP

F(1,26) = 0.4577

II. Causality from M3 to GDP

F(6,20) = 4.0557262 significant at 5%

III. Causality from hpm to GDP

F(5,22) = 45.871937 significant at 5%

IV. Causality from GDP to M1

F(1,30) = 0.260415

V. Causality from GDP to M3

F(4,24) = 5.308840 significant at 5%

VI. Causality from GDP to hpm

F(3.23) = 5.6231194 significant at 5%

Geweke Causal Measures.

I. Causality from M1 to GDP

 $x^{2}(1) = 0.45774$

II. Causality from M3 to GDP

 $x^{2}(6) = 17.91180$

III. Causality from hpm to GDP

 $x^{2}(3) = 28.85340$

IV. Causality from GDP to M1

 $x^{2}(1) = 0.1076684$

V. Causality from GDP to M3

 $x^{2}(4) = 51.28894$

VI. Causality from GDP to hpm

 $x^{2}(3) = 17.38544$

SECTION III

Thus, causality was confirmed in II, III, V and VI. It is important to note that the earlier studies which involved only raw data, without isolating the cyclical component, rejected I, II, III, IV and only accepted V and VI. This also seems to have been the conclusion of most of the earlier studies involving money-income causality in India. (However, a number of studies do report two way causality among money supply and money-income.) That was difficult to reconcile with theory. It is well known that if prices are rigid, output would respond to nominal money shocks. In India, wages/prices are rigid in a number of cases. The market structure for industrial goods
at least is highly monopolistic or monopolistically competitive. Hence, one would expect nominal money shocks to have an impact on output.

The important finding of this study is the confirmation of Granger causality from M3 and high powered money to GDP fluctuations. It is then clear that fluctuations in nominal money give rise to GDP fluctuations. Of course, there is also the instance of reverse causality that has been documented above. However, the overall evidence tends to favour the hypothesis of the growth of nominal money supply causing GDP fluctuations. It is also interesting to note that cyclical accelerations/decelerations of M1 neither cause nor are caused by GDP fluctuations. This is indeed a highly perplexing finding and we are trying to work with disaggregated measures of money supply which hopefully would throw more light on the phenomena.

The Geweke causal measures that we have computed show that the causal relationship from fluctuations in highpowered money to fluctuations in GDP is much stronger than that from fluctuations in M3 to fluctuations in GDP. However, the causal relationship from GDP fluctuations to M3 fluctuations is much stronger than that from GDP fluctuations to fluctuations in high powered money.

This result shows that high powered money growth rates are relatively more exogenous than the growth rates of M3. In view of these two findings, we have constructed a VAR model which would throw further light on the interaction between the nominal and real magnitudes over the business cycles.

To choose the length of the VAR, the Akaike Information criterion for systems of equations was used. [Akaike, 1974]. The VAR generalisation of the AIC is

$$AIC(n) = \ln \det\left(\hat{\Sigma}_{v}\right) + 2m^{2}n/t.$$
 (5)

where Σ_{v} is estimated residual covariance matrix, t is the sample size, m the number of variables in the system, n the selected order of the VAR. The optimal VAR length is that n which minimises the AIC.

It was found that the VAR model incorporating and $\mu = E(Y_1) = (1 - O_1 - O_2 - ..., O_p)^{-1}$

one lag each of the variables led to the lowest AIC value. The method of estimation was three stage least squares. This led to the following results:

model	1.		
M3 =	0.20909M3.1	+ 0.12407GDP.1	- 0.72466hpm.1
	(0.63486)	(1.4371)	(-1.1297)
gpd =	-0.56346 M3-1	+ 0.52750GDP.1	+ 2.5268hpm_1
	(-0.56160)	(2.0056)	(1.2931)
hpm =	0.47361 M3.1	- 0.030380GDP_	-1.1651hpm.1
	(3.4962)	(-0.8555)	(-4.4161)

(Here, the left hand side variables refer to the relevant cyclical components, while the right hand side variables are the one period lags on these variables.) Figures in brackets are t statistics. (However, since our interest here is to trace out the dynamic effects of money supply shocks to the system, we will not concern ourselves with discussing the individual equations of the VAR model, or the significances of the coefficients).

The VAR model estimated above allows us to carry out innovation accounting a la Sims [1980, 1981]. We consider the following stationary VAR(p) process (Vector Autoregressive Process of Order p). Let Y be a m dimensional column vector.

$$Y_{t} = v + O_{1} Y_{t-1} + O_{2} Y_{t-2} + \dots + O_{p} Y_{t-p} + v_{t}$$
 (6)

$$O_{i} = \begin{vmatrix} a_{11i} & a_{12} & \dots & a_{1mi} \\ \vdots & & & \\ a_{m1i} & \dots & \dots & a_{mmi} \end{vmatrix} \text{ are } m^{2} \text{ coefficient matrices}$$

v, is an (mxi) column vector with zero mean and some nonsingular variance covariance matrix \sum_{n} for all $V_{\phi}V_{t}$ are assumed to be uncorrelated for $t \neq s$. It can be shown that a stationary VAR like that in (6) will have a moving average (MA) representation:

$$Y_{t} = \mu + v_{t} + \sum_{i=0}^{n} M_{i} v_{t-1}$$
(7)

where
$$M_0 = I$$
 and $M_i = \sum_{j=1}^{\min(p_i)} O_j M_{i,j}$ $i = 1,$ (8)

Since the covariance matrix \sum_{v} is positive definite, there exists a non-singular matrix P such that $p\sum_{v}p' = I$. With this, the MA representation (8) can be written as

$$Y_t = \mu + \sum_{i=1}^{n} M_i P^{-1} P v$$
 (9)

$$=\mu + \sum_{i=0}^{n} \Psi_i W_{t,i}$$
(10)

where $\Psi = M_i P^{-1}$ and $w_i = Pv_i$ The matrices Ψ_i measure the reaction of the system to innovation w_i . Specifically, the kjth element of Ψ_i measures the reaction of the kth variable to a shock by the by the jth variable i periods ago, *ceteris paribus*.

Below, we report the reaction of the cyclical component of GDP to shocks to cyclical components of hpm and M3. (More strictly, to the changes in cyclical components of M3 and hpm, see footnote)

TABLE 3

Period	hpm shock	M3 shock.
1	-7823.100	1975.041
2	6290.632	-2696.320
3	-3882.078	1675.483
4	2319.683	-1168.988
5	-1218.715	600.274
6	641.2593	-351.799
7	-302.8143	161.312
8	144.7206	-85.746
9	-60.9790	34.939
10	26.0820	-17.173
11	-9.0460	5.791
12	3.0784	-2.398
13	-0.4347	0.488

It is clear from table 3 that both high powered money and M3 shocks give rise to damped oscillatory movements in the cyclical components of GDP. However, high powered money shocks lead to more violent fluctuations. Also, the fluctuations in the cyclical component of GDP resulting from the two shocks have opposite signs in each particular period. This could be the result of a lag in response of M3 to HPM. Also, the greater impact of HPM could reflect, at least in principle the working of the money multiplier. (It seems to me that an entirely different reason can

be given, see below.) The aggregate impact of M3 and hpm is also a damped oscillatory wave. The overall impact of M3 shocks is positive, that for high powered money is negative and larger in absolute terms than the aggregate M3 shock.

The damped oscillatory pattern observed above could have important implications for business cycle analysis. The first four autocorrelations and partial autocorrelations of the cyclical component of GDP are presented below:

TADICA

	IAI		
autocorrelation autocorrelation	n and partial au 18.	tocorrelations o	f GDP cycle.
1 0.19	2 -0.1	3 0.03	4 -0.5
partial autocor	relations.		

3 0.03

-0.7

2 -0.4

0.19

Table 4 confirms the oscillatory behaviour of the cyclical component of GDP. The VAR model estimated by us above predicts qualitatively the same kind of behaviour for unanticipated monetary shocks to the economy. Thus, monetary shocks could have a substantial power for explaining the business cycle behaviour in India, because monetary shocks can at least qualitatively replicate the actual dynamic behaviour of output.

However, there is one obvious problem with the simulation exercise above (which is the reason that we have alluded to above). Since cyclical component of M3 is largely determined by the cyclical component of high powered money, model one is likely to be vitiated with contemporaneous correlation between the residuals of the M3 and high powered money equations. Indeed the Breusch - Pagan test for a diagonal variance/covariance matrix confirmed this. Hence, we have estimated below a smaller model dropping out M3. This model simply considers the dynamics between the cyclical components of high powered money and GDP. (The choice of the lag length for the VAR was done as for model 1.)

model 2.

$$hpm = -0.48207 hpm_{.1} + 0.052875 GDP_{.1}$$
(-2.2722) (1.6776)
$$GDP = 1.7142 hpm_{.1} + 0.4285 GDP_{.1}$$
(1.3228) (2.2255)

This model was found to have a diagonal variance/covariance matrix, as judged by the Breusch Pagan lagrange multiplier statistic. Below, the effects on gnp cycle following from a shock to hpm cycle are traced out.

TABLE 5. REACTIONS OF GDP CYCLE TO HPM CYCLE SHOCKS

period	hpm cycle shock
1	-294.3164
2	16.2146
3	-88.3347
4	9.55519
5	-26.7637
6	4.27469
7	-8.18290
8	1.70912
9	-2.52344
10	0.64322

Thus, again it can be seen that the response of GDP cycle follows a damped oscillatory wave. The absolute magnitude of the GDP cycle fluctuations is now much smaller at most periods compared to model 1. Also, the troughs are much deeper and the peaks relatively short lived in comparison with model 1. The aggregate impact of an high powered money shock is negative.

The difference in the dynamic behaviour of HPM shocks between model 1 and model 2 is clearly due to the cross correlation among the residuals that has been eliminated by dropping out M3. In model 1, the two paths of GDP were not independent of each other. This problem has been overcome in model 2. This accounts for the difference in the time path of GDP due to an hpm shock in model 1 and model 2. The convergent oscillatory behaviour of the model 2 is due to the eigen values of the matrix M:

-0.48207	0.052875
L 1.7142	0.4285

This matrix has two real eigen values, -0.57260801 and 0.5190381, with the negative eigen value slightly dominating the positive one in absolute terms. Hence, the oscillatory and convergent behaviour. The overall negative impact could be rationalised in terms of the inflationary effect of additional unanticipated money shocks. Elsewhere [Hatekar and Mujumdar, 1993] we have found that money supply growth rates directly fuel inflation over the cycle and check business cycle accelerations. High prices and high material costs could lead to a profit squeeze, thereby driving back positive deviations of GDP towards the trend. Unanticipated money shocks could also increase the aggregate uncertainty in the system, and business might want to come back to the normal trend level. The traditional Lucas model would expect aggregate output to go up, because aggregate work effort in the economy goes up. However, if work effort, rather than the money wage, is already contracted for, then additional money supply may only imply higher money wages eventually, rather than more work effort. This can augment the profit squeeze mentioned above. In all then, there is ground for caution in exercising discretionary countercyclical monetary policy. Unanticipated shocks, it appears, should be avoided.

NOTE

The cyclical component of GDP was stationary. However, the calculated cyclical components of M1, M3 and hpm were found to be nonstationary. Hence, in all that follows from here, the first differences of these variables have been used. We have used the same variable names to avoid cluttering up the notation.

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GROWTH, DETERMINANTS AND RESPONSIVENESS OF PERSONAL INCOME AND CORPORATE TAXES: AN ECONOMETRIC ANALYSIS

Madhu S. Panigrahi

Studies on personal income and corporate taxes responsiveness in India identify national income as the major determinant of tax revenue collection. However, national income growth is purely exogenous when considered from the point of view of tax revenue changes. This leaves us with the question as to what could be the other major determinants of tax revenue growth and whether they could be used as suitable policy instruments to affect changes in tax collection as and when desired. The study finds that number of assessees can be considered as a useful instrument to affect the quantum of revenue in the case of personal income and corporate taxes. Further average tax rates in the case of these taxes are no determinants of tax revenues. In terms of responsiveness with respect to both national income and time, personal income tax is lower than corporate tax and the latter is lower than excise and customs duties.

The studies on tax sensitivity in India highly concentrate on non-corporate income tax. These are basically elasticity studies¹ on taxation empirically relating log-linearly (and estimating) a 'cleaned'² time series data of tax revenue with national income or its related components like income generated in urban sector and so on. Most of these studies, however, demonstrate the fact that national income growth is definitely a major determinant of both personal income and corporate taxes revenues. However, national income growth is purely exogenous when considered from the point of view of tax revenue changes. This leaves us with the question as to what could be the other major determinants of tax revenue growth and whether they could be used as policy instruments to affect the former as and when desired. The answer obviously lies with the idea that variables like tax rates, number of assessees, tax evaded, etc., can also be looked as some of the contributing factors, whether positively or negatively, to changes in tax receipts. This, however, needs some empirical testing under Indian conditions, though theoretically they sound to be quite appropriate. The supply-siders in the developed West argue in favour of low marginal tax rates in order to encourage revenue growth, for they feel that an inverse relationship exists between tax rates and revenues. The theory of supply-side economics suggests that high tax rates definitely cause revenue loss and tax rates, in order to be revenue-maximising, ought to be fixed somewhere around 50 per cent with minor deviations in both the sides. It means tax rates can be considered as an important instrument for

influencing resource mobilisation. Similarly, variables like number of assessees and tax evaded can be said to be empirically determining the fate of revenue growth. Our objective is to consider national income growth (or alternatively, growth of income assessed), changes in tax rates and the number of assessees as the three major determinants of personal income and corporate taxes revenue in India and to show their relative importance. The growth and buoyancy of these taxes are highlighted in relation to major indirect taxes, direct and total Union taxes and national income.

Sample, Data and Methodology

Income tax throughout the study means personal income tax unless otherwise stated. The period covered for the study is from 1965-66 to 1984-85. The main reason for such a choice is that most of the macro-economic indicators display relatively low growth rates immediately after the industrial deceleration set in in the mid-sixties. Therefore, either the study period should be from 1950-51 to 1964-65 or from 1965-66 to 1984-85 or from 1950-51 to 1984-85. The period from 1950-51 to 1984-85 is very big for a rigorous analysis, for the degree of association among variables studied will tend to become low and further if this period is chosen, there has to be a break-up of the study into two sub-periods: one, from 1950-51 to 1964-65 and two, from 1965-66 to 1984-85, so as to understand in reality what relationship the variables used bear among themselves. Again the period from 1950-51 to

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1964-65 is not a recent period for which the study should have been undertaken. Finally, we are left with the period 1965-66 to 1984-85. The upper limit of the period is due to the fact that the year 1985-86 marks the beginning of liberalised economic policies which involve drastic reduction in the marginal income and corporate tax rates *inter alia*.

The study makes use of the following variables: Net National Product at factor cost (1980-81 series) at current prices (NI), income tax revenues (IT), personal income assessed as tax base (PIA), average income tax rate (AVIT), number of income tax assessees (NIA), corporate tax revenues (CT), companies' income assessed (CIA), average company tax rate (AVCT), number of company tax assessees (NCA), total Central direct taxes (DTS) and total Central taxes (T). These variables are presented in Table 2 alongwith their time rates of growth. The variables which are used for a limited purpose at the end but are not given in the above Table include customs duties, excise duties and total Central indirect taxes. These variables are not directly related to the present study. The income tax data relate to the relevant aggregates of all classes of non-corporate tax payers (viz., individuals, Hindu Undivided Families, registered and unregistered firms and association of persons). The corporate tax data involve companies as covered in All India Income Tax Statistics. The sources of data are National Accounts Statistics, CSO, Reports on Currency and Finance, RBI and All India Income Tax Statistics (AIITS). Both AVIT and AVCT are fully computed variables. They are the respective ratios of total tax demands on incomes assessed to total incomes assessed in each category and are computed from AIITS. Income assessed, as defined by the AIITS, is equivalent to gross income (less loss set off + deductions under chapter VI A of the Income Tax Act). The term 'assessee' means a person or a body by whom any tax or any other sum of money is payable under the Income Tax Act, 1961.

In the studies on tax elasticity, usually the tax yield is a 'cleaned' series of data. Since this study attempts to analyse the growth of tax revenues as a function of average tax rates, national income or income assessed as tax base and number of

assessees, there is no need to clean the tax data. This, therefore, is not an elasticity study but a study of sensitivity of tax yields with respect to various tax-related variables.

Two methods have been followed to analyse the sensitivity of tax yields viz., simple and stepwise regressions in log-linear form and time rate of growth. In finding regression results, the ordinary least squares technique has been followed throughout the study. RATS computer package is made use of in the process of computation. Two sets of stepwise regressions are used in both the tax categories. In the case of income tax, the dependent variable always is IT and the independent variables are AVIT, PIA and NIA in one set and AVIT, NI and NIA in the other. Similarly CT is always the dependent variable in the corporate tax case. AVCT, CIA and NCA play the role of explanatory variables in one set of stepwise regression and in the other, like in the income tax case, income assessed (i.e., CIA in corporate tax), is replaced by national income (NI). It is observed from the following estimated parameters of the log-linear models

Ln PIA =
$$a_0 + a_1 Ln NI$$

and
Ln CIA = $b_0 + b_1 Ln NI$

that the correlation between PIA and NI is weaker compared to what it is between CIA and NI, though both the relationships are statistically significant at one per cent level:

Ln PIA = 4.91225 + 0.28605 Ln NI,

$$(t = 3.92294)$$

R² = 0.461, F = 842.01
and

$$Ln CIA = -0.65238 + 0.68154 Ln NI,$$

(t = 9.06717)

$$R^2 = 0.820, F = 82.22.$$

That is why it is interesting and useful to use income assessed and national income in each case alternatively. The time rates of growth are computed by fitting an exponential of the type

$$Z = ab$$

where Z is the relevant variable whose growth rate over time is desired and t stands for time.

Growth of Taxes

Growth of income and corporate taxes' yields along with that of national income is summarised in Table 1. The Table reveals two things: (i) income tax yields and national income exhibit stronger long-run correlation than what it is between corporate taxes and national income, and (ii) the growth of corporate tax receipts deceler-

ated in the second period, i.e., 1965-66 to 1984-85 and did not keep pace with national income. The latter could partly be explained by the falling industrial growth rates and profitability during that period. The annual compound growth rate of manufacturing output, for instance, at 1980-81 prices was 6.22 per cent during 1950-51 and 1965-66 and came down to 4.76 per cent later.

TABLE 1. GROWTH OF TAX YIELDS AND NATIONAL INCOME

Year	Income Tax	Corporate Tax	National Income (1980-81 series)
1950-51 to 1965- 6 6	4.89	14.50	6.56
1965-66 to 1984-85	10.86	11.84	11.81
1950-51 to 1984-85	8.19	13.01	9.46

Note: The compound growth rates presented in the Table are computed on the basis of beginning and end years' values of variables.

The rates (average and marginal), base and surcharges associated with these taxes have undergone drastic changes over the years. The highest effective marginal income tax rate of 97.75 per cent including surcharges is noticed during 1971-72, 1972-73 and 1973-74. It may be recalled that when the income tax was first introduced in 1860, the maximum effective marginal tax rate was of the order of four per cent. And in the era of Long Term Fiscal Policy, the maximum rate envisaged was 52.5 per cent. The average income tax rates have been growing Determinants of Tax Yields slowly over the years. During the period for which this study is undertaken, the average rate has varied between the lowest of 10.9 per cent in 1965-66 and the highest of 17 per cent in 1983-84. The number of income tax assessees registered a rise from 16.4 lakhs in 1965-66 to 25.2 lakhs in 1977-78 and then has been falling continuously. Personal income assessed has soared from Rs 1,739 crore in 1965-66 to Rs 3,284 crore in 1984-85 registering an average compound growth rate of 3.40 per cent.

The minimum average company tax rate during 1965-66 to 1984-85 was 48 per cent in 1965-66 and the maximum of 60 per cent in 1975-76 and 1976-77. Number of companies, government plus non-government, increased from 26,765 in 1965-66 to 1,07,369 in 1984-85. But the number of company tax assessees remained almost unchanged fluctuating between 10,000 and 15,000 with signs of decline over the last few years. The companies' assessed income has risen at an annual rate of 8.43 per cent from Rs 389 crore in 1965-66 to Rs 1811 crore in 1984-85.

The stepwise regression results are presented in Tables 3 and 4 for income tax and in 5 and 6 for corporate tax. Equations (1), (2) and (3) show the sensitivity of income tax receipts separately with respect to average tax rates, income assessed and number of assessees respectively. The variations explained by AVIT in the dependent variable IT is 76 per cent and by PIA is 64 per cent. In both the cases the computed t- and F-values are statistically significant, meaning thereby that both the variables contribute to the changes in income tax receipts. The only thing is that the relevant

Year	Personal Income Tax Revenues	Personal Income Assessed (PIA)	Average Per- sonal Income Tax Rate (AVIT)	Number of Personal I-T Assessees (NIA)	Corporate Tax Revenues (CT)	Company Income Assessed (CIA)	Average Company Tax Rate (AVCT)	Number of Company Assessees (NCA)	Total Central Direct Taxes (DTS)	Total Central Taxes (T)	NNP at Fac- tor Cost (NI)
	(Rs Crore)	(Rs Crore)	(%)	(Lakh)	(Rs Crore)	(Rs Crore)	(%)	(Thousand)	(Rs Crore)	(Rs Crore)	(Rs Crore)
1965-66	272	1.739	10.9	16.4	305	389	48.0	11.9	604	2061	22107
1966-67	309	1,988	12.5	16.4	329	544	50.5	13.5	662	2306	25065
1967-68	326	2,039	13.2	15.7	310	594	50.7	13.5	199	2353	29597
1968-69	379	2,600	12.8	18.8	300	596	53.6	14.7	705	2510	31160
1969-70	449	2,728	13.2	19.2	353	560	53.9	11.5	834	2824	34259
1970-71	473	2,985	14.4	20.1	371	839	56.7	12.6	877	3207	36362
1971-72	537	3,243	15.4	20.9	472	1,117	58.0	13.7	1056	3873	38583
1972-73	630	2,932	14.5	21.5	558	704	55.0	10.6	1248	4510	42382
1973-74	745	3,177	14.4	22.5	583	101	56.8	10.8	1391	5074	52241
1974-75	874	3,423	14.3	23.6	710	698	58.6	10.9	1664	6322	61194
1975-76	1,214	4,380	14.6	24.3	862	886	60.0	13.6	2222	160 9 7	64531
1976-77	1.194	4,332	14.7	24.3	984	886	60.0	13.6	2348	8271	69408
1977-78	1,002	4,825	14.2	25.2	1,221	1,038	59.0	14.6	2427	8858	79671
1978-79	1,177	4,245	15.0	19.2	1,252	1,346	57.5	11.5	2559	10525	85255
1979-80	1,340	4,128	15.3	18.1	1,392	2,020	53.2	11.6	2826	11974	92314
1980-81	1,506	3,549	16.8	17.3	1,311	1,464	52.7	11.1	3007	13180	110484
1981-82	1,476	3,511	16.2	13.9	1,970	1,523	52.7	10.9	3798	15848	128457
1982-83	1,570	3,367	15.8	12.5	2,185	1,958	53.7	10.2	4152	17696	141331
1983-84	1,699	3,360	17.0	11.2	2,493	1,663	51.1	8.2	5685	21894	165818
1984-85	1,928	3,284	16.2	10.8	2,556	1,811	59.4	7.3	4814	23471	184354
Time Rate	11.07	3.35		-1.77	13.41	7.89		-1.95	12.91	14.45	11.53
Growth*											
Note: * All th insignificant.	ne growth rates though the inte	computed, ex-	cepting that of N he couation was	IA, are signifi significant at c	cant at one per me per cent leve	cent level. Th	e elasticity coeff	icient of the se	mi-log model i	nvolving NIA	was statistical
Source: (i) IT	CT, DTS And	T are obtaine	d from various is	sues of Report	s on Currency 6	Ind Finance,	Reserve Bank of	India;			
(iii) NI figure	s are from the]	latest issues of	National Account	its Statistics, C	SO.	~~~ ~	1/2000 (2000)				

Table 2. Growth of Personal Income and Corporate Taxes and Related Variables, 1965-66 TO 1984-85

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elasticity in equation (1) should have been negative if the supply-siders' tenet of inverse relationship between tax rates and tax revenues is to be satisfied. It may be remembered here that the supply-siders' observations of such a relationship

is based on marginal tax rates which vary across individuals and sectors of the economy and not on average tax rates. NIA is inversely related to IT but the relationship is statistically insignificant.

Equation No.	Dependent Variable	Intercept	Regression Coefficient for AVIT	Regression Coefficient for PIA	Regression Coefficient for NIA	R²	F
(1)	IT	-6.90909	5.08643**			0.759	56.72
(2)	ГГ	-8.25651	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1.85300** (5.60816)		0.636	31.45
(3)	IL	8.58747		(21000000)	-0.65579 ^{NS} (-1.14987)	0.068	1.32
(4)	IL	-9.87612	3.57778** (4.44904)	0.86791* (2.71177)		0.832	42.04
(5)	IT	-6.79733	5.07036**	(,	-0.02377 (-0.07624)	0.759	26.79
(6)	IT	-7.39276		2.24567** (13.10694)	-1.39280** (-7.53437)	0.916	92.84
(7)	IT	-7.98315	0.98461 ^{NS} (1.20430)	1.90879** (5.83969)	-1.15951** (-4.35724)	0.923	64.02

TABLE 3. STEPWISE REGRESSION FOR INCOME TAX WITH 'INCOME ASSESSED' AS TAX BASE

Notes: (i) Figures in the parentheses are t-values;

(ii) * implies five per cent level of significance; (iii) ** implies one per cent level of significance; (iv) NS implies 'not significant'.

Equation (4) shows the responsiveness of income tax revenues with respect to tax rate and tax 'base' jointly. Further equations (5) and (6) demonstrate the inter- relationships with AVIT and NIA as explanatory variables in the former and with PIA and NIA in the latter. Looking at these three equations, it is easy to conclude that PIA and NIA together are more significant determinants of income tax revenues than AVIT and PIA or AVIT and NIA taken together separately. This is evident from the high R^2 , t- and F-values associated with equation (6). The same result is borne out by the last equation of Table 3 where AVIT only is statistically insignificant among the three variables included in the right hand side. PIA and NIA finally emerge as the most significant determinants of income tax receipts. This is further made clear from the very fact that R^2 undergoes marginal change from 0.916 to 0.923 when AVIT as an additional variable is introduced in equation (7). Is the mean average tax rate not an important tax variable affecting the growth of tax receipts? The answer, of course, is positive but it requires some explanation. First,

the average tax rate is a computed variable from the already determined factors like total tax demand and total income assessed. A close perusal of equation (1) will reveal that this is nothing but the established relationship between income tax revenues on the one hand and the difference between the log of total income tax demand and total income assessed on the other, i.e., In IT = -6.90909 + 5.08643 (ln of total tax demand - In of total income assessed). This follows straight from the very definition of average tax rate. It means that the computed average tax rates are more of pre- determined type than of endogenous nature. It is on this ground that the supply-siders never approve of the use of average rate as a tax variable. Second, the tax payers face the marginal tax rates and this, therefore, should have significant relation with tax revenues. However, such an empirical testing is practically implausible at least in the Indian context where so many rates are found to prevail for different income brackets. The seemingly viable conclusion that emerges from the above analysis and going by what the supply-siders would advise, is that average tax rate is an inappropriate tax variable and not that tax rate-revenue relationship is so weak as to force us to wipe out tax rate from the group of variables that determine significantly the volume of tax receipts. What then are the Finance Ministers going to do in future for additional resource mobilisation? Further, the growth of the unsanctioned underground subter-

ranean parallel black economy has helped the researcher to prove a weak relationship between tax rates and revenues even when a correct marginal tax rate is made available. It seems reasonable to conclude that in a developing black economy like India a revenue-maximising tax rate, if it exists, does not necessarily maximise revenue and, therefore, it loses its feature.

TABLE 4. STEPWISE REGRESSION FOR INCOME TAX WITH NATIONAL INCOME AS TAX BASE

Equation No.	Dependent Variable	Intercept	Regression Coefficient for AVIT	Regression Coefficient for NI	Regression Coefficient for NIA	R ²	F
(8)	IT	-3.79159		0.95071**		0.943	297.80
(9)	IT	-4.53799	0.69664 ^{NS} (1.06219)	0.84947**		0.947	1 50.59
(10)	IT	-6.49453	(100-17)	1.04927**	0.55848** (6.19689)	0.983	4 77 .2 2
(11)	IT	-6.63690	0.17648 ^{NS} (0.44715)	1.02192** (14.39333)	0.54883** (5.78864)	0.983	302.96

Notes: (i) Figures in the parentheses are t-values;

(ii) ** implies one per cent level of significance;

(iii) NS implies 'not significant'.

NI in place of PIA. The analysis of Table 4 is not much different from that of Table 3, Equation (11) summarises the interrelationship between IT on one hand and AVIT, NI and NIA on the other. The analysis does not undergo major change here excepting that R² improves and moves towards unity because of the replacement of PIA by NI. Thus PIA or NI and NIA turn out to be the major contributing factors to income tax revenues.

Similar conclusions are arrived at in the case of corporate tax. Equation (12) explains the relationship between corporate tax collection and average company tax rates which is shown to be very weak. Similarly equations (13) and (14) explain statistically strong empirical relationship between the dependent variable (CT) and the respective explanatory variables CIA and NCA. Equations (15), (16) and (17), when compared, display the importance of CIA and NCA as factors determining the quantum of revenue collected. This result is finally contained in equation (18) which displays strong positive and negative correlations of CIA and NCA respectively with CT. The three variables, namely, AVCT, CIA and

The regression results presented in Table 4 have NCA taken together determine 86 per cent of the variations in CT which is reflected in terms of the estimated coefficient of multiple determination (\mathbb{R}^2) value. The computed t-statistic and F-values justify the priorities assigned to factors like CIA and NCA.

> Equations (19), (20), (21) and (22) display similar interrelationship with the difference that CIA is replaced by NI, as in the income tax case. Though the R^2 -values have improved upto 0.977 in equation (22) from 0.858 in equation (18), the t-statistics associated, with NCA have become insignificant in both the equations of Table 6. That is because NI and NCA are multicolinear variables indicating statistically significant zero order correlation of the order of - 0.67. In any case, looking at both the Tables of regression results of corporate tax, it is not difficult to conclude in favour of CIA or NI and NCA as the most important determinants of CT under Indian conditions. That is, the most important factors determining corporate tax changes are companies' income assessed (or national income) and number of assessees. Companies' average tax rate does not have any say over this.

Equation No.	Dependent Variable	Intercept	Regression Coefficient for AVCT	Regression Coefficient for CIA	Regression Coefficient for NCA	R²	F
(12)	СТ	-4.92650	2.89461 ^{NS} (1.09871)			0.063	1.21
(13)	СТ	-2.88485	(1.0,011)	1.39262** (8.77882)		0.811	77.06
(14)	СТ	13.12654		(,	-2.63002** (-3.41984)	0.394	11.69
(15)	СТ	-4.65964	0.46834 ^{NS} (0.37505)	1.37782** (8.23647)	(0.12/0 1)	0.812	36.70
(16)	СГ	0.16040	3.27365 ^{NS} (1.60977)	(0.20011)	-2.69077** (-3.64545)	0.474	7.66
(17)	СГ	0.75936		1.21097** (7.22838)	-0.97679* (-2.15191)	0.851	48.56
(18)	CT	-2.69905	0.99351 ^{NS} (0.86890)	1.16429** (6.57448)	-1.05895* (-2.26805)	0.858	32.23

TABLE 5. STEPWISE REGRESSION FOR CORPORATE TAX WITH 'INCOME ASSESSED' AS TAX BASE

Notes: (i) Figures in the parentheses are t-values;

(ii) * implies five per cent level of significance;
(iii) ** implies one per cent level of significance;

(iv) NS implies 'not significant'.

TABLE 6. STEPWISE	REGRESSION FOR CORPORATE TA	X WITH NATIONAL	Income as Tax Base
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Equation No.	Dependent Variable	Intercept	Regression Coefficient for AVCT	Regression Coefficient for NI	Regression Coefficient for NCA	R ²	F
(19)	СТ	-5.99477		1.14879**		0.974	674.52
(20)	СТ	-4.66702	-0.35965 (-0.78248)	1.15906**		0.975	331.57
(21)	СТ	-6.64196	(0.70270)	1.17521**	0.14503 ^{NS} (0.68142)	0.975	331.50
(22)	СТ	-5.07865	-0.51780 ^{NS} (-1.06434)	1.20419** (18.56332)	0.22308 ^{NS} (0.99444)	0.977	335.38

Notes: (i) Figures in the parentheses are t-values;

(ii) ** implies one per cent level of significance;

(iii) NS implies 'not significant'.

Responsiveness of Tax Yields

The responsiveness of both income and corporate taxes' yields is visualised in terms of their maintained relation with national income and time. The relevant elasticity coefficients in equations (8) and (19) above are the buoyancy coefficients of income and corporate taxes respectively. These are compared with the buoyancy coefficients of total direct taxes, major indirect taxes and Union taxes in Table 7. The time rates of growth are also given in the Table as indicators of tax responsiveness.

The Table basically highlights the low responsive feature of Indian personal income tax as income tax which have found the coefficient of compared to any direct and/or indirect taxes or built-in-flexibility to vary between 0.5 and near

group of taxes. Our finding of the order of the buoyancy coefficient of income tax is similar to that of Nambiar and Joshi [1974] in which the coefficient is found to be of the order of 0.9878 for the period 1960-61 to 1969-70. However, according to Rao [1979] and Khadye [1981], the buoyancy coefficients of personal income tax were more than unity for their respective periods of study. The major conclusion which can be derived from the above analysis is that undoubtedly it can be said that buoyancy coefficient of income tax in India is around unity irrespective of the period studied. This generalisation does not hold good in the case of elasticity studies on to unity. The buoyancy coefficient of Indian corporate tax is shown as equivalent to 1.14879 which is slightly on the higher side of both the estimates of Nambiar and Joshi (1974) for the period 1960-61 to 1969-70 and of Rao (1979) for the period 1960-61 to 1973-74. Comparing these

coefficients of income and corporate taxes with those of the major indirect taxes, one finds that the latter are certainly more responsive than the former and income tax is the least responsive of all the taxes considered. The time rates of growth portray a similar picture.

Tax	Buoyancy Coefficient	R²	F	Regression Coefficient	R ²	F	Time Rate of Growth
1. Income Tax	0.95071 (17.26055)	0.943	297.80	0.10502 (20.73182)	0.960	429.81	11.07
2. Corporate Tax	1.14879 (26.13659)	0.974	674.52	0.12588 (26.88070)	0. 9 76	722.57	13.41
3. Direct Taxes	1.10655 (29.01700)	0.979	842.00	0.12141 (32.22402)	0.983	1038.39	12.91
4. Customs Duties	1.40269 (19.82450)	0.956	393.05	0.15297 (18.19982)	0.948	332.10	16.53
5. Excise Duties	1.21028 (38.39331)	0.988	1474.04	0.13312 (75.92800)	0. 9 97	5765.06	14.24
6. Indirect Taxes	1.27329 (44.91024)	0.991	2016.93	0.13965 (56.14113)	0. 9 94	3151.85	14. 9 9
7. Union Taxes	1.23073 (43.23178)	0.990	1868.99	0.13498 (53.30686)	0. 9 94	2839.14	14.45

TABLE 7. BUOYANCY COEFFICIENTS AND TIME RATES OF GROWTH

Notes: (i) Figures in the parentheses are t-values;

(ii) all the regression coefficients are statistically significant at one per cent level;

(iii) antilog of the elasticity coefficient minus one multiplied by 100 gives the time rate of growth.

Conclusion

Among the major determinants of income and corporate taxes figure national income (or income assessed as tax base) and number of assessees. Income assessed as tax base in the case of personal income tax maintains relatively weaker correlation with national income than what it is in the corporate tax category. Average income and corporate tax rates are inappropriate tax variables and hardly explain variations in quantum of revenue collection. Personal income tax maintains a low profile in terms of its responsiveness with respect to national income and time, as compared to corporate tax, or to direct and total Union taxes: The major direct taxes in India, in general, are of less responsive nature compared to major indirect taxes. Aggregate marginal tax rates, if found, might establish a good degree of association with revenue collection in the case of income and corporate taxes and thereby turn out to be determining sound policy instruments.

NOTES

1. Some of the elasticity studies on taxation are those of Sahota [1961], Jain [1969], Nambiar and Joshi [1974], Gupta [1978], Rao [1979], Khadye [1981] and Bagchi and Rao [1982].

2. 'Cleaning' of the tax data means adjusting the series so as to remove the effects of the changes made in the base and the rates through legislative measures , i.e., discretionary changes. Some of the studies contributing to the development and use of methods for separating discretionary changes from the historical tax data include Prest [1962], Singer [1968], Mansfield [1972], Baas and Dixon [1974], Byme [1979] and Choudhari [1979].

3. Fullerton [1984], Grieson [1984] and Laffer-Ranson [1979], among others, contribute to the idea of an inverse relationship between tax rates and tax revenues. The exact rate structure of a revenue-maximising tax policy, however, depends on the position of the economy under consideration vis-a-vis the Laffer Curve. The idea of determining the position of an economy on the Laffer Curve comes from Fullerton [1984], among others. Fullerton considers the labour supply elasticity (i.e., the percentage change in labour supply due to percentage change in the after-tax wage rate) as a premier variable to decide about the fate of the economy to fall in 'normal' or 'prohibitive' ranges of the Laffer Curve. His model in the context of the US economy suggests that if labour supply elasticity is 0.15, the revenue-maximising tax

rate on gross labour income is 71.8 per cent. At the other extreme, if labour supply elasticity is 4.00, the revenuemaximising tax rate is 4.8 per cent. His results corroborate the a priori idea that the higher the labour supply elasticity, the higher the probability that a given tax rate will fall in the prohibitive range of the Laffer Curve.

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MOBILISATION OF STATE'S TAX REVENUE (1958-59 TO 1988-89) A STUDY IN ORISSA

Shibalal Meher

The main objectives of the study are to examine the growth and structure of the tax revenue and the additional measures taken by the State Government for mobilising its tax revenue. This is done in the context of a time-series analysis in Orissa. Empirical results show that the growth, structure and additional mobilisation of tax revenue after the Emergency changed for the better from that before the Emergency. The political stability seems to play a major role in this context.

INTRODUCTION

In a federal government like India, there exists a built-in imbalance in the financial resources and functions of the Central and State Governments. While almost all the important and expansionary sources of revenue like customs, excise duty, income tax and corporation tax are allocated to the Central Government on consideration of administrative efficiency. State Governments are assigned expenditure responsibilities with regard to social and developmental items on consideration of autonomy. In this federal set up, while resources have increased in the account of Central Government, need for spending has increased in the case of State Governments, bringing out the fact that whereas the Central Government has surplus resources in relation to responsibilities. the states have a shortfall in own resources visa-vis the responsibilities. The imbalance has led to a general strain on state finances. Though there is a transfer of resources from the Central Government to the states to correct this imbalance, the states are needed to raise more revenue to finance the increasing expenditures. It is, therefore, necessary on the part of the state governments to put in more efforts for mobilising additional resources.

Resources are mobilised in a state both in the form of capital and revenue receipts. The focus in this paper is on revenue receipts. Revenue receipts of a state comprise State's own tax revenue, own non-tax revenue and revenue transferred from the Centre. While a State's own revenue, tax and non-tax, signify resource mobilization by the state, the last item is completely dependent on the Central Government, the Finance Commission and the Planning

Commission. As such this latter category cannot be used for the projection of State's revenue. Within the state's own revenue, tax revenue emerges as the dominant source of revenue. It is used also as an instrument to subserve other objectives such as, for example, transferring resources from one section of the community to the other in the interest of equity. Further, the State's own tax revenue has been divided into three parts: that from (i) taxes levied, collected and appropriated by the State; (ii) taxes levied and appropriated by the State, but collected by the Centre; and (iii) taxes levied by the Centre and collected either by the Centre or by the State, but appropriated by the State.¹ Of these three categories, only the first two can be regarded as the State's own tax revenue as the State has the decision making power only over them. It can manipulate the tax to suit its revenue needs. On the other hand, for the third category the State has no control to manipulate the tax to suit its revenue needs and hence, cannot be considered as the State's own source of the tax revenue.

The present paper makes an attempt to examine the performance of tax mobilisation in the state of Orissa over the period 1958-59 to 1988-89. During this period, the state had a peculiar political structure (See Table 1). A national Emergency had been imposed in the country between June 1975 and January 1977. Orissa had seen frequent changes in the governments before the Emergency, many of which did not even complete their term of five years. However, there was a remarkable improvement in the political situation in the state after the Emergency. This change in the political system makes it interesting to study the mobilisation of the state's revenue.

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METHODOLOGY

Time Period Covered

With the main objectives of analysing the growth and structure of tax revenue and estimating the discretionary measures taken by the State Government for mobilising additional tax revenue, the time period taken in the analysis is from 1958-59 to 1988-89. Furthermore, to observe the change in structure we have divided the total time period into three parts, viz., Pre-Emergency, Emergency and post-Emergency periods.² The structure of tax revenue in the post-Emergency period has been compared with that of the pre-Emergency period. One major hypothesis advanced is that after the imposition of the Emergency the stability of the political system did change the structure of tax mobilisation in the state.

Models and Techniques Used

The techniques of regression analysis have been used to estimate the growth rates of tax revenue and to test the structural change in tax revenue between pre-Emergency and post-Emergency periods. Semi-logarithmic models have been used for the above purposes.

Growth rates have been estimated by using the semi-logarithmic model log Y = log a + t log b, where y is per capita revenue and t is time period. The growth rate is given by $(b-1) \times 100$.

To test the structural change in tax revenue dummy variable technique is used. The purpose is to observe whether there is a significant jump in the intercept and change in the slope of tax revenue during the post-Emergency period. The following model is used for this purpose.

Log $y = a + bt + c_1D_1 + c_2D_2 + e_1Z_1 + e_2Z_2 + e_1$, where y and t are as mentioned earlier and D_1 takes the value 1 for pre-Emergency period and 0 otherwise and D_2 takes the value 1 for post-Emergency period and 0 otherwise;

$Z_i = D_i t$, for i = 1, 2.

The responsiveness of the tax structure has been estimated by regressing tax revenue on state income. For this purpose a double-logarithmic model has been used. The response of the tax structure for a change in state income has been estimated by using the revenue exponential function $y = a x^b$, which in logarithmic form becomes log $y = \log a + b \log x$, where y is the per capita revenue and x per capita Net State Domestic Product. In assessing the potential power of a tax system to generate additional revenue the concepts of elasticity and buoyancy are used, where the elasticity of tax measures the automatic response of revenue to the change in income and buoyancy of tax, the total response of tax revenue to the change in income.³

Measurement of Buoyancy and Elasticity

The buoyancy coefficient is derived simply by regressing the gross tax receipts on the income. On the other hand, the elasticity coefficient is obtained by regressing the adjusted tax series (after 'cleansing' the effect of discretionary changes) on the income. In consequence, the measurement of elasticity, unlike that of buoyancy, is a little complicated one. In deriving the former, one has to adjust the figures of tax revenue to remove the effect of discretionary changes made from time to time. Furthermore, tax revenue in a year is not only influenced by the discretionary change in that year, but also influenced by the changes made in the past. Hence, in segregating the effects of discretionary changes it is necessary to adjust not only the change made in a given year but also the changes made in the earlier years.

For estimating elasticity of tax revenue several methods have been suggested in the literature. These include proportional adjustment method, constant rate structure method, Dummy variable method and Divisia index approach.⁴

The present study uses the proportional adjustment method to estimate the elasticity coefficients, as this method requires only the budget estimates of the tax yield from the proposed discretionary changes for adjusting the revenue series. This method is also relatively easy to handle statistically. It adjusts the tax yield for each year in the sample period to derive a tax series which is based on the structure of rates and exemptions prevailing during a reference year chosen within the sample period. In the present study the initial year, i.e., 1958-59, has been chosen as the reference year. In attempting to adjust the revenue of the subsequent years to the structure of the reference year, the method first eliminates the estimated effect of discretionary change in the year of change and then subtracts from adjusted yield of each subsequent year an amount of revenue imputed to the concerned discretionary change on the assumption that the effects of the change grows at the same rate as total tax revenue [Chelliah and Chand, 1974].

With the help of the above method, the adjusted tax revenue series can be estimated as follows:

$$T_{1,2} = T_2 - D_2$$

 $T_{1,3} = T_{1,2} + \frac{(T_3 - D_3 - T_2)}{T_2} T_{1,2}$

The expression in the parenthesis represents the estimated automatic growth in revenue between the second year and the third year. This is adjusted for the effect of discretionary change in the second year to provide an estimate of the automatic growth in terms of the reference year's tax structure.

The above equation can be simplified as:

$$T_{1,3} = (T_3 - D_3) \frac{T_{1,2}}{T_2}$$

In general

 $T_{1} = T_{1}$

$$T_{1,j} = (T_j - D_j) \frac{T_{1,j}}{T_{j+1}}$$

- Where T_i denotes the actual yield in the j-th year,
 - D be the effect in the j-th year of the discretionary change in that year, and $T_{1,i}$ denotes the collection of tax in the j-th
 - year adjusted to the structure of the reference year.

RESULTS AND DISCUSSION

Growth and Structure of Tax Revenue

The tax revenue of the state has increased enormously over time. The per capita tax revenue increased from Rs 4.09 in 1958-59 to Rs 132.93 in 1988-89 (Table 2). During the same period per capita tax revenue as a percentage of per capita State Domestic Product (SDP) of the state

(Table 3). This shows that tax collection for an income of Rs 100.00 had increased from Rs 2.16 in 1958-59 to Rs 5.45 in 1988-89. This seems to be a very low proportion despite a faster growth of per capita tax revenue than that of per capita SDP. While per capita SDP had grown at the rate of 8.74 per cent per annum from 1958-59 to 1988-89, per capita tax revenue had grown in the state at the rate of 12.08 per cent during the same period (Table 4). The percentages of individual taxes to SDP varied from 0.03 per cent in the case of entertainment tax to 0.68 per cent in the case of land revenue in 1958-59 and 0.08 per cent in the case of entertainment tax and land revenue to 3.08 per cent in the case of sales tax in 1988-89. The entertainment tax as a percentage of SDP had remained lowest throughout this period indicating the least effort made by the state from this source. On the other hand, sales tax as a percentage of SDP remained highest since the 1960s, showing the greater effort of the state in mobilising resources from this source. Though the effort of the state in mobilising revenue from sales tax is the highest, a percentage share of 3.08 in SDP seems to be too low.

The growth of per capita tax revenue shows varied trend (Table 4). While electricity duty shows the highest growth of 20.15 per cent per annum followed by sales tax of 14.14 per cent, land revenue shows the lowest growth of 2.74 per cent. Excise duty has a growth rate lower than that of the overall growth rate. This may be due to the prohibition policy adopted by the state from time to time. It may also be seen from the table that taxes on stamps and registration as well as the motor vehicles tax grew at a lower rate, while sales tax, electricity duty and entertainment tax grew at a higher rate than the overall growth rate.

Consequent upon the low growth rate, the percentage share of land revenue had shown a marked decline over time. While the share of land revenue in State's total tax revenue was 31.56 per cent in 1958-59, it declined to a meagre share of 1.53 per cent in 1988-89 (Table 5). The land revenue along with stamps and registration fee and agricultural income tax may be termed as direct taxation, which had a declining importance over the years. While the share of revenue from increased from 2.16 per cent to 5.45 per cent these sources was more than 40 per cent in

1958-59, this declined to less than 8 per cent in I, para 3.69], is a step to be welcomed. 1988-89. On the other hand, the rest of taxes, which may be termed as indirect taxes, grew in importance over time. Their combined share increased from less than 60 per cent in 1958-59 to more than 90 per cent in 1988-89. Much of the share came from sales tax, electricity duty and motor vehicles tax. Although sales tax alone had a share of 56.46 per cent during 1988-89, that of electricity duty was 17.05 per cent followed by motor vehicles tax of 9.48 per cent.

It is observed from the above that while direct taxation declined in importance as a source of revenue to the state, indirect taxation became more important over time. The increasing importance of indirect taxation in the state may be due to the fact that important direct taxes fall outside the purview of the state government leaving it with the alternative of levying indirect taxes more intensively to finance the increasing expenditure. Furthermore, the tax-illusion³ involved in such taxes and the greater compliance in respect of these taxes which probably results, may also explain the greater reliance on indirect taxes. On the other hand, the declining importance in the direct tax in the state seems to be mostly due to the political pressure. It is interesting to observe that though the share of income from agriculture in total SDP was more than 50 per cent in 1988-89, tax from agricultural land and property was less than 8 per cent of the total tax collection. The agricultural income tax had been abolished since 1979-80. Though it had a meagre share in the State's exchequer, it could have been mobilised more, if it were not abolished, as the concentration of land is more in the hands of the top few people. However, the influence of landed elite in the decision-making process seems to make the state choose the policy of vote maximisation, instead of revenue mobilisation with equity, as the objective [Gupta, Radhakrishna and Sarma, 1971, Pp. 184-192]. In this regard, the recommendation of the Chelliah Committee report, which was recently presented to the Central Government, 'to bring under the purview of central income tax agricultural incomes in excess of Rs 25,000/- of those non-agricultural assesses whose non-agricultural incomes are above the exemption level' [Chelliah, 1993, Part

The foregoing analysis of the trends in the yield of major state taxes brings out the relative importance of sales tax and electricity duty for the state exchequer with sales tax having the dominating significance. It is also observed that the importance of taxes has undergone changes over time in terms of their absolute and relative contributions.

Changes in the Structure of State's Tax Revenue

In the preceding section we have analysed the growth and structure of State's tax revenue during the period 1958-59 to 1988-89 with an implicit assumption that the revenue grows at a constant rate over time. Now we shall consider the structure of tax revenue before and after the Emergency.

The overall tax revenue grew at a greater rate in the post-Emergency period. The tax revenue, which was growing at the compound rate of 9.87 per cent before the Emergency increased at a rate of 15.87 per cent after the Emergency (Table 4), indicating that the State had mobilised its tax revenue to a greater extent in the post-Emergency period. The tax revenue at the disaggregated levels also grew at a higher rate in the post-Emergency period than in the pre-Emergency period, except electricity duty and entertainment tax. Land revenue which had a negative growth during the pre-Emergency period, showed positive growth after the Emergency. Sales tax, which had growth rates higher than that of the tax system as a whole in the pre-Emergency period, continued to remain higher after the Emergency. Stamps and registration fee and excise duty which had growth rates lower than that of total tax system in both the periods, showed better performance in the post-Emergency period compared to that in the pre-Emergency period. Motor vehicles tax, which had a lower than overall growth rate before the Emergency showed higher rate after the Emergency. The above observation of increasing growth rate of taxes after Emergency showed the increasing effort on the part of the state in mobilising its tax revenue.

The change in the structure of total tax revenue as well as tax revenue at the disaggregated levels

can be observed from Table 6. The total tax revenue shows significant change in the intercept and slope after the Emergency indicating complete change in the structure of tax revenue. The individual taxes also show significant change in their intercepts and slopes, except electricity duty and the land revenue which show only significant change in slopes. This shows that the structure of taxes after the Emergency is completely different from that before the Emergency. The Emergency had created political awareness by making for more stability in the government after the Emergency. This had made it easier for the state to mobilise more tax revenue, which is reflected in higher slope coefficients of taxes after the Emergency.

Additional Tax Mobilisation

The growth in the tax revenue discussed in the previous sections were due to the effort of the state in increasing mobilisation of additional tax revenue. As can be seen from Table 7, the State made its effort to mobilise additional tax in each and every year (with the exception of a few years). However, this additional tax mobilisation is not due to the exploitation of all the taxes in each year. The state had mobilised sales tax on a larger scale, followed by excise duty and electricity duty. On the other hand, the contribution of all other taxes was very low. All these had changed the relative importance of different taxes in the State.

Buoyancy and Elasticity of Tax Revenue

The additional measures taken by the State Government differ from tax to tax due to their differing rates of automatic growth. Hence, it would be worthwhile to enquire into the extent of tax effort and the automatic growth of tax revenue in the state. From Table 8 it can be seen that the tax system as a whole is buoyant in the sense that the buoyancy coefficient is greater than unity. This indicates that the tax system as a whole has a revenue generating capacity more than proportionate to that of response to increase in SDP. This is also observed in the case of all taxes except land revenue, which has a less than proportionate revenue generating capacity relatively to that in

response to increase in SDP and excise duty which has, more or less, a proportionate revenue generating capacity. On the other hand, the tax system as a whole is observed to be inelastic in the sense that the elasticity coefficient is less than unity (Table 9). This shows that the automatic response of tax system as a whole to an increase in SDP is less than proportionate. This is also observed in the case of all the individual taxes except sales tax which has a more than proportionate automatic response for an increase in SDP. The less than proportionate automatic response of the tax system to a change in SDP indicates the lack of built-in-flexibility of the taxes.

The sales tax, which is the most important source of tax revenue, is highly buoyant and is also income elastic. The value of elasticity coefficient shows that sales tax structure is such that even if there had been no change in the tax parameters in successive years, the revenue from this tax would have grown at least at the same rate as the SDP. The high degree of buoyancy of sales tax is primarily due to its high degree of elasticity.

The sales tax and the electricity duty have the buoyancy coefficients higher than that of total tax revenue. Electricity duty has the highest buoyancy of 1.95, followed by sales tax of 1.57. Land revenue has the lowest buoyancy of 0.38, while excise duty has the buoyancy coefficient nearly of unity, all other taxes having more than unitary coefficients, indicating that revenue from these taxes has changed more than proportionately to the change in income (Table 8).

The sales tax, which has buoyancy coefficient more than that of the State's taxation as a whole is the only elastic source of tax revenue. On the other hand, electricity duty, which has the highest buoyancy coefficient, has the lowest elasticity coefficient (except for land revenue, whose coefficient is not significant). The elasticity coefficient of motor vehicles tax is slightly lower than unity. We find that, sales tax, motor vehicles tax, stamps and registration fee and entertainment tax have the elasticity coefficients higher than the state's average (Table 9). This indicates that these taxes have more automatic response to the change in income than the over all tax system has.

The foregoing analysis shows that though State's taxes as a whole lack built-in-flexibility

mobilisation of additional tax revenue comes through change in tax parameters. However, the extent of tax mobilisation through changing tax parameters differs from tax to tax. The difference between the elasticity and buoyancy coefficients shows the impact of discretionary measures and can be seen from Table 10. The highest impact of discretionary changes comes from electricity duty and the lowest from land revenue. The magnitude of effort made through electricity duty and excise duty is higher while that through land revenue, motor vehicles tax, stamps and registration and entertainment tax is lower than that of the overall tax system of the state. The effort made through sales tax is slightly lower than that of the overall tax system.

The Effects of Price in Tax Mobilisation

Besides the effects of various legislative changes in tax parameters, the persistent rise in price greatly affects the tax yield. This is because, the SDP at current prices is inflated by the rise in price, so that the tax may be more responsive to price than the real SDP. However, an ideal tax system is such that it responds more than proportionately to the growth of the real SDP and at least proportionately to the rise in prices. The effects of price can be seen from Tables 11 and 12. Table 11 shows that the tax system as a whole exhibited a buoyancy of less than unity with respect to real SDP and more than unity with respect to price indicating that the State has an inflation-induced gain in tax revenue. This is also observed in the case of individual taxes, except in the case of electricity duty, which has both inflation-induced gain in tax revenue and a high level of buoyancy.

The partial elasticities of different taxes show even worse results than the partial buoyancies. It may be seen from Table 12 that the tax system as a whole has less than unitary income elasticity as well as price elasticity. This shows that in the absence of discretionary changes the automatic growth of tax revenue is less than proportionate for an increase in real SDP. At the same time there is less than proportionate response to the change

in price level as well.

From the above observation it may be inferred that though with the increase in the discretionary measures the taxes respond more than proportionately to the change in income, a higher percentage of change in tax revenue comes from the increase in prices rather than the increase in real SDP, except in the case of electricity duty, the change in respect of which comes from both the increase in real SDP and price level.

Change in the Additional Tax Mobilisation

So far we have discussed the additional tax mobilisation through discretionary changes of tax parameters in the whole period. However, there is a change in discretionary measures after the Emergency. From Table 13 it may be observed that the tax system as a whole in both the subperiods is buoyant but not elastic. The magnitude of efforts after the Emergency is seen to be higher than that in the period before the Emergency. The impact of discretionary measures also differs from tax to tax in the post-Emergency period as compared to that in the pre-Emergency period. However, the magnitude of efforts after the Emergency is seen to be higher than that in the period before the Emergency. The impact of discretionary measures also differs from tax to tax in the post-Emergency period as compared that in the pre-Emergency period. While none of the taxes is found to be elastic in both the periods the situation in respect of buoyancy in the two periods is as follows. Land revenue has the buoyancy coefficient less than unity in both the periods. Excise duty, stamps and registration fee became more buoyant after the Emergency, which could be possible due to the frequent change in the tax parameters. Though electricity duty has the highest change in tax parameter in both the periods, the declining importance is observed after the Emergency. Sales tax also shows a declining importance in effort after the Emergency.

The above analysis shows relative change in the importance of taxes in respect of additional resource mobilisation after the Emergency. The

importance of sales tax and electricity duty in respect of additional measures has declined after the Emergency. Whether this has been due to their higher burden before the Emergency needs further study. At the same time the additional measures have increased revenue in the case of excise duty, motor vehicles tax and stamps and registration fee. On the whole, the discretionary measures have increased total tax revenue in the post-Emergency period as is evidenced by the difference between buoyancy and elasticity coefficients for the tax system as a whole in the two periods. This increase in additional tax mobilisation may be attributed to the change in the political system in the state which became possible after the imposition of the Emergency. The greater stability in the political party in power gave the party more access to additional tax measures, resulting in greater mobilisation of tax revenue in the State.

SUMMARY AND CONCLUSIONS

The tax revenue of the State increased enormously over the period in the study. During this period the relative importance of taxes had changed. Land revenue, which had the highest share initially, declined to a meagre share. On the other hand, sales tax got the dominating significance with more than 50 per cent of share in the total tax revenue. The growth and structure of tax revenue after the Emergency changed significantly from those before the Emergency. The level of tax revenue and its rate of growth increased significantly from that before the Emergency. The additional mobilisation of tax revenue after the Emergency also increased from that before the Emergency. This significant change in the mobilisation of tax revenue after the Emergency coincides with the stability of the political system in the State, which is the result of the imposition of national Emergency.

NOTES

1. For a detailed classification, see Gupta and Sarma [1971]. 2. The national Emergency imposed for the years 1975-76 and 1976-77, possibly had the impact on the revenue structure in the years following the Emergency years. Hence, the period 1976-77 to 1977-78 is taken as the Emergency period in our

study.

3. Changes in the yield resulting from the changes in its base, rate structure or administrative measures backed by legal action are called discretionary changes. Keeping these changes constant, changes in tax yield resulting from the variation in income are called automatic changes, which provide us with a measure of elasticity of tax. On the other hand, buoyancy of tax revenue takes into account both automatic and discretionary changes in tax yield.

4. The proportional adjustment method requires the use of budget estimates of tax yield owing to discretionary changes. The constant rate structure method requires the use of disaggregated data on taxes or effective tax rates and on changing composition of bases. The dummy variable method requires only the dates of discretionary changes. The Divisia index approach does not require the adjustment of historical revenue series to eliminate the effect of discretionary tax measures, it only takes the historical tax series and the income series.

None of these methods is perfectly satisfactory. Hence, the choice has to be made in the light of practical considerations such as availability of data and the type of discretionary changes made from time to time.

5. Tax illusion can be explained as the situation in which the impact of the tax is likely to be felt less than an equal yield direct tax, assuming that the tax on goods and services is shifted to the consumers in full. This is due to the hidden nature of the tax and the existence of alternative of not consuming the taxed goods and services. See M.G. Rao [1977].

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 $(\mathbf{R}_{\mathbf{S}})$

Period	Chief Minister/Prime Minister	Political Party
24.4.46 - 12.5.50	Dr. H.K. Mahatab	Congress
12.5.50 - 19.10.56	N.K. Choudhury	Congress
19.10.56 - 25.2.61	Dr. H.K. Mahatab	Congress Coalition
25.2.61 - 23.6.61	President's Rule	
23.6.61 - 21.10.63	Biju Patnaik	Congress
2.10.63 - 21.2.65	Biren Mitra	Congress
21.2.65 - 8.3.67	Sadashiv Tripathy	Congress
8.3.67 - 9.1.71	R.N. Singhdeo	Non-Congress Coalition
11.1.71 - 3.4.71	President's Rule	***
3.4.71 - 14.6.72	Biswanath Das	Non-Congress Coalition
14.6.72 - 3.3.73	Nandini Satpathy	Congress
3.3.73 - 6.3.74	President's Rule	+
6.3.74 - 16.12.76	Nandini Satpathy	Congress
16.12.76 - 26.12.76	President's Rule	
26.12.76 - 30.4.77	Binayak Acharya	Congress
30.4.77 - 26.6.77	President's Rule	
26.6.77 - 17.2.80	N. Routray	Janata
17.2.80 - 9.6.80	President's Rule	
9.6.80 - 7.12.89	J.B. Patnaik	Congress

TABLE 1. CHANGES IN THE GOVERNMENT IN ORISSA

Source: A Brief History of Orissa Legislative Assembly 1937-1990, Secretariat of the Orissa Legislative Assembly, Bhubaneswar.

TABLE 2. PER CAPITA OWN TAX REVENUE IN SELECTED YEARS

							()
Tax Revenue	1958-59	63-64	68-69	73-74	78-79	83-84	88-89
Land Revenue	1.29	1.60	0.72	0.99	2.12	3.23	2.03
Stamps and Registration	0.42	0.74	1.03	1.50	2.58	4.53	8.49
Sales Tax	1.11	2.60	4.21	7.20	15.35	32.40	75.05
Excise Duty	0.72	1.04	1.99	2.19	2.80	5.54	10.20
Motor Vehicles Tax	0.46	0.81	1.24	1.56	2.82	5.38	12.60
Electricity Duty	-	0.43	1.00	1.42	4.70	9.82	22.66
Entertainment Tax	0.06	0.12	0.19	0.31	0.83	1.43	1.83
Total	4.09	7.52	10.42	15.88	32.30	63.69	132.93

TABLE 3. TAX REVENUE AS A PERCENTAGE OF NET STATE DOMESTIC PRODUCT

Tax Revenue	1958-59	63-64	68-69	73-74	78-79	83-84	88-89
Land Revenue	0.68	0.52	0.16	0.14	0.24	0.19	0.08
Stamps and Registration	0.22	0.24	0.23	0.21	0.29	0.26	0.35
Sales Tax	0.59	0.85	0.93	1.03	1.74	1.86	3.08
Excise Duty	0.38	0.34	0.44	0.31	0.32	0.32	0.42
Motor Vehicles Tax	0.24	0.26	0.27	0.22	0.32	0.31	0.52
Electricity Duty	-	0.14	0.22	0.20	0.54	0.56	0.93
Entertainment Tax	0.03	0.04	0.04	0.04	0.09	0.08	0.08
Total Tax	2.16	2.45	2.29	2.26	3.70	3.65	5.45

TABLE 4. GROWTH OF PER CAPITA OWN TAX REVENUE

			(per cent per annum)
Tax Revenue	1958-59 to 1988-89	1958-59 to 1975-76	1978-79 to 1988-89
Land Revenue	2.74	-2.70	3.30
Stamps and Registration	10.04	9.54	13.36
Sales Tax	14.14	12.91	16.31
Excise Duty	8.78	8.50	14.40
Motor Vehicles Tax	11.30	9.50	17.08
Electricity Duty	20.15*	23.10**	18.68
Entertainment Tax	13.63	12.63	7.67
Total Tax	12.08	9.87	15.58

* Growth rate computed for 1962-63 to 1988-89. ** Growth rate computed for 1962-63 to 1975-76.

TABLE 5. COMPOSITION OF TAX REVENUE

							(per cent)	
Tax Revenue	1958-59	63-64	68-69	73-74	78-79	83-84	88-89	
Land Revenue	31.56	21.37	6.94	6.23	6.55	5.07	1.53	
Stamps and	10.25	9.98	9.85	9.46	8.00	7.11	6.38	
Registration								
Sales Tax	27.27	34.71	40.43	45.36	47.52	50.87	56.46	
Excise Duty	17.59	13.91	19.13	13.78	8.68	8.70	7.67	
Motor Vehicles Tax	11.24	10.75	11.94	9.84	8.73	8.45	9.48	
Electricity Duty	-	5.73	9.60	8.97	14.54	15.42	17.05	
Entertainment Tax	1.48	1.67	1.80	1.92	2.56	2.25	1.38	
Total Tax	100.00	100.00	100.00	100.00	100.00	100.00	100.00	

TABLE 6. TEST OF CHANGE IN THE STRUCTURE OF STATE'S OWN TAX REVENUE

Tax Revenue		Slope		Change in	R ²	D - W
	Before Emergency	After Emergency	Change	вногоорг		
Land Revenue	-0.0103***	0.0099	0.0202***	-0.0804 (-0.2380)	0.54	1.6856+
Stamps and Registration	0.0396*	0.0544*	0.0148*	-0.3442* (-4.7164)	0.99	1.6067+
Sales Tax	0.0519*	0.0676*	0.0157**	-0.3158**** (-1.6259)	0.97	1.8856++
Excise Duty	0.0311*	0.0572*	0.0260*	-0.6138* (-4.7173)	0.97	1.7615+
Motor Vehicles Tax	0.0383* (9.1592)	0.0672*	0.0289*	-0.6138* (-3.8936)	0.97	1.8023++
Electricity Duty	0.0598*	0.0744*	0.0146*** (1.4812)	-0.1279 (-0.6879)	0.98	1.9504++
Entertainment Tax	0.0517* (22.7274)	0.0231* (6.7191)	-0.0196* (-4.6641)	0.5195* (4.0768)	0.99	1.7889+
Total Tax	0.0407* (11.6166)	0.0628* (13.0748)	0.0221* (3.6421)	-0.4172* (-3.0952)	0.98	1.8820++

Note: Figures in the parenthesis represent t values. * Significant at 1 per cent level. ** Significant at 5 per cent level. *** Significant at 10 per cent level. + rejects the null hypothesis for autocorelation at 1 per cent level. ++ rejects the null hypothesis for autocorelation at 5 per cent level. D-W Represents the Durbin-Watson statistic.

								(Rs in lakh)
Year	Land Revenue	Stamps and Registra- tion	Sales Tax	Excise Duty	Motor Vehicles Tax	Electri- city Duty	Entertain- ment Tax	Total Tax Revenue
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1958-59	48	-	-	13	- ·	-	_	78
1959-60	10	-	-	-	-	-	-	10
1960-61	10	-	23	-	-	-	-	33
1961-62	-	-	43	-	-	-	-	69
1962-63	-	10	36	-	-	-	-	72
1963-64	-	-	95	-	10	-	5	105
1964-65	-	-	•	-	-	-	-	-
1965-66	-	-	-	-	-	-	-	-
1966-67	-	-	15	-	10	-	-	30
1967-68	-	-		20	-	-	-	20
1968-69	_	-	-	45	-	-	-	45
1969-70	-	8	10	-	-	-	-	44
1970-71	78	29	70	50	-	90	-	367
1071.72	,0	-	23	-	-	-	-	23
1972.73	15	-	2.5	-		-	-	-
1073.74	*5	26	270	30	_	150	13	612
1974-75	-	ŝ	200	15	80		10	387
1075-76	_	5	50	-	-		-	50
1076.77	_	_	200	_		_	23	223
1077-78		_	200	100	-	_	25	300
1078.70	-	_	200	100	_	90	_	90
1070-80	-	-	-	_	35	300	70	405
1080-81	_	_	-		10	450	/0	460
1081-82	-	_	225	208	50		-	673
1087 82	-	160	705	£70	50	220	-	1264
1083.84	-	100	765	04	-	194	-	1,504
1084-85	-	-	-	-	-	104	-	104
1085-86	-	100	-	650	- 950	2,000	-	4200
1086.87	-	100	2,400	200	8.50	426	100	4,500
1007 00	-	-	2,400	200	-	4.30	-	5,050
170/-00	-	-	-	-	-	-	-	-
1 200-97	-	-	-	-	-	-	-	-

TABLE 7. ESTIMATED ADDITIONAL MOBILISATION FROM TAX REVENUE

Source: (1) State's Finance Accounts; (2) Subsidiary Points Presented by the State Government to the Finance Commissions, Govt. of India; (3) R.B.I. Bulletins; (4) Speech of the Finance Ministers, Govt. of Orissa.

TABLE 8. BUOYANCY OF STATE'S OWN TAX REVENUE	(1958-59 TO 1988-89)
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Tax	Buoyancy	R ²	D-W	DF
Land Revenue	0.3841**	0.12	1.7434++	28
Stamps and Registration	(1.9304) 1.1470*	0.99	1.7012++	29
Sales Tax	(48.4736) 1.5653*	0.98	1.5476++	29
Excise Duty	(40.0910) 0.9993*	0.94	1.7961++	28
Motor Vehicles Tax	(21.4134) 1.2711*	0.94	1.7614++	28
Electricity Duty	(21.5793) 1.9493*	0 .9 7	1.4883++	25
Entertainment Tax	(28.4315) 1.2993*	0.84	1.9624++	28
	(12.0212)			
Total Tax Revenue	1.3437 * (25.0258)	0.96	1.9374++	28

Note: See at the end of Table 6.

Tax Revenue	Elasticity	R ²	D-W	DF
Land Revenue	0.2161	0.02	1.9360++	28
Stamps and Registration	0.8383* (35.8439)	0.98	1.3390++	29
Sales Tax	1.0195* (31.7108)	0.97	1.7848++	29
Excise Duty	0.3834* (6.8478)	0.63	1.8739++	28
Motor Vehicles Tax	0.9893* (55.3025)	Q.99	1.9497++	29
Electricity Duty	0.3630* (2.8999)	0.26	1.8134++	24
Entertainment Tax	0.8066* (7.7153)	0.68	2.1274++	28
Total	0.7780* (30.8506)	0.97	1.4710+	29

TABLE 9. ELASTICITY OF STATE'S OWN TAX REVENUE (1958-59 TO 1988-89)

Note: See at the end of Table 6.

TABLE 10. COMPARISON OF ELASTICITY AND BUOYANCY OF STATE'S TAX REVENUE (1958-59 TO 1988-89)

Tax Revenue	Buoyancy	Elasticity	Difference
Land Revenue	0.3841	0.2161	0.1680
Stamps and Registration	1.1470	0.8383	0.3087
Sales Tax	1,5653	1.0195	0.5458
Excise Duty	0.9993	0.3834	0.6159
Motor Vehicles Tax	1.2711	0.9893	0.2818
Electricity Duty	1.9493	0.3630	1.5863
Entertainment Tax	1.2993	0.8066	0.4927
Total Tax	1.3437	0.7780	0.5657

TABLE 11. PARTIAL BUOYANCY OF STATES OWN TAX REVENUE (1958-59 TO 1988-	89)

Tax Revenue	Constant	Per Capita Real SDP	Implicit Price Index	R ²	D-W	F	DF
Land Revenue	-0.5429	0.7512**	0.2743	0.15	1.6982++	2.307 6	27
Stamps and Registration	-0.4798	0.8226*	1.1759*	0.99	1.3896+	1,211.58	28
Sales Tax	-2.9930	0.7039**	1.6113*	0.97	1.6822++	397.069	27
Excise Duty	-1.8290	0.5639**	1.0409*	0.94	1.3850+	229.931	27
Motor Vehicles Tax	-2.1910	0.7675*	1.3224*	0.95	1.3900+	232.074	27
Electricity Duty	-8.7247	1.8075*	1.9585*	0.9 7	1.4669+	388.868	24
Entertainment Tax	-1.0044	-0.0199 (-0.067)	1.3961* (11.9558)	0.84	1.7527++	71.6418	27
Total Tax	-1.7095	0.6580** (2.3807)	1.4006* (21.3429)	0.95	1.5875++	256.450	27

Note: See at the end of Table 6.

Tax Revenue	Constant	Per Capita Real SDP	Implicity Price Index	R ²	D-W	F	DF
Land Revenue	-0.4681	0.7352***	0.0220	0.08	1.9090++	1.1653	27
		(1.5265)	(0.0859)				
Stamps and Registration	-1.7274	0.3986**	0.8586*	0.95	1.6101++	267.408	27
-		(1.8584)	(21.1365)				
Sales Tax	-3.1496	0.5466**	1.0617*	0.97	1.6395++	524.515	28
		(1.7010)	(24.9704)				
Excise Duty	-3.3880	0.0207	0.4232*	0.68	1.6290++	28.8479	27
		(0.0853)	(7.3634)				
Motor Vehicles Tax	-4.1555	0.8236*	1.0050*	0.99	1.7367++	1,500.67	28
		(4.4678)	(41.2035)				
Electricity Duty	-1.9653	0.9520***	0.3072**	0.29	1.9135++	4.6728	23
		(1.5821)	(2.2384)				
Entertainment Tax	-0.5670	-0.4359	0.9099*	0.70	2.0348++	31.5941	27
		(-1.0644)	(7.9432)				
Total Tax	-2.6192	0.7321*	0.7821*	0.97	1.4342+	460.034	28
		(2.7985)	(22.5970)				

TABLE 12. PARTIAL ELASTICITY OF STATE'S OWN TAX REVENUE (1958-59 TO 1988-89)

Note See at the end of Table 6.

TABLE 13. COMPARISON OF BUOYANCY AND ELASTICITY OF TAX REVENUE IN THE SUB-PERIODS

Tax Revenue	Е (1	Before Emergen 1958-59 - 1975-	су 76)	After Emergency (1978-79 - 1988-89)			
	Buoyancy	Elasticity	Difference	Buoyancy	Elasticity	Difference	
Land Revenue	0.1393	-0.6658***	0.8451	0.3288**	0.3286**	0.0002	
	(0.2991)	(-1.6538)		(1.8615)	(1.8655)		
Stamps and Registration	1.0878*	0.8417*	0.2461	1.1527*	0.2562**	0.8965	
	(21.8549)	(18.3176)		(10.9642)	(2.2656)		
Sales Tax	1.4046*	0.8552*	0.5494	1.3822*	0.9748*	0.4074	
	(10.9108)	(15.2139)		(8.9845)	(7.6988)		
Excise Duty	0.9751*	0.5517*	0.4234	1.2562*	0.3722*	0. 884O	
	(15.4114)	(4.7773)		(14.1620)	(3.9151)		
Motor Vehicles Tax	1.0941*	0.9645*	0.1296	1.4445*	0.9138*	0.5307	
	(23.3591)	(24.1705)		(9.1915)	(11.1857)		
Electricity Duty	1.7698*	-0.0351	1.8049	1.6035*	0.2821*	1.3214	
	(8.1462)	(-0.0629)		(12.0939)	(2.9336)		
Entertainment Tax	1.4249*	1.1383*	0.2866	0.6978*	0.3208*	0.3770	
	(18.6118)	(14.1992)		(9.4288)	(6.3168)		
Total Tax	1.1326*	0.6220*	0.5106	1.3298*	0.7596*	0.5702	
	(20.6490)	(13.7546)		(11.0404)	(8.3882)		

Note See at the end of Table 6.

Year	Land Revenue	Stamps and Registration	Sales Tax	Excise Duty	Motor Vehicles	Electricity Duty	Entertain ment Tax	Other* Taxes	Total Tax Revenue
					Tax				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1958-59	215.15	69.86	185.92	1 19.91	76.66	1.29	10.07	2.86	681.72
1959-60	214.84	80.20	204.12	108.42	76.23	3.24	11.98	7.47	706.50
1960-61	203.02	81.24	266.52	132.64	82.45	3.94	14.17	20.28	804.26
1961-62	240.86	95.52	325.25	167.19	102.77	3.88	14.82	5.76	956.05
1962-63	278.51	109.95	426.46	180.91	128.96	52.37	22.00	10.91	1,210.07
1963-64	298.97	139.04	485.68	194.62	150.47	80.23	23.33	26.88	1,399.22
1964-65	298.73	148.55	695.96	213.38	164.73	123.30	25.66	25.40	1,695.71
1965-66	286.48	164.45	700.09	222.54	170.77	87.41	30.12	19.56	1,681.42
1%6-67	250.95	169.51	725.93	243.67	187.31	110.29	39.48	18.09	1,745.23
1967-68	158.97	205.32	834.65	284.02	217.34	254.49	36.31	5.37	1,996.47
1%8-69	150.40	213.38	875.93	417.35	258.88	207.98	38.89	21.95	2,166.42
1969-70	172.06	236.90	952.63	419.54	259.88	214.22	44.04	40.50	2,339.77
1970-71	165.54	265.65	1,119.52	423.01	293.34	279.48	48.71	93.89	2,689.18
1971-72	177.94	320.55	1,127.44	461.06	306.58	293.24	60.80	106.84	2,854.45
1972-73	202.72	307.86	1,407.15	489.50	332.57	329.41	79.21	108.38	3,276.90
1973-74	228.78	347.37	1,665.28	505.92	361.35	329.23	70.52	162.73	3,671.18
1974-75	242.08	437.82	2,045.15	548.85	466.23	345.28	115.48	149.50	4,354.39
1975-76	318.76	524.59	3,013.36	609.71	570.71	673.56	131.60	206.69	6,046.98
1976-77	439.10	515.77	3,158.17	663.32	555.52	794.68	174.24	240.76	6,541.56
1977-78	482.11	563.33	3,023.57	693.50	622.83	851.71	189.49	254.37	6,680.91
1978-79	537.78	656.41	3,899.59	712.51	716.35	1,193.61	210.34	279.58	8,206.10
1979-80	450.92	721.41	4,641.48	773.26	829.26	1,255.25	281.84	278.04	9,231.46
1980-81	412.79	782.02	5,637.03	905.25	969.62	1,692.14	302.40	244.89	10,946.14
1981-82	521.75	927.53	6,814.43	1,093.55	1,210.13	2,285.87	345.30	148.73	13,347.29
1982-83	498.22	1,078.56	7,870.24	1,297.45	1,383.71	2,327.11	389.21	176.27	15,020.77
1983-84	892.08	1,250.58	8,947.23	1,530.15	1,486.28	2,711.86	395.78	373.68	17,587.64
1984-85	589.44	1,431.23	12,205.40	1,858.07	1,623.95	3,244.18	413.84	978.57	22,344.68
1985-86	589.65	1,728.61	10,983.73	2,153.25	2,529.50	4,980.73	506.98	253.98	23,726.43
1986-87	768.25	2,034.37	13,148.81	2,270.62	3,184.02	6,081.25	550.23	18.71	27,993.26
1987-88	856.31	2,217.37	19,823.30	2,636.59	3,461.03	6,112.11	541.52	66.79	36,715.02
1988-89	614.35	2,562.24	22,659.85	3,079.58	3,802.98	6,841.93	552.53	18.09	40,131.55

APPENDIX - I. STATE'S OWN TAX REVENUE

* Other taxes include agricultural income tax, goods and passengers tax and estate duty on agricultural properties. Source: (1) State's Budgets. (2) State's Finance Accounts.

(Rs in lakh)

								(Rs in lakh)
Year	Land Revenue	Stamps and Registration	Sales Tax	Excise Duty	Motor Vehicles Tax	Electricity Duty	Entertain ment Tax	Total Tax Revenue
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1958-59	215.15	69.86	185.92	119.91	76.66	1.29	10.07	681.72
1959-60	204.84	80.20	204.12	108.42	76.23	3.24	11.98	696.50
1960-61	184.04	81.24	243.52	132.64	82.45	3.94	14.17	760.34
1961-62	218.34	95.52	257.89	167.19	102.77	3.88	14.82	838.61
1962-63	252.47	99.95	309.59	180.91	128.96	52.37	22.00	998.27
1963-64	271.02	126.39	283.62	194.62	140.47	80.23	23.33	1,067.69
1964-65	270.80	135.03	406.42	213.38	153.78	123.30	25.66	1,293.93
1965-66	2 59.70	149.57	408.83	222.54	159.42	87.41	30.12	1,283.03
1966-67	227.49	154.17	415.16	243.67	174.86	1 10.29	34.48	1,308.83
1967-68	144.11	186.74	477.34	264.02	202.89	254.49	31.71	1,482.25
1968-69	136.34	194.02	500.95	343.34	241.40	207.98	33.96	1,575.02
1969-70	155.98	208.13	539.10	347.64	242.20	214.22	38.46	1,669.06
1970-71	79.36	207.88	593.93	309.08	273.84	189.48	42.59	1,656.51
1971-72	85.30	250.88	585.93	336.88	286.20	198.81	53.10	1,744.15
1972-73	97.18	256.60	731.30	357.66	310.47	223.40	69.18	2,002.28
1973-74	102.48	251.52	725.13	347.74	337.34	129.51	50.24	1,869.50
1974-75	108.44	313.39	803.45	366.94	360.57	99.01	75.15	2,020.07
1975-76	142.79	375.50	1,164.17	407.63	441.37	193.15	85.64	2,782.09
1976-77	196.70	369.19	1,142.85	443.47	429.62	227.88	98.42	2,907.04
1977-78	215.97	403.23	1,021.77	396.79	481.68	244.23	107.03	2,835.65
1978-79	240.91	469.81	1,317.81	407.67	554.01	316.46	118.81	3 ,4 44. 8 0
1979-80	202.00	516.39	1,568.82	442.43	614.26	253.26	119.66	3,705.22
1980-81	184.92	559.78	1,904.95	517.95	710.82	250.61	128.39	4,208.81
1981-82	233.73	567.30	2,226.80	455.18	850.48	338.54	146.60	4,873.29
1982-83	223.19	561.81	2,315.29	513.41	972.47	295.77	165.24	4,986.29
1983-84	399.63	651.41	2,632.12	605.49	1,044.56	321.28	168.03	5,777.31
1984-85	264.05	745.51	3,590.62	735.25	1,141.31	384.35	175.70	7,339.94
1985-86	264.14	848.32	3,054.72	594.85	1,180.35	353.14	172.79	6,381.33
1986-87	344.15	998.37	2,989.39	572.02	1,485.77	395.79	187.53	6,712.37
1987-88	383.60	1,088.18	4,506.84	664.22	1,615.03	401.96	184.56	8,803.72
1988-89	275.21	1,257.43	5,151.73	775.82	1,774.60	449.96	188.31	9,622.95

Appendix - II. State's Adjusted Own Revenue

SUPREME COURT GUIDELINES ON RESERVATION POLICY: AN EVALUATION

G. Thimmaiah

In Vol. III, No. 2, (April-June, 1991), issue of the Journal of Indian School of Political Economy, Government's policy towards the socially and educationally backward classes (SEBCs) had been traced from the early 1900s. In August 1990, the then Government had announced its policy towards the backward classes, based on the recommendations of the Second Backward Classes Commission (Mandal Commission). This announcement had led to widespread riots. The Government's notifications had been challenged through writ petitions before the Supreme Court. The Supreme Court gave its judgement on the writ petitions in November, 1992. The present paper evaluates the Supreme Court's judgement in this regard.

The judgement of the nine-judge Constitutional Bench of the Supreme Court which was delivered on November 16, 1992 comes as a final verdict on the constitutional status, scope and content of reservation policy relating to Government jobs under Article 16(4) [Judgements Today, 1992, Vol. 6, No. 9]. The Supreme Court was not asked by the President of India under Article 143 to give its opinion on this controversial issue. Nor was there any writ petition seeking the Supreme Court to take such a comprehensive view on reservation policy. The provocation was provided by the writ against the Government Notification, issued by the V.P. Singh Government, implementing the recommendations of the Mandal Commission's Report [GOI, 1990]. That notification reserved 27 per cent of Central Government jobs for those backward castes which were identified by Mandal Commission as backward classes. The political fall out of that notification is all too well-known. Subsequently V.P. Singh Government lost power in the Parliamentary elections and the Congress(I) minority Government which came to power in 1991 issued a modified notification, making reservation to the extent of 10 per cent for the economically backward sections of the society [GOI, 1991]. The Supreme Court was seized of these two notifications and their far reaching implications for the principle of equality and social justice, enshrined in the Constitution and hence, the Court decided to use this opportunity to subject the whole issue of reservation to fresh judicial review. It should be mentioned in this context that there were as many as 168 cases which were filed in the Supreme Court earlier to this on the reservation policy. But all those cases were decided by single or two-judge bench except a six-judge bench in the case of K.C. Vasantha

Kumari v. the State of Karnataka, which only provided guidelines to the State Governments for formulating an appropriate reservation policy. Of course, there were innumerable judgements delivered by the High Courts relating to the reservation policy with specific reference to individual states. The High Courts had expounded their own principles. Some of them were upheld by the Supreme Court and some were not. There was all round confusion about the judicial opinion on the justifiability of reservation under the Constitution, its scope, its content, magnitude and duration of the reservation policy. Therefore, this nine-judge Constitutional Bench took upon itself the self-imposed responsibility of enunciating certain broad principles for the benefit of the State and Central Governments. The Court observed that '... reference to this larger Bench was made with a view to finally settle the legal position relating to reservations'. The idea was to have a final look at the said question by a larger Bench to settle the law in an authoritative way [Judgements Today, 1992, para 845]. While so doing the Court has no doubt struck a nice balance between the fundamental rights and the policy of protective discrimination, that is to say the principle of equality before law and equity which are inherent in the Constitution. But the Court has also created some further controversies because of the failure to apply the principle of logical consistency to certain aspects of reservation policy.

Self-Imposed Responsibility

The Supreme Court, while considering the writ petitions filed against the two notifications, was no doubt technically required to examine the legal justifiability of the criteria used by the Mandal

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Commission and the scope and magnitude of reservations recommended by the Commission. If the Supreme Court had taken such a technical view of the writ petitions, it would have disposed of the case much earlier and for that purpose there was no need for constituting a Constitutional Bench. But the Court decided to constitute a Constitutional Bench to give a final verdict on the broad contours of reservation policy. This is no doubt a self-imposed responsibility but it is not forbidden by law. The Court was approached by the complainants at a time when there were violent protests on a large scale against the first notification of the Government. The country was almost on the verge of getting involved in a caste war. At that crucial point of time the enlightened political leadership was wanting, quite apart from becoming untrustworthy. Hence the Supreme Court had to take upon itself such a national responsibility of giving the verdict on the broader issues of reservation. Therefore, if some sections of the people are affected by the Court's majority judgement, the Court's interpretation of its responsibility should not be viewed from the purely legal or technical angle.

The Court had a much broader national responsibility to discharge and it has discharged it reasonably well. We should praise this institution which still creates some hope for the future of democracy in this country. However, as a point of specific detail, the Court has brushed aside the specific issue relating to the constitutional validity of the Mandal Commission's recommendations. Probably, the Court thought that there was no need for wasting its time to go into the logical foundations of the criteria used and the tests applied to identify backward classes by the Mandal Commission. The Court has rightly left it to be decided by permanent Commissions at the Centre and State levels which will be in a better position to collect the required comprehensive data and consider the views of the aggrieved parties and then take a final view on the justification for inclusion or exclusion of the specific groups of people into the list of backward classes. It is possible to view this opinion as shifting responsibility back to the executive. Even so, the Court has not failed to give its opinion on the broader framework of the criteria to be used for

identifying backward classes. It is true that it should have expressed some views on the validity or otherwise of the criteria used by the Mandal Commission. But the Court has achieved a miracle in the sense that through this judgement it has buried Mandal Commission's Report forever which had created so much of violence in the country. The Court has asked both the Central and State Governments to initiate fresh exercise in identifying backward classes with the assistance of permanent Commissions. In a way this is a blessing in disguise as otherwise after validating 27 per cent reservation under Article 16(4) of the Constitution, if the Court had upheld the recommendations of the Mandal Commission that would have revived anti-Mandal agitation. Even the present broad based judgement did create some ripples in the anti-Mandal circles in north India. But after a careful reading of the judgement, the complainants prevailed on them to accept the verdict of the Court gracefully which is fair to the nation and to the 'original intent' of the Constitution [Venugopal, 1992, p. 9].

Validity of Reservation

The first issue relating to reservation policy is its constitutional validity. This is because Article 16(1) extends the principle of equality before law, guaranteed under Article 14, to employment in Government service and Article 16(2) prohibits discrimination either in Government service or elsewhere on the basis of religion, race, caste, sex, descent, place of birth or residence. This equality principle is an important building block of the Indian Constitution. Individual oriented principle of equality is no doubt alien to Indian jurisprudence and social institutions. We have accepted openly the western concept of individual as the sole sovereign of his destiny and should be judged as such in all matters of law. However, while elevating the individual to such a supreme position, we have superimposed the 'class equity' in the form of protective discrimination to protect, foster and promote the social and educational advancement of some sections of the society called 'backward classes'. It is relevant to mention here that equality is not the same as equity. No doubt both the concepts of equality and equity

embody the philosophy of fairness. But this fairness is attempted to be achieved under equality principle by treating all individuals as homogeneous units whereas it is attempted to be achieved by restricting the privileges given to the individual under clauses (1) and (2) of Article 16. Thus Article 16(1) expounds the principle of equality for the purpose of employment in Government service and Article 16(4) expounds the principle of equity which can also be termed as social justice. Obviously there is some apparent conflict between these two universally accepted principles. The executive was expected to formulate clearly defined policies to minimise such conflict and ensure the benefit of both these principles to the citizens of India. But the executive represented by the Central and State Governments created scope for increasing the conflict between these two principles. This led to open protests and created law and order problems in the country. Even after such happenings when the executive failed to formulate appropriate policy of reservation to minimise the conflict between the principles of equality and equity, the Supreme Court was compelled by 'constitutional pragmatism' to interfere and suggest some objective guidelines to formulate a more appropriate reservation policy.

The Supreme Court was called upon to pronounce its views on the issue whether Article 16(1) is a basic foundation of the Constitution or is it qualified by clause (4) of Article 16. In an earlier judgement the Supreme Court had treated Article 16(1) as the fundamental principle of the Constitution and Article 16(4) as an exception intended only for the purpose of achieving social justice and hence it was maintained that Article 16(4) should not overshadow the contents of Article 16(1). However, the Supreme Court has now pronounced the judgement that Article 16(4) does not conflict with Article 16(1) in that both of them try to achieve two different objectives in the peculiar Indian circumstances. Article 16(1) assumes that all citizens of India are equal in economic, social and educational status as also in all other circumstances and therefore should not be discriminated on the basis of religion, caste, race, sex and place of birth/residence. But the same Constitution also accepts the fact that the

assumption, 'other things being equal', is not valid in Indian society in view of the fact that some sections of society are facing social and educational backwardness. In order to reduce such disabilities the Government is empowered to formulate an appropriate protective discrimination policy under Article 16(4), without nullifying or diluting the force of the principle governing Article 16(1). Accordingly, the Supreme Court, very rightly and consistently with its earlier views, has expressed the opinion that reservation in Government jobs for socially and educationally backward classes is constitutionally valid under Article 16(4) and does not compromise the main core of the fundamental rights guaranteed under the Constitution. This is the final verdict as far as the conflict between the principle of equality and social justice is concerned. The Indian Constitution is unique in that it gives equal prominence to both equality and social justice. Hence, the Supreme Court has revalidated the intention of the framers of the Constitution that in the Indian context we have to read equality not in absolute sense but equality as qualified by Article 16(4).

The petitioners no doubt raised some technical questions relating to whether such opinion was called for at all with reference to the specific notifications of the Government of India whose constitutional validity was questioned. The constitutional validity of the notifications of the Government of India has to be examined with reference to Article 16(1) and 16(4). This is precisely what the Supreme Court has done in the first instance and all the people of the country who accept the Constitution as the law of the nation should accept the judgement of the Supreme Court.

Methodology of Identifying SEBCs

The second important issue tackled in the judgement is the methodology of identifying backward classes. This issue starts with the definition of the term 'backward classes' used under Articles 15(4) and 16(4). There are varying opinions on the definition. One opinion is that it refers to a 'group of castes'. Another view is that it includes both caste and class. There are also two extreme opinions namely that it includes only

Scheduled Castes and Scheduled Tribes or only economically backward people. The Court has pronounced its views on this issue without making it a final view. First, the Court has held that caste can be the sole criterion for identifying the backward classes. The Court has observed that 'we are accordingly, of the opinion that the backwardness contemplated by Article 16(4) is mainly social backwardness. It would not be correct to say that the backwardness under Article 16(4) should be both social and educational' [Judgements Today, 1992, para 804]. This is in contrast to the earlier judgement in the case of Balaji v. the State of Mysore in which the Court had held that caste cannot be the sole criterion for identifying backward classes. It is pertinent to remember in this context that if caste can be used as the sole basis for identifying SEBCs, then all people other than those from the highest caste according to Varnashrama Dharma can claim reservation. This would be disastrous because it will imply very high magnitude of reservation and absence of the means test. If we apply caste criterion alone, instead of achieving equity, it will perpetuate inequality. The disastrous consequence of using caste as the sole criterion for identifying backward classes has been very well argued in the views of the dissenting minority. They reflect, of course, the prevailing apprehensions about using caste as the basis for seeking reservation. However, even the majority judgement does not categorically say that caste and caste alone can be used as the sole criterion for identifying backward classes. That amounts to redefining the concept of backward classes as backward castes, which was not the intention of the framers of the Constitution when they inserted clause (4) of Article 16. It was also not the intention of the Parliament when it inserted clause (4) to Article 15 through an amendment to the Constitution. The majority judgement has explained it by making reference to Chinnappa Reddy Commission's Report relating to Karnataka, that by taking caste as an objectively identifiable entity, the permanent commission can go on applying other criteria like educational test. etc., to arrive at a final and justifiable list of backward classes. For instance, the Court has observed that 'Any authority entrusted with the

task of identifying backward classes may well start with the castes. It can take caste 'A', apply the criteria of backwardness evolved by it to that caste and determine whether it qualifies as a backward class or not' [Judgements Today, 1992, para 798]. The Court was aware of the difficulties involved in such exercise particularly the heterogeneous social groups in the country and therefore has left it to be decided by the States. The Court has also referred to the linkage between occupation, caste and poverty. Some of the earlier judgements of the Supreme Court did suggest these as the most appropriate criteria and the majority judgement has repeated that these linkages could also be used for identifying backward classes. According to these linkages, instead of starting with caste, we can start with caste based occupation. In Indian society, occupation became hereditary in the sense that social division of labour was deliberately designed and interoccupational mobility was prohibited through social sanction. Hence, occupations became hereditary. Some of these occupations have no doubt enjoyed high social status and at some point of time they were highly remunerative. But over time, modernisation and westernisation processes have changed the social status attached to upper caste occupations but without removing the stigma attached to lower caste occupations. What is more, economic viability of these caste based occupations has been completely transformed by technological developments. Even the upper caste people do not engage on any large scale in traditional caste occupation because it does not yield enough income to meet their increasing needs. Since they were quick in adapting themselves to the process of modernisation through modern education, they have shifted to modern occupations which were not barred by caste rules. But lower caste people were not affected by this modernising process and hence they remained in age old caste based occupations which still carry social stigma, (menial in nature and polluting) and, more importantly, these occupations have become economically unremunerative. So traditional caste occupations in India help us identify traditional caste status. Both caste and caste based occupation help us identify their economic status.

Therefore, the linkage between caste and occupation and between occupation and poverty is much more logical and objectively identifiable phenomenon rather than caste hierarchy alone. This is because, even though the Hindu scriptures mention only four caste groups, in actual operation there are more than 5,000 castes and subcastes which cannot be arranged in any hierarchical order for identifying those which are forward and those which are backward. The Supreme Court has not finally pronounced any judgement on what criteria should be used for identifying the backward classes. It has only thrown up some views drawn from contemporary ideas which are widely debated for the purpose of identifying backward classes. This is no doubt a logical method because the Court ultimately has to pronounce and indicate broad guidelines and not lay down specific criteria as any such written down criteria may create many more problems in actual application in a country of wide diversity. The Supreme Court has done a wise thing in not laying down specific criteria as the only constitutionally acceptable and universally applicable criteria for identifying the backward classes. It has only indicated, in the form of some guidelines, what could be used as reasonably justifiable criteria. It is left to the permanent commissions of the Central and State Governments to ponder over these and articulate the guidelines contained in the judgement into the legally justifiable criteria for identifying backward classes.

Magnitude of Reservation

The most important issue relating to reservation policy is the magnitude of reservation. The constitutional provisions relating to reservation for backward classes under Articles 15(4) and 16(4) do not make any mention of the magnitude. Even Article 335 which provides for reservation for SCs/STs in the administrative services of the Central and State Governments makes no mention of the magnitude of reservation except stating that they should be adequately represented. However, under Articles 330 and 332 where a specific provision is made for giving political representation to SCs/STs in Parliament as well

as in State Legislatures, there is clear indication of the magnitude in proportion to the population of SCs/STs in the country and in respective States.

The State Governments which implemented reservation for backward classes under Articles 15(4) and 16(4) were guided mainly by the recommendations of Backward Classes Commissions which were appointed to recommend reservations. These Commissions/Committees recommended varying magnitude of reservation ranging from 19 per cent in Assam to almost 98 per cent in Meghalaya. This naturally affected the prospects of the persons who could not claim reservation benefits. They were forced to approach the Courts for seeking judicial intervention to determine a fair share to the merit candidates. The Supreme Court, for the first time in Balaji v. State of Mysore case, ruled that the magnitude of reservation cannot exceed 50 per cent. But this 50 per cent magnitude was fixed only for backward classes as the case related to reservation for backward classes. Since SCs/STs were already enjoying reservation benefits in proportion to their population, the total magnitude of reservations went beyond 50 per cent.

It may be mentioned in this context that in the erstwhile State of Mysore when the issue of reservation came up, the then Maharaja of Mysore decided to provide reservation to the extent of 50 per cent. However, subsequently when the successive Backward Classes Commissions were appointed to recommend criteria to be used for identifying backward classes and also the magnitude of reservation, they recommended much more than 50 per cent. This is true of many other States also. Table-1 gives a summary picture of the magnitude of reservation in operation in various States.

If the magnitude of reservation increases, the opportunities available for merit candidates obviously go down as it is a zero sum game. But it can also be argued that since OBCs and SCs/STs constitute the major portion of the population, which is estimated by the Mandal Commission to exceed 50 per cent, there is justification for reserving more than 50 per cent of Government jobs for SCs/STs and OBCs. Even so, this argument ignores the fact that in every caste and

IABLE I.IV	IAONITODE OF RESERVAL			(Per cent)
States 1	SCs 2	STs 3	OBCs 4	Total 5
Andhra Pradesh	14	4	25	43
Andaman & Nicobar	-	16	-	16
Arunachal Pradesh	-	45	-	45
Assam	7	12	-	19
Rihar	14	10 .	24	48
Chandigarth	20		-	20
Dadra & Nagar Haveli	15	7.5	-	22.5
Delhi	15	7.5	-	22.5
Guisrat	7	14	10	31
Harvana	20	-	10	30
Himachal Dradesh	15	75	ŝ	27.5
Jamma and Kachmir	8	5	42	55
Vamataka	15	ž	sõ	68
Karala	8	5	40	50
Kolala Lakshadusaan	0	15	40	15
Madhua Derdaah	15	19	20	62
Mahamahtm	13	18	14	34
Manarashtra	15	75	14	225
Manpur	15	1.5	-	08
Mignalaya	52	40	-	20
Magalant	=	45	-	45
Nagaland	16	43	-	40
Unissa	16	24	-	40
Pondicherry	10	2	-	21
Punjab	15	3	25	22
Rajasthan	16	12	-	28
Sikkim	-	-	-	-
Tamil Nadu	18		50	68
Tripura	13	29		42
Uttara Pradesh	18	2	15	35
West Bengal	13.5	7	-	20.5
All India	15	7.5	27	49.5

TABLE 1. MAGNITUDE OF RESERVATIONS IN OPERATION IN VARIOUS STATES

Source: Mihir Desai, 'The Need for Reservation: A Reply to Shourie and Others', Lokayan Bulletin, Delhi, July-October, 1990, 8:4/5, Pp. 29-31.

community there are meritorious candidates who would also compete with the candidates from the forward communities who are not ordinarily considered backward. Further, and more important, if the magnitude of reservation goes beyond 50 per cent, there is a tendency to ignore merit which is injurious to efficiency in administration as well as in education. This is the purport of the mention of 'consistently with the maintenance of efficiency of administration' in Article 335. Therefore, the Supreme Court in the majority judgement has upheld 50 per cent magnitude as fair and just. Probably, this is the only issue on which the Supreme Court has been consistent. However, the Supreme Court while so fixing the magnitude of reservation has included only reservation for SCs/STs and OBCs. Reservation for other persons like physically handicapped are excluded from this 50 per cent ceiling. The Court has permitted some States to exceed 50 per cent

in special cases where such cases would have to be justified. But barring such special cases the generally applicable magnitude is 50 per cent inclusive of SCs/STs and OBCs.

The Court has very emphatically argued against proportional representation for SCs/STs. After making reference to Articles 330 and 332 which make provision for proportional representation in Parliament and State Legislatures, the Court has very clearly pronounced the judgement that adequate representation indicated under Article 335 did not imply proportional representation and hence SCs/STs could not claim proportional representation in Government service. This 50 per cent ceiling has also been extended even to minority educational institutions in the case of St. Stephen's College v. University of Delhi. Since reservation is intended to give equitable share for backward classes in admission to educational institutions and in Government service, it can be treated as a sort of protective discrimination measure and pure merit can be treated as efficiency measure. If we equate pure merit with efficiency and merit-cum-reservation with equity, there is an element of conflict between them. In order to promote social justice, there has got to be a trade-off between these two. Any trade-off determines the magnitude of reservation to achieve the objective of social justice without unduly sacrificing efficiency.

A note of clarification is required at this stage. When we juxtapose merit against reservation, it does not mean that those candidates who opt for opportunities under reservation do not have merit. It only means merit-cum-reservation, that is, the level of merit is relatively lower in order to give adequate representation to the socially backward classes. Whereas in the case of merit quota, it is predominantly merit under Article 16(1). So it is merit versus merit-cum-reservation and not merit versus no merit.

Any suggestion to prescribe the magnitude of reservation would be necessarily arbitrary. The Mandal Commission tried to limit the magnitude of reservation to 50 per cent of the estimated percentage of population of OBCs in the total population of the country. Since the estimated proportion of OBCs population was 52 per cent, the Mandal Commission recommended 27 per cent reservation for OBCs. The Commission was probably aware of the Supreme Court's judgement in earlier cases putting the ceiling on the magnitude of reservation at 50 per cent. Therefore, the Commission recommended 27 per cent reservation for OBCs leaving the remaining 23 per cent to SCs/STs and others. Thus 50 per cent reservation appears to be just and fair to give equal importance to merit and social justice.

The recent judgement of the Supreme Court, while fixing 50 per cent as a reasonable magnitude of reservation under Article 16(4), has excluded reservation for physically handicapped persons from this ceiling. This cannot be justified, because, once 50 per cent ceiling is relaxed for any reason, all arguments advanced to justify the ceiling fall to the ground. Therefore, the Government of India and the State Governments should see that the magnitude of reservation should not exceed 50 per cent inclusive of all categories. But the politicians may find it convenient to promote their political cause by not doing it. The only permanent solution would be to create an opportunity for the Supreme Court to pronounce that 50 per cent ceiling is all inclusive.

In order to achieve this 50 per cent ceiling, the relative share of SCs/STs in this share should necessarily go down because the Supreme Court has upheld 27 per cent reservation for OBCs. This 27 per cent is derived from the proportion of population of OBCs. One might argue that the same logic should apply to SCs/STs also which means SCs/STs should get 50 per cent of their population which comes to only 11 per cent. This would be probably unfair because the status of SCs/STs, excluding those touchable SCs/STs who have been included in the lists for political reasons, is not comparable to the status of OBCs. As it is, 27 per cent for OBCs and 22 per cent for SCs and STs would still keep the ceiling within 50 per cent. Since the reservation for handicapped persons is excluded from this 50 per cent, it will give some elbow-room for accommodating backward among religious minorities.

But it is important to note here that SCs/STs cannot claim the magnitude of reservation in proportion to their population. This is mainly because Articles 15(4) and 16(4) do not prescribe the magnitude of reservation for SCs/STs, let alone for OBCs, in proportion to their population. Even Article 335 does not make any reference to their population. This proportion is mentioned only under Articles 330 and 332 which make reservation for political representation in the Parliament and State Legislatures. Based on these provisions, SC/ST legislators demand proportional representation in the Central and State cabinets also. It is open to question whether this follows from Articles 330 and 332. This political representation in proportion to their population was inadvertently adopted for admissions into educational institutions and entry into Government service. It is true that the castes which should be included under SCs/STs are listed in the Presidential Order. But the Constitution does not make any mention of reservation in proportion to population for protective discrimination purpose. This has been determined by the policy makers through executive orders and has come to be

accepted by the Courts. This becomes crystal clear from the following view of the Supreme Court. The Court has observed:

'We must, however, point out that clause (4) speaks of adequate representation and not proportionate representation. Adequate representacannot be read as proportionate tion of proportionate representation. Principle representation is accepted in Articles 330 and 332 of the Constitution and that too, for a limited period. These Articles speak of reservation of seats in Lok Sabha and State Legislatures in favour of SCs/STs proportionate to their population. But they are only temporary and special provisions. It is, therefore, not possible to accept the theory of proportionate representation though the proportion of population of Backward Classes to the total population would certainly be relevant. Just as every power must be exercised reasonably and fairly, the power conferred by clause (4) of Article 16 should also be exercised in a fair manner and within reasonable limits - and what is more reasonable than to say reservation under clause (4) shall not exceed 50 per cent of the posts barring certain extraordinary situations...' [Judgements Today, 1992, para 827]. The Court has indicated that 50 per cent ceiling is in relation to each cadre and category of posts filled every year.

The magnitude of reservation has come to be inadvertently judged with reference to the total population of OBCs and SCs/STs. For example, in Kamataka, the Government issued a temporary reservation order in October 1986 under which it included almost all castes except about six castes. Therefore, an opinion was expressed that in Karnataka 95 per cent of people are covered under reservation. This is an exaggerated view. The reservation magnitude is with reference to the number of posts filled by the Government or the number of seats thrown open for admission in educational institutions and not with reference to population. If we relate the magnitude of reservation to the population, then we must relate it to the eligible people in the total population which excludes the population below 14 years and above 60 years and, within that relevant age group, those who do not possess minimum required qualifications and experience for jobs or for admissions

in educational institutions as the case may be. If we do such appropriate adjustments, the magnitude of reservation in relation to total population will not be so unbelievably high. What is relevant for operational purpose is that this magnitude refers to the number of opportunities available under Government service in each year.

What are the implications of this 50 per cent magnitude prescribed by the Supreme Court? The first implication is that all those States namely Karnataka, Tamil Nadu, Madhya Pradesh, Punjab and Meghalaya which have reservation above 50 per cent should reduce the magnitude to 50 per cent over a period of 5 years. This would invariably require total abolition of reservation made purely on economic criteria like backward class special group in Karnataka. Since 27 per cent reservation has been upheld by the Supreme Court for OBCs and the Supreme Court has also included socially backward among the minority communities, the proportion available for SCs/STs will have to go down marginally. It is here that a lot of resentment will be created and it would be desirable if the transition is made smooth. The Supreme Court has helped the Government in achieving this smooth transition by insisting upon applying means test for removing the creamy layer from all castes and communities. This takes us to another important and forward looking issue relating to reservation policy, i.e., the relevance of appropriate means test.

Creamy Layer and Means Test

The Supreme Court judgement has confirmed another important ruling relating to reservation. That relates to the need for eliminating the better-off among OBCs. The better-off among them have come to be called the 'creamy layer' and the Court has ruled that they should be eliminated from the list of backward classes by applying appropriate means test. The Court has observed that 'after the expiry of four months from today, the implementation of the O.M. shall be subject to the exclusion of the 'creamy layer' in accordance with the criteria to be specified by the Government of India and not otherwise'
[Judgements Today, 1992, para 810]. Accordingly, the Government of India constituted a committee which suggested multiple means tests [Ministry of Welfare, 1993]. The Government of India has announced their acceptance. Surprisingly, there have been protests against their acceptance. It may be relevant to mention in this context that when the reservation policy was formulated in southern States, no attention was paid to the economic status of the backward classes. This was mainly because the reservation policy was intended to give adequate representation to non-Brahmin communities in the governance of the State and not for preferential admissions to educational institutions. The practice of giving preferential admissions to educational institutions came into vogue subsequently. In the beginning, the State Governments were asked to introduce affirmative schemes like providing scholarships, creating hostel facilities to candidates belonging to OBCs, SCs/STs, increasing the number of hostels, schools and colleges not only directly but also indirectly by providing grant-in-aid to private parties. Economic status of such candidates was not relevant at that time as their educational status judged in terms of English education was not closely associated with their economic status. Therefore, economic criteria or means test were considered as a non-issue at that time. After Independence, when the Constitution provided for reservation for SCs/STs in Government service, no attempt was made to apply means test. At that time SCs/STs were not adequately represented in Government service and also because most of them belonged to low income groups. We have already referred to Article 335 which requires reservation to be made for SCs/STs in Government service but does not prescribe any means test. It is probably because at that point of time low caste status of SCs/STs was associated with their low income status. It was believed that SCs/STs were not only low caste people but also, by and large, belonged to low income groups. This situation probably convinced the Courts to interpret that there was no need to apply means test while making reservation for SCs/STs. In contrast, even though clause (4) of Article 15 and clause (4) of Article 16 do not explicitly prescribe

means test, Courts have always held that it is necessary to apply means test in order to filter the better-off among OBCs for the purpose of giving reservation benefits. This varying interpretation gives rise to an impression that courts, while reviewing the constitutional provisions relating to reservation for SCs/STs and OBCs, have interpreted the same differently with reference to SCs/STs and OBCs. With regard to application of means test, it appears as though the Courts themselves have tried to create one set of constitutional provisions for SCs/STs on the one hand and another set for OBCs. This has not been noticed by the scholars, leaders of backward classes, legislators and even legal commentators. Until such interpretation was given by the High Courts and the Supreme Court, the State Governments which were implementing reservation policy did not bother to impose means test for the purpose of eliminating the better-off among OBCs from enjoying the benefits of reservation. In Karnataka, the Miller Committee, the Nagana Gowda Committee and the Havanur Commission did not prescribe means test. However, the State Government Order on reservation, which was formulated on the basis of the recommendations of the Havanur Commission in 1977, prescribed means test as that order was influenced by the Supreme Court judgement relating to Balaji v. State of Mysore in which the Court had indicated that it was necessary to apply means test. Ever since that time, means test has come to be applied in Karnataka except for SCs/STs and backward tribes. This has introduced an element of equity into the reservation policy. It is true that false income certificates have been used particularly by the ineligible candidates from rural areas to obtain admission to professional courses. In order to prevent this, multiple means tests were suggested by the Venkataswamy and Chinnappa Reddy Commissions.

It can be argued that such multiple means tests should be applied even to SCs/STs. This needs some explanation. Caste and class were by and large coterminous for SCs/STs when the Indian Constitution was framed. Most of SCs/STs were the poorest among the poor who depended on menial occupations. But after 46 years of Independence there is clear evidence of class formation taking place among SCs/STs. Today a middle class has emerged even among the SCs/STs and reservation benefits under Articles 15(4) and 16(4), which were intended for off-setting environmental deficiency, are no longer required for the middle and upper class SCs/STs, particularly for the better-off among them who are engaged in modern occupations. Besides a number of castes which never suffered from the stigma of untouchability like Bovi, Beda, Navaka, etc., have been added to SC/ST lists not merely at the time of framing the lists but also recently. In other words, SCs/STs lists have also become a politically populist measure in recent years. This has thrown open reservation benefits to a number of prosperous and hence undeserving sections of the society. As a result, the really deserving among former untouchable SCs/STs have not benefitted from the reservation policy. Surprisingly, the recent judgement of the Supreme Court requiring that the means test should be applied to OBCs has observed that 'This discussion is confined to Other Backward Classes only and has no relevance in the case of Scheduled Tribes and Scheduled Castes' [Judgements Today, 1992, para 809]. Why? The Court has not advanced any justifiable reasons for not applying means tests to SCs/STs. This is a weakness of otherwise well thought out judgement. If means tests cannot be applied to SCs/STs, they cannot be applied to OBCs also. To this extent the opposition to the acceptance of the recommendations of the Creamy Layer Committee is justified. The Constitution does not make any distinction on this issue. In view of such soft attitude shown by the Courts to SCs/STs in the past, the better-off among them have hijacked most of the reservation benefits. Therefore, it is necessary for the Supreme Court to reconsider its view on this issue. If we remove the 'Creamy Layer' among the SCs/STs and OBCs from the benefits of reservation, then there will be more opportunities left for the really deserving among them to promote their advancement. It would be necessary, therefore, to apply means test uniformly to both for SCs/STs and also for OBCs for preventing the children of those engaged in modern occupations

and falling in high income groups in administrative services, from enjoying the benefits of reservation. Since the Scheduled Castes and Scheduled Tribes are listed in the Constitution (Scheduled Castes) Order 1950 as amended by the Scheduled Castes and Scheduled Tribes (Amendment) Orders, the question of identifying them by using occupational-cum-educational criteria does not arise. They are already identified by the President. But multiple means test will have to be used to prevent the better-off among them from enjoying the reservation benefits in future. This has become necessary and should be implemented with immediate effect. The existing lists should be reviewed once in five years for removing those who show clear signs of advancement. Multiple means tests, by reducing the number of candidates aspiring to enjoy the benefits of reservation, will provide more opportunities for deserving OBCs, SCs/STs within the 50 per cent ceiling limit. In absolute number they will have more opportunities than at present. What is relevant for uplifting backward classes is not mere proportion but also absolute number.

Secularisation of Reservation

Another important issue which the Supreme Court has resolved is the relevance of reservation to non-Hindu communities. This was a bone of contention for a long time particularly in the southern States. Some of the judgements restricted the reservation benefits to only backward classes among Hindu religious group. Some of the Backward Classes Commissions, like the Havanur Commission, did the same. But the State Government orders based on such recommendations did provide for reservation for Muslims and SC-convert-Christians. Now the Supreme Court judgement has resolved the issue by bringing all other minority groups under the umbrella of reservation. This is in the fitness of things because the Indian Constitution which is secular in foundation cannot deny reservation benefits on the basis of religion alone. Since the Supreme Court has restricted protection to minorities under Articles 29 and 30 in regard to reservations by applying 50 per cent ceiling to minority run educational institutions also, it is only fair that the Court has secularised the reservation policy. The Supreme Court has done what the BJP has been advocating, that is, treating minorities on par with all others. This secularisation of reservation policy has gone unnoticed by commentators. It is the first step in the direction of making all communities to become part of the national mainstream.

Reservation in Promotions

Yet another important issue which has received the attention of the Supreme Court is reservation in promotions. The Miller Committee in the State of erstwhile Mysore did not recommend reservation in promotions. This issue was not at all considered by the State Governments until the 1970s. In Karnataka reservation in promotions in the State Government service was introduced for only SCs/STs during the Chief Ministership of Mr. Devaraja Urs. Ever since then, it has been operating. However, no reservation has been provided in promotions to OBCs. At the national level, reservation in promotions for SCs/STs has been implemented in Central Government organisations like Railways. The Supreme Court upheld such reservations in promotions for SCs/STs in Rangachari case in 1961, again in Hiralal case in 1970 and again in Akhila Bharathiya Soshit Karmachari Sangha case in 1980.

It may be noted in this context that Article 16(4) provides 'for the reservation of appointments or posts in favour of any backward class of citizens which in the opinion of the State, is not adequately represented in the services under the State'. This constitutional provision does not make any distinction between reservation in the initial appointment at the entry level and at any higher promotional levels in the service. Absence of such distinction and absence of explicit ban on reservation in promotions probably led the Supreme Court to uphold reservation in promotions for SCs/STs in the past. In the judgement delivered in 1980 by a single judge, the Supreme Court justified reservation in promotions on the ground that there were hardly any officers at the top level-Railway administration, thereby applying adequacy principle. Now the majority judgement has

held that reservation in promotions is unconstitutional. The four concurring judges have observed that reservation under Article 16(4) is confined to initial appointment and reservation in promotions is not only unnatural and unconstitutional, that is, violative of Article 16(1), but will also perpetuate past discrimination. This is a welcome change in the judicial opinion of the Apex Court. The Court has ruled out reservation in promotions in any Government service either for SCs/STs or OBCs, as it has given rise to a lot of resentment and demoralisation at the upper echelons of the administration. It is patently wrong and oppressive to senior officers to work under their juniors in the course of their service. This will certainly lead to inefficiency and negligence in Government service.

However, while invalidating the reservation in promotions, the Supreme Court has wavered about the implications of such invalidation. The Court observes that the existing benefits of reservation in promotions need not be disturbed, it may continue for another five years and that, only after five years this judgement will become operative in invalidating reservation in promotions. This is a paradoxical constitutional pronouncement. Because the Constitution does not explicitly allow reservation in promotions under any provision. So the policy of reservation in promotions was extra-constitutional. It interfered with the Fundamental Rights and hence the Court has taken the right view on the constitutional invalidity of reservation in promotions. But having pronounced the judgement that the reservation in promotions is constitutionally invalid, the Court cannot validate reservation in promotions for another five years and invalidate the operation of its own judgement for five years. This has created a ridiculous situation. This is confusing and self-contradictory. One can understand not removing reservation benefits in promotions which have been effected in the past as they would affect the present incumbents. Such opinion can be defended on the ground of being necessitated by administrative expediency. But after having held reservation in promotions invalid, the Court cannot prevent constitutionally invalid action to be continued for five years. Either reservation in promotions is valid or invalid, here and now. It is ludicrous to hold them invalid after five years. This judgement does not square well with service law or the Fundamental Rights. We hope that the Supreme Court will set right this flaw in its judgement in the immediate future.

The Supreme Court has also observed that adequate representation for SCs/STs and OBCs could be made available by making direct recruitment at any level of appointment except in certain specific areas like defence, air-transport, technology and top level jobs in research institutions. One may question the extension of such reservation to other areas other than defence. But considering the need for ensuring excellence in certain areas of national life, the Court's judgement should only be welcomed. The restrictions do not prevent meritorious SCs/STs and OBCs for competing for these posts on the basis of excellence.

Executive Order Versus Legislation

A minor issue on which the Supreme Court has pronounced its views is the instrumentality of reservation policy, namely, whether it should be formulated and implemented through a legislation or an executive order is sufficient. The Court observes that reservation benefits can be provided by the Parliament, State Legislatures, through statutory rules as well as by way of executive instructions issued by the Central and State Governments from time to time. Executive instructions can be issued only when there are no statutory provisions on the subject and executive instructions can also be issued subject to statutory provisions when those provisions are silent on the subject of reservation. The Court has, no doubt, brushed aside the contention of the petitioners that Article 16(4) is only an enabling provision and that its intention should be implemented through appropriate legislation. This is only a technical argument and hence the Court has rejected such trivial argument by drawing the attention of the complainants to the concept of law under Article 13(3)(a) which 'includes any ordinance, order, bye-law, rule, regulation, notification, custom or usage having in the territory of India the force of law...' [Judgements Today, 1992, para 735].

While upholding the validity of executive order. the Supreme Court has not recognised its limitations in effectively implementing a more objective reservation policy. It has been the experience of many States where the benefits of reservation have come to be grossly misused not only by the ineligible people but also by those who are eligible. It has become a common practice for ineligible persons to get false castecum-income certificates to get entry into professional courses, though it is relatively less in regard to entry into Government jobs. This is much more so in the case of persons coming from rural areas where their parents are engaged in self-employment and estimation of their income becomes difficult. The practice has degenerated to such a level that children of ineligible parents are adopted for a consideration by their servants belonging to low castes, just to get admission into professional courses. Even courts have taken a technical view of such malpractices.

The worst consequence of politicisation of reservation policy has been its misuse by even the eligible candidates under reservation policy. Students belonging to SCs/STs and OBCs are given scholarships and hostel facilities. In addition to these, lump sum monthly payment is made towards their boarding charges. These facilities have been provided without insisting upon any performance criteria like passing their examinations regularly. Even the minimum performance test is not insisted upon; as a result, public money has come to be wasted on these students who do not bother to complete their studies within a reasonable period of time. All these instances go to prove that the impact of reservation on the beneficiaries has not been assessed by the State Governments. This leads to wastage of scarce funds and limited opportunities. Consequently, social inequalities continue to persist. On the other hand, it has led to great resentment on the part of the poor but meritorious candidates who are not eligible for reservation benefits. This feeling got manifested itself in self-immolation in November, 1990. Therefore, there should be a penalty for those who manipulate records, produce false certificates and indulge in such other malpractices. Hitherto, the practice has been to pass executive orders to implement the decisions

of the State Governments on reservation policy. Such executive orders cannot provide for penalties. Only legislation can provide for punishment. It should be made compulsory that only those candidates who pass the annual examination will be eligible for monetary benefits. The benefits should be discontinued for those who fail in the annual examination. In order to make it effective it is better that reservation policy is implemented through legislation. It should contain severe penalties for those who indulge in malpractices. penalties for giving and taking false certificates. declaring incorrect income and also for the failure of Government organisations to implement objectively formulated reservation policy. This will put reservation policy on a firm footing with necessary checks and balances. The Supreme Court judgement does not come in the way of passing such legislation.

High Handed Judgement Against High Courts

Another minor issue on which the Court has passed a novel judgement is on the appellate powers of the High Courts. The Supreme Court judgement has put a ban on the High Courts hearing cases relating to reservation issues. The justification of the Supreme Court for insisting that any appeal on matters relating to reservation policy should be preferred only before the Supreme Court, may be defended on the ground that in the past the High Courts gave conflicting judgements on various issues relating to reservation policy. Hence, the Supreme Court has taken upon itself the responsibility of dealing with future cases. But objectively speaking, consistency and judicial logic were also lackingin several judgements of the Supreme Court itself in the past. Many of the past judgements of the Supreme Court relating to the issues concerning reservation policy were conflicting. In fact, the November 1992 judgement itself conflicts with some of the earlier judgements on specific issues.

But a more fundamental issue is - can the Supreme Court take away the constitutional power given to the High Courts on judicial review relating to constitutional provisions? The Constitution under Articles 131, 225 and 226 have conferred the power of judicial review on both the Supreme Court and the High Courts on constitutional matters. This has been considered as one of the features of the basic structure of the Indian Constitution. This power of the Courts cannot be abridged by any amendment to the Constitution. Being so, how can the Supreme Court abridge the power of the High Courts? Will it not amount to changing the basic structure of the Constitution? Does it not imply an attempt at self-destruction by the judiciary? If the Supreme Court bars the High Courts from exercising power of judicial review on issues relating to reservation policy, some day a powerful, thoughtless politician with brute majority in the Parliament may quote this precedence to abridge the power of the Supreme Court to pronounce any judgement on other features of the basic structure of the Constitution. The Supreme Court has only paved the way for destruction of the judiciary in India. It is necessary to restore the power of the High Courts to review the constitutional validity of reservation provisions in the light of the Supreme Court judgement. Since the Supreme Court has already laid down certain broad guidelines on the reservation policy, the High Courts cannot go beyond these guidelines and therefore, there should not be any fear about their becoming inconsistent and illogical in their views. Apart from this, the cost of justice has gone up beyond expectation. In a vast but poor country like India, an ordinary citizen cannot afford to go to Delhi to seek justice in the Supreme Court on matters relating to reservation policy. Precisely for this reason, different States have been demanding for the Supreme Court benches to be located in their capitals. This may not materialise in the near future. Therefore, the Supreme Court should restore to the High Courts their power of judicial review relating to reservation policy.

Permanent Backward Classes Commission

A final point which has got a lot of practical implication for the future reservation policy is that the Supreme Court has held that the Central and State Governments should appoint permanent Commissions, within four months from November 1992, to conduct a comprehensive socioeconomic survey of the population and apply appropriate criteria broadly indicated in the judgement to identify backward classes. However, in the case of those States which are already operating some form of reservation policy, the Court has allowed them to continue that policy but has made it compulsory on their part also to appoint permanent Commissions within six months to hear the grievances of the people on inclusion or exclusion of castes and communities in the list of backward classes and such Commissions' opinion should be normally binding on the Governments.

At present the Central Government has no reservation policy for OBCs. Some States do not have reservation policies worth their name. These Governments should have appointed a permanent Commission each by the end of March 1993 to suggest criteria and identify backward classes for reservation benefits. Other States which are already having some form of reservation policy should have appointed permanent Commissions by the end of May 1993 and asked them to hear the grievances. Both these types of Commissions will have to conduct comprehensive socioeconomic surveys and not a survey of only some sections of the people. Indirectly and implicitly, the Supreme Court judgement has compelled the Government of India to include caste as an item in the census enumeration in future for it is only through the census that a complete picture of the socio-economic status of all people can be comprehended. Since the 1991 Census has already been completed without collecting information on castes, all these permanent Commissions will have to conduct a sort of census enumeration of all castes in their respective States. This will involve huge expenditure. But it will also test the ability of social scientists and statisticians and the impartiality of the permanent Backward Class Commissions.

In conclusion, it may not be an exaggeration to say that the recent judgement of the Supreme Court relating to the Mandal Commission Report case has tried to suggest a more objective reservation policy to promote social justice in the country. The Court has exhibited its determination to rise to the occasion when situation demands to save the country from disintegration. It has proved that the executive represented by the Central and State Governments have failed to promote the interests of the really deserving SEBCs in the country. Even so, the views of the Court on two specific issues namely unconstitutionality of reservation in promotions and the need for uniform application of means test to OBCs as well as SCs/STs do indicate some degree of indecisiveness. We hope that the Court will form its views on these crucial issues in the near future.

NOTES

1. The nine-judge Constitutional Bench included the then Chief Justice M.H. Kania, the present Chief Justice M.N. Venkatachallaiah, Justice A.M. Ahmadi, Justice B.P. Jeevan Reddy, Justice S.R. Pandian, Justice P.B. Sawant, Justice T.K. Thommen, Justice Kuldip Singh and Justice R.M. Sahai. The first four judges delivered one common judgement written out by Justice B.P. Jeevan Reddy which is known as majority judgement. Justice S.R. Pandian and Justice P.B. Sawant though delivered separate judgements have concurred with the majority judgement on many crucial issues. However, Justice T.K. Thommen, Justice Kuldip Singh and Justice R.M. Sahai have delivered a common judgement which is dissenting and known as the minority judgement.

ABBREVIATIONS

- OBCs Other Backward Classes
- SCs Scheduled Castes
- STs Scheduled Tribes
- SEBCs Socially and Educationally Backward Classes

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TOURISM TRADE OF INDIA: TERMS OF TRADE

H. Ashok Chandra Prasad

In this paper an attempt has been made to compute India's Terms of Tourism Trade with important tourism trading partners of India. Since, in tourism trade, actual prices were considered to be more important than changes in prices, actual prices of tourism services of India and other countries from the North and the South were compared. The study shows that improving income terms of tourism trade and balance of tourism trade are more important for India, than improving net barter terms of tourism trade. Policies to be followed in this regard have been suggested.

The tourism sector is one of the most important service sectors of India in terms of net foreign exchange earnings. It has become the largest foreign exchange earning sector and has become more important than the largest foreign exchange earning commodity sector like gems and jewellery in terms of foreign exchange earnings and net benefits. The study of the different aspects of this sector is important for India at this juncture when the liberalisation of services sector of the Indian economy is under way. In this paper, an attempt has been made to deal with India's terms of tourism trade.

India's Terms of Tourism Trade

'Terms of trade in services' is a neglected area of research. An attempt had been made earlier by the author to study the terms of trade of some 'Invisibles' like Shipping and Foreign Investment [Prasad, 1990]. In this paper an attempt has been made to extend the terms of trade concept to tourism trade. Before doing so a brief survey of the attempts by others economists to do so may be in order.

Brief Survey of Attempts at Extending the Terms of Trade Concept to Tourism Trade

In the single attempt of computing unit-value indices for tourism services (exports and imports) and consequently including it in the terms of service trade for India, Neela Mukherjee [1985a], took the number of tourists visiting India as the quantum of travel in the case of both the receipts and payments index.

Ely Devons [1954, Pp. 258-275] in his attempt at extending the terms of trade for the current account of the balance of payments, made use of

the data published by the annual Blue Book on National Income and Expenditure [CSO, U.K., 1946-52, p. VIII] which gave estimates of services at constant and current prices. Similarly, the Organisation for European Economic Co-operation (OEEC) calculated the terms of trade for goods and services, based on the figures of the Blue Book on National Income and Expenditure [OEEC 1952, p. 115].

Brief Survey of Attempts at Pricing Tourism Services

In most national accounts, the estimates at constant prices are prepared separately for the important services generally by carrying forward the base year estimates by relevant indicators measuring the volume of activity. In the UK, for travel and 'other services' domestic and retail price indices are used and adjusted for changes in foreign exchange rates [CSO, U.K., 1956, p. 347]; in the USA, cost of living indices adjusted for exchange rate changes are utilised for deflating travel expenditure; in Japan, consumption by non-residents is deflated by the overall urban consumer price index and consumption by residents in foreign countries is deflated by a combination of the consumer price indices to the USA and countries of the EEC. In Panama, indices of consumer prices in countries visited by Panamanian nationals is used to compute the travel price index [UNO, 1979].

In the World Bank Staff Working Papers, Andre Sapir and Ernst Lutz used the implicit GDP deflators to deflate exports of tourism as the consumer price index was not available for some regions [Sapir and Lutz, 1980, Pp. 12-13]. For travel imports, the price index was also based on regional GDP deflators, which for each region,

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were combined by using as weights the share of that region's tourist expenditures spent in the 14 regions.

In the study by Pronab Sen, for estimating the model for tourism, the domestic price measure and the foreign price measure were used [Sen, 1985, Pp. 40-42]. The consumer price index had been used to capture the former variable, while for the latter, the change in prices in local currency terms and the change in exchange-rate of the currency vis-a-vis the generating country were used along with appropriate weights for the generating country. These weights were the average length of stay of all tourists in a country, times the number of tourists of each generating country in time t, as a proportion of the total length of stay of all tourists in the country in time t times the number of total tourists in time t. The above system of weight was used instead of the percentage of tourist nights spent in the country (which according to him was the best weight) as not all countries maintain data on the average length of stay by country of origin.

The World Tourism Organisation (WTO) study which briefly examines the issue of economic effects of tourism on the terms of trade, points out that 'although there are no specific studies on this point, a number of indicators show that this effect of tourism improves the terms of trade of developing countries'. It further states that 'while there are no tourism price indices, some indicators (average expenditure, price of particular services, etc.) show that between 1970 and 1976 there was a constant upward trend. . . The causes of this increase and greater stability of tourism prices are. inter-alia, constant growth of demand, rigidity of medium-term and long-term supply, relative stability of business tourism growth and the impossibility of creating strategy or speculative stocks as in the case of agricultural or mineral products, since tourism services cannot be stored'. Finally it concludes that 'these indicators and their explanations show that tourism service prices are more stable with a rising trend at international level than those of the traditional agricultural and mineral export products of the developing countries. In this respect, the terms of trade may improve when the developing countries achieve greater stability in their export income through tourism, making a greater contribution to their total efforts' [WTO, p. 67].

Critique of the Methods used in Pricing Tourism Services or Extending Terms of Trade to include Tourism Services

Most studies use the consumer price index or wholesale price index or GDP deflators to deflate travel expenditure. Simply using these deflators for extending net barter terms of trade concept to travel trade is not suitable as the consumer price (or retail price or wholesale price or GDP deflators) themselves become the travel price. There is the need to construct a special consumers' price index, which takes into account the items generally consumed by tourists along with their respective weights. Besides, the effect of changes in exchange rates have to be taken care of, as done in the national accounts methods of some countries like the UK, which, however, do not use special consumer price indices.

The price of travel services should help in comparing the relative costs incurred by tourists in the home country and abroad. The cost of living index, wholesale or retail price indices, used as deflators in the national accounts estimates of some countries, are at least reasonable enough to be rough indicators, but just dividing total travel receipts by number of tourists in the case of receipts index and dividing total travel payments by number of Indian tourists abroad, for payment index, as done by Mukherjee [1985a], cannot even be a rough representative index of the price of tourism services. It only shows the expenditure per tourist in India versus expenditure per Indian tourist abroad.

The price index for tourism services used by Pronab Sen is also not quite proper. Even the best method suggested, but not used by him, that is, using the percentage of tourist nights spent in the country as weights to combine the consumer price index and exchange rate index, ignores the fact that some tourists may be high spenders, as shown in the study of the Ministry of Tourism, [1986, Graph IV]. The best method of weighting is to use the exchange earnings from the respective countries. Again using exchange rate index and then using weights is wrong. We have to first give fr weightage to the exchange rates (and not their sa index) and then make an index of the same. However, the purpose of Pronab Sen and our m

purpose differ. The World Tourism Organisation study which identified the factors leading to increasing and stable tourism prices came to the conclusion that terms of trade would improve due to tourism, without considering the effect of exchange rate changes. The rising tourism prices may turn out to be adverse when corrected for exchange rate changes.

Method of Pricing Tourism Services for Computing Terms of Tourism Trade

The First Best Method

The first best method in the case of pricing tourism (travel) services is to take the prices of commodities and services consumed by the tourists like boarding and lodging, travel, shopping, etc and combine these prices with the help of weights which are the proportion of expenditure by tourists on these different categories. If the broad definition of tourism including passenger fares is taken instead of the balance of payments definition, then a special passenger fares index should be constructed by taking the passenger fares from the main tourist generating countries, with the respective number of passengers as weights. This passenger fare index should be incorporated into a total tourism price index by a new set of weights which also include the proportion of expenditure by tourists for passenger fares along with other expenditures. However, it is better to stick to the balance of payments definition of travel and exclude passenger fares as passenger services may be provided by domestic planes or ships to nationals or by foreign planes or ships to foreigners, which cannot be considered as foreign trade of the nation; passenger fares can be included separately under 'transportation services' or 'Aviation Services'; travel price is a common factor in both the export and import index; for the purpose of terms of tourism trade, changes in travel price can be considered as constant if the percentage of tourists from/to different sources and destinations are the same.

The tourist price index obtained as per the method suggested above, should be corrected for exchange rate changes with the help of a separate exchange rate index weighted by the proportion of expenditure of the major currencies in receipts/payments.

The Method Followed in Our Study

The first best method cannot be followed for the present, due to paucity of necessary data. So the alternative method outlined below has been followed by us in this study. At the very outset, we would like to state that we have been unable to compute the general terms of tourism trade for India, as we do not have data of the expenditure of tourists by different currencies (or at least of the different countries as proxies) to use as weights for the different exchange rates. Though travel earnings/payments from dollar area can be taken as receipts/payments from the North American tourists; travel earnings/payments from OECD area as receipts/payments from French and German tourists; in the case of sterling area, we have many other countries other than the United Kingdoms, especially Pakistan and Bangladesh, the two dominant trading partners in India's tourism from the South; in the case of the rest of the Non-Sterling areas also we have many other countries other than Japan. Tourist days/nights spent in the case of the different dominant countries in tourism trade cannot be taken as a proxy for the weights of the different exchange rates of currencies as the expenditure pattern among tourists also changes. Because of these difficulties we have computed only country-wise terms of tourism trade for the major sources of and destinations of tourists from the North in the Indian case, namely, USA, UK., West Germany, France and Japan and also Pakistan to represent the South (as the consumer price index and also exchange rates of other important tourism trading partners from the South, like Bangladesh and Sri Lanka are broadly in tune with those of Pakistan). On the basis of these results we have tried to arrive at general conclusions. One should note that while it is difficult to calculate country-wise terms of trade, but relatively easy to arrive at general terms of trade for other services, in the case of tourism services, the situation is quite the opposite!

The Export Price Indices of Tourism Services

In the absence of separate data for the expenditure pattern of tourists of different countries, the general expenditure pattern of all tourists based on the surveys conducted from time to time has been made use of to represent the expenditure pattern of tourists from each of the six countries considered here. In the case of the five developed countries the expenditure pattern can be considered to be broadly the same, while for Pakistan it may differ slightly. The expenditure pattern of foreign tourists under the different surveys (Table 1) shows an almost constant percentage of 70 per cent for boarding, lodging and internal transportation and 30 per cent for shopping and miscellaneous activities. The price index for boarding, lodging and travel can be obtained by using the implicit price indices for transport, communication, trade, hotel and storage category, which in turn is obtained by deflating the NDP of these services at current prices by NDP at constant prices; the prices of shopping and miscellaneous categories can be represented by the consumer

price index for urban non-manual employees. It has also been argued that a major percentage of tourists to India are the \$25 a day back-packers [Suri, 1992a]. Though authoritative data are not available, the data published by the Ministry of Tourism [1988], shows a smaller percentage of tourists belonging to the so-called high spending class, like businessmen, government officials, etc. Since the data on tourist arrivals and expenditure also include the arrivals and expenditure of foreign visitors of Indian origin, the indicator of cost of living index of urban non-manual employees as a proxy for the prices of shopping and miscellaneous services of foreign tourists seems quite reasonable. Taking the price indices for these two categories of expenditure and using the weights of 0.7 for boarding, lodging, entertainment, internal travel category and 0.3 for shopping and miscellaneous categories, the general uncorrected export price index for tourism has been constructed. This index is corrected for exchange rate changes, by deflating it by the index of the exchange rate of the Indian rupee with the respective currencies (index of rupees per one unit of the foreign currency). Here we assume that tourists of a particular country use or convert the currency of their home country and not that of a third country.

TABLE 1. PERCENTAGE SHARE OF THE DIFFERENT TYPES OF EXPENDITURE BY FOREIGN TOURISTS IN INDIA

Types/Years (1)	1965-66 (2)	1968-69 (3)	1972-73 (4)	1976-77 (5)	1980 (6)	1982-83 (7)
Boarding, Lodging, Entertainment	74.0	68.4	70.57	68.65	66.54	70.19
Shopping and Miscellaneous	26.0	31.6	29.43	31.34	33.48	29.8 1

Sources: Columns 1 & 2: The Indian Institute of Public Opinion, New Delhi: A Survey of Expenditure, Composition and Reaction Pattern of Foreign Tourists in India, December 1969. (For Column 1: quoting Ministry of Transport and Shipping: Economic Survey of Tourism in India, 1968). Columns 3 & 6: Ministry of Tourism, Government of India: Indian Tourism Performance and Potential 1981-1991 (updated by IIPO,

New Delhi, 1986).

Import Price Indices

Terms of Trade

In the case of the import index, the consumer price index of the concerned foreign country is taken as a proxy for the uncorrected import price index. This is because we do not have data of the expenditure pattern of Indian tourists abroad. These indices are corrected for exchange rate changes by deflating the index of the inverse of the exchange rate of the Rupee with the respective currency (foreign currency per Rupee).

The export and import price indices corrected for exchange rate changes for the six countries are used to obtain the net barter terms of Tourism Trade of India with these countries. In the case of USA, the income Terms of Trade has also been calculated by taking the travel receipts of India from the dollar area to represent the value of tourism service exports to USA. The value index is deflated by the import price index of tourism

Years		Tourisn for	n Export	Price Inde ge Rate C	ex Correcte hanges	P		Tourism for	Limport P Exchange	rice Index e Rate Ch	Corrected inges			Net Ba	rter Term	us of Tour	ism Trade	
(1)	USA (2)	3) NK	Japen (4)	France (5)	Germany (6)	Pakistan (7)	USA (8)	M 6)	Japan (10)	France (11)	Germany (12)	Pakistan (13)	USA (14)	UK (13)	Japen (16)	France (17)	Germany (18)	Pakistan (19)
1960-61	88	81	8	8	103	8	8	47	8	84	43	¢د ا	176	13	250	167	240	۶ ۲
1061-67	00	5	5	6	3	6	Ş	Q	30	ę	ų ų	Y Y	170	19	220	166		201
1067-63	88	33	3	70	5	3	20	₽₽	9 1	3	9 5	₽₹	120	6 9				22
1963-64	:5	88	5	5 8		5	5 6	5	4	12	40	2 4	187	55	36	121	220	212
1964-65	. 8	8 8	× 8	8 8	119	× 8	3	13	4	5	F 59	3 4	207	183	38	<u>8</u>		55
1965-66	1	8	115	12	126	115	8	6	6	3	38	5	52	14	235	176	12	រដ
1966-67	11	F	8	76	z	8	8	5	8	2	12	12	5	5	126	8	132	118
1967-68	87	<u>۶</u>	8	80	86	8	88	81	84	8	86	8	8	117	107	83	114	8
1968-69	87	8	8	80	8	8	8	85	88	<u>8</u>	87	8	<u>۶</u>	112	102	80	114	8
1969-70	8	8	8	87	101	8	5	68	8	101	8	<u> </u>	33	110	<u>10</u>	86	112	8
1970-71	8	8	8	8	8	8	<u>8</u>	8	8	100 100	100	<u>8</u>	100	<u>10</u>	<u>10</u>	<u>10</u>	100	8
1971-72	<u>9</u> 2	<u>8</u>	<u>1</u> 2	105	<u>8</u>	105	116	<u>13</u>	110	105	110	<u>1</u> 6	82	78	ß	100	91	101
1972-73	8	113	z	8	8	204	121	118	134	125	129	61	83	8	2	82	76	334
1973-74	117	130	8	102	8	267	128	6 <u>7</u> 1	171	155	168	67	91	101	8	8	55	3 90
1974-75	133	12	<u>8</u>	131	101	315	156	142	202	170	194	89	85	121	જ	7	55	354
1975-76	139	211	124	116	101	314	169	147	232	ដ	53	111	82	144	ß	52	45	283
1976-77	141	215	119	124	8	300	179	173	272	232	244	128	62	124	4	53	41	234
1977-78	<u>8</u>	ផ្ត	117	138	8	325	182	ž	317	241	267	137	86	109	37	57	37	237
1978-79	2	ន	8	138	6 6	352	189	22	36e	268	297	136	87	<u>10</u>	ม	51	31	259
1979-80	189	ង្ក	118	148	2	403	208	285	391	313	337	147	91	62	R	47	53	274
1980-81	217	Z	4	171	112	468	231	352	393	345	346	159	\$	8	ጽ	ନ୍ଥ	32	ž
1961-82	218	82	142	12	143	483	288	ž	468	335	326	195	76	23	R	8	4	248
1982-83	212	332	155	265	148	557	330	373	465	338	349	189	2	89	33	78	42	295
1983-84	217	380	151	314	159	630	3g	372	530	341	366	<u>19</u> 4	8	<u>5</u>	8	8	43	ង្ក
1984-85	g	423	14	343	170	643	437	377	610	8	378	216	\$	112	2	r	4 5	298
1985-86	210	19	12	347	172	717	Ş	453	675	6 9	407	219	45	88	21	86	42	327
1986-87	232	405	107	289	146	841	8 4	530	1,039	51	552	230	4	76	2	5	8	366
1987-88	245	375	8	5 2	133	917	ន	z	ផ្អ	674	651	237	4	ŝ	••	4	21	387
1988-89	5	35	68	276	134	22	ŝ	18	1,479	ŧ	715	1/2	4	\$	9	37	19	352
1989-90	22	358	16	259	126	1,002	730	882	1,566	871	831	7 36	30	41	9	8	15	339
Source: Ca	Iculated	as per th	c method	given in t	the text.													

TABLE 2. TERMS OF TOURISM TRADE CORRECTED FOR EXCHANGE RATE CHANGES

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(1)	(2)	Japan (3)	France (4)	Germany (5)	Pakistan (6)	USA (7)	UK (8)	Japan (9)	France (10)	Germany (11)	Pakistan (12)	USA (13)	UK (14)
1960-61	57	57	67	77	77	76	67	100	85	74	80	75	85
1961-62	58	8	69	62	72	11	69	67	84	73	81	75	84
1962-63	99	2	72	82	72	78	72	94	83	73	83	11	83
1963-64	63	69	76	84	73	79	74	16	83	75	86	80	85
1964-65	69	72	78	86	76	80	77	8	88	80	16	86	6
1965-66	73	77	81	89	80	81	80	95	90	82	91	90	16
1966-67	73	81	83	92	86	84	83	8	88	79	85	87	88
1967-68	90	84	85	93	92	86	85	101	<u>1</u> 8	76	98	105	108
1968-69	8	88	89	95	92	68	89	102	101	95	98	101	101
1969-70	93	93	94	76	95	94	94	100	66	96	98	66	66
12-0261	100	100	100	100	100	100	100	100	100	100	100	100	10
1971-72	105	107	105	105	104	<u>10</u>	110	98	100	100	101	101	95
1972-73	113	112	112	111	110	108	117	101	101	102	103	105	97
1973-74	131	125	120	119	136	114	128	105	109	110	9 6	115	102
1974-75	163	154	136	127	172	127	148	106	120	128	95	128	110
1975-76	169	112	153	135	208	139	184	151	110	125	81	122	92
1016-77	172	188	167	140	222	147	215	91	103	123	11	117	80
1017-78	182	203	183	146	245	156	249	90	66	125	74	117	73
978-79	185	212	200	149	260	168	269	87	93	124	71	110	69
08-616	210	220	221	156	281	187	306	95	95	135	75	112	69
980-81	236	236	250	164	315	212	361	100	94	144	75	111	65
981-82	268	248	284	174	352	234	404	108	94	154	76	115	8
982-83	282	255	317	184	373	248	438	111	89	153	76	114	2
983-84	308	260	348	190	397	257	458	118	89	162	78	120	67
984-85	330	266	374	194	421	268	481	124	88	170	78	123	69
985-86	353	271	395	198	444	277	510	130	89	178	80	127	69
986-87	407	273	405	198	475	282	528	149	100	206	86	144	LL
987-88	437	273	419	<u>661</u>	497	293	550	160	104	220	88	149	62
988-89	478@	275	430	201	541	304	577	174	111	238	88	158	83
989-90	508*	281	445	206	583	319	621	181	114	247	87	159	82

TABLE 3. INDIA'S TERMS OF TOURISM TRADE UNCORRECTED FOR EXCHANGE RATE CHANGES WITH THE DIFFERENT COUNTRIES

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imports from USA to obtain the income terms of tourism trade with USA. Similar exercises could not be conducted for the other countries as separate value figures are not available.

Analysis and Results

We have to confess about two things before proceeding in our analysis.

1. Our export index is for financial years, while our import index is for calendar years, though a financial year includes nine months of a calendar vear.

2. Given the nature of the data, especially the assumptions made, our results should be used only to see the trends in general.

The results given in Table 2 show that the net barter terms of tourism trade with the selected developed countries is adverse for India for almost all the years, with the exception of the United Kingdoms for some years in the seventies and eighties. If 1960-61 is taken as the base year, one can notice that India's terms of tourism trade has been deteriorating with all selected developed countries. In the case of Pakistan too, unfavourable or less favourable effect can be seen. The deterioration is especially sharp in the case of Japan and West Germany.

The uncorrected terms of tourism trade of India (given in Table 3) on the other hand, is favourable with the USA, West Germany and Japan for most of the years, less unfavourable in the case of France, more unfavourable in the case of the United Kingdoms and unfavourable in the case of Pakistan. Thus on the whole, with the exception of the terms of trade in the United Kingdoms, the uncorrected terms of tourism trade of India with developed countries have been unfavourable or more unfavourable when corrected for exchange rate changes, while the opposite is true with Pakistan. This clearly shows that exchange rate changes are the most important factor in India's terms of tourism trade. This also shows the fallacy of other studies on terms of tourism trade which do not consider the changes in exchange rates.

(Per Cent) Country 1983-82 1978-77 1979-78 1980-79 1981-80 1982-81 (2) (3) (4) (5) (6) (7) (8) 1. France 13.4 12.7 15.6 14.2 18.1 14.5 HRTCHRTCHRTCHRTCHRTCHRTCHRTC 8.9 .. 11.7 14.6 13.1 13.6 7.7 5.1 9.6 5.1 2.9 5.2 3.0 9.4 10.8 13.4 11.8 2. Germany 7.1 5.1 5.3 4.1 8.4 6.0 5.9 4.4 7.4 5.6 4.8 2.7 16.7 8.6 5.5 26.6 9.0 5.9 26.3 6.1 5.3 3. Italy*(1) 19.0 18.3 19.3 17.3 15.2 14.8 23.7 23.3 21.2 4.5 3.5 18.2 18.8 16.5 16.0 16.5 14.7 12.8 i2.1 2.5 2.0 8.3 6.6 4. Switzerland ** (2) 2.9 2.0 7.3 6.0 5.1 3.8 3.6 21.0 17.0 2.9 1.0 4.0 5. United Kingdom *** (3) 25.0 10.0 7.0 5.0 5.7 5.7 5.5 5.7 5.9 8.4 26.0 28.0 8.0 9.0 20.0 8.0 11.0 12.0 13.0 26.0 14.0 18.0 13.2 9.0 16.3 10.2 8.0 1.7 8.1 12.1 9.3 9.1 11.3 6. Canada **** (4) 163 8.8 12.7 6.6 7.9 14.0 10.8 10.3 15.9 12.5 9.0 10.1 7. Australia (5) 11.3 12.0 11.2 9.6 10.8 .. •• 11.3 8.6 11.0 7.0 92 10.2

TABLE 4. TRENDS IN TOURISM PRICES

Average increase of: H: Hotel Prices; T: Travel Price Index; R: Restaurant Prices; C: Consumer Price Index (CPI). 1) Italy: T = hotels, restaurants and public establishments (bars, night clubs, sea-side resorts, etc.). 2) Switzerland: H = hotels and similar establishments. R is estimated.

2) Switzerland: H = hotels and similar establishments. A is commune.
3) United Kingdom: T applies only to foreign tourists.
4) Canada: H = hotels and motels. R = food purchases for restaurants, T calculated from domestic tourist spending patterns only.
5) Australia: position; every fourth quarter of each year. H = change in the price of a room in hotels, motels and similar establishments.
R = change in the price of meals taken outside home and take-away food (one component of the CPI). C = weighted average of eight state capital cities.
Source: OECD [1984].

One more point to be noted here is that in the import index, hotel, restaurants and internal travel prices have not been specifically considered and only consumer price indices have been taken. The fact that these prices for OECD countries increase at a higher percentage than consumer prices (Table 4) implies that India's terms of trade corrected for exchange rate changes with these countries is more unfavourable. India's income terms of trade with USA has risen sharply (Table 5), though the net barter terms of tourism trade has been deteriorating. The fact that the number of tourists from other countries has also been increasing and the travel receipts from all areas are increasing, indicates that the income terms of

tourism trade for India is highly favourable. The credit of making the income terms of tourism trade favourable, despite a deteriorating net barter terms of tourism trade goes to the quantity of tourism services, which are the quantity of services consumed by foreign tourists to India. This depends on three factors, namely the number of tourists, number of days stayed in India and the per day per tourist expenditure. In Table 6 the number of tourists, average number of days stayed by foreign tourists in India and the average spending by tourists per day are given. The table shows that the average length of stay is more or less the same. So the dynamic factors are number of tourists and expenditure per tourist.

Year	Value Index (Index of travel receipts from dollar area)	Import Price Index of Tourism Services from USA (corrected for exchange rate changes)	Income Terms of Trade
(1)	(2)	(3)	(4)
1960-61	32	50	64
1961-62	37	50	74
1962-63	37	51	73
1963-64	41	52	79
1964-65	47	52	90
1965-66	46	84	55
1966-67	41	86	48
1967-68	60	88	68
1968-69	16	92	17
1969-70	114	97	1 18
1970-71	100	100	100
1971-72	110	116	95
1972-73	132	121	109
1973-74	166	128	130
1974-75	303	156	194
1975-76	541	169	320
1976-77	848	179	474
1977-78	1,016	182	558
1978-79	1,258	189	666
1979-80	1,393	208	670
1980-81	1,395	231	604
1981-82	2,241	288	778
1982-83	1,878	330	569
1983-84	2,026	364	557
1984-85	2,678	437	613
1985-86	4,924	466	1.057
1986-87	6,172	496	1.244
1987-88	6,281	522	1 203
1988-89	8,199	606	1353
1989-90	9,380	730	1 2 85

TABLE 5. INDIA'S INCOME TERMS OF TRADE WITH USA

Source: Calculated as per the method given in the text.

Years	No. of Visitors (Tourists) including visitors from Paki- stan and Bangladesh	Average Length of Stay (days)	Visitor Days 2 x 3	Receipts from Tour- ism (in millions of dollars)	Average Spending per Tourist per day (in dollars)
(1)	(2)	(3)	(4)	(5)	(6)
1984	1,193,752	28.4	339,02,556	735	21.68
1985	1,259,384	29.9	376,55,581	897	23.82
1986	1,451,076	29.7	430,96,957	1.157	26.85
1987	1,484,290	29.8	442,31,842	1.343	30.36
1988	1,590,661	29.9	475,60,763	1.407	29.58
1989	1,736,093	-	-	• •	-
1 990	1,707,158	-	-	-	-
1991	1,677,508	-	-	•	-

TABLE 6. DIFFERENT INDICATORS OF TOURISM EXPORTS OF INDIA

Source: Columns 2 and 3 Tourist Statistics (various issues): Ministry of Tourism, Government of India. Column 4: Balance of Payments Yearbook, 1991, IMF.

Policy Implications

Our study of terms of tourism trade has the following policy implications.

1. The Prebisch-Singer thesis of adverse terms of trade is applicable even in the case of tourism services and there is a long-term deterioration in terms of trade of India with the North. Since till late the North has been dominating in India's tourism trade, the deterioration thesis can be generalised to the total tourism trade of India. However with the growing importance of the South in India's trade in recent years, we have to be cautious while making generalisations for recent years as two distinct trends are emerging, a favourable net barter of tourism trade with the South and an unfavourable net barter terms of tourism trade with the North.

2. Unlike commodity trade, in the case of tourism trade adverse or favourable net barter terms of trade is mainly dependent on exchange rate changes. The Real Effective Exchange Rate (REER) used in many studies, especially by the World Bank to measure the competitiveness of an economy, is really a good indicator to measure the competitiveness of tourism services, though one should be skeptical of the indiscriminate use of this measure to measure competitiveness in the commodities sector and other services sector.

3. Though the net barter terms of trade uncorrected for exchange rate changes is favourable for India with the North implying that the tourism export prices of India have increased relatively higher than the tourism import prices, tourism export prices of India are still considered to be low when compared to the countries of the North, while it is competitive compared to the countries of the South. (See, for example, the comparative hotel rates given in Table 7 a and b). In tourism trade, it is the actual prices which are more important than changes in prices. In fact when a tourist decides to tour, his decision relating to cost factors will be based on the prices prevailing in his own country, the country which he proposes to tour and the competitors to this country.

4. While net barter terms of tourism trade with the North has been adverse for India, the income terms of trade is favourable. This is due to the higher quantum of tourism service exports and the dynamic factors here are the number of tourists and per day spending of tourists, while average length of stay has been more or less stable over the years. The adverse net barter terms of trade is in fact the cause of favourable income terms of trade as many tourists visit India and spend to a greater extent because tourism services are cheap in India. Thus adverse terms of tourism trade has actually helped in boosting the quantum of tourism services exported by India.

	Deluxe o First	or Deluxe class	First Cl Class S	ass/First Standard	Star	idard	Eco	nomy
(1)	Single (2)	Double (3)	Single (4)	Double (5)	Single (6)	Double (7)	Single (8)	Double (9)
Manila Bangkok Hong Kong Singapore Colombo Bombay New Delhi	59.60 64.59 83.94 69.06 63.26 52.59 52.08	67.00 69.89 88.91 84.88 74.10 63.92 64.36	37.34 50.01 66.77 41.68 21.94 33.37 30.34	42.80 54.67 70.46 48.82 25.65 47.20 41.40	27.00 54.69 34.05 34.09 18.83 17.79 18.18	32.00 60.84 41.91 39.54 23.00 23.32 26.04	21.50 15.59 17.84 24.91 11.58	32.90 21.16 21.13 28.47 17.46

TABLE 7. COMPARATIVE HOTEL RATES

Note: Rates including Taxes and Service Charge.

Source: Ministry of Tourism, India 1986, quoting Water Master Key, 1981.

h)	W	vrld	Wide	1986
			77 IUC	. 17000

(in US\$)

Del	uxe	Mec	lium	Star	ndard
Single (2)	Double (3)	Single (4)	Double (5)	Single (6)	Double (7)
195 180 to 230 325 to 350 228 to 260 80 82 103 137 174 167 154 170 89	215 205 to 260 325 to 350 228 to 260 89 91 113 149 199 187 174 185 93	170 165 245 127 to 198 52 50 60 45 95 146 129 155 69	190 190 265 168 to 231 60 52 63 50 99 166 149 170 73	145 150 170 23 25 28 34 62 120 109 140 33	165 175 200 29 25 31 36 77 140 129 155 33
	Del Single (2) 195 180 to 230 325 to 350 228 to 260 80 82 103 137 174 167 154 167 154 170 89 145	Deluxe Single (2) Double (3) 195 215 180 to 230 205 to 260 325 to 350 325 to 350 228 to 260 228 to 260 80 89 82 91 103 113 137 149 174 199 167 187 154 174 170 185 89 93 145 160	$\begin{tabular}{ c c c c } \hline \hline Deluxe & Mea \\ \hline \hline Deluxe & Double & Single & (2) & (3) & (4) \\ \hline \hline 195 & 215 & 170 & (4) & (4) & (4) & (4) & (4) & (4) & (4) & (4) & (4) & (4) & (4) & (5) & ($	$\begin{tabular}{ c c c c c } \hline Deluxe & Medium \\ \hline \hline Deluxe & Constant Co$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$

* Singapore Dollars.

Source: Ministry of Tourism, India, 1986, quoting ABC Worldwide Hotel Guide, April 1986.

5. The fact that the per day tourist expenditure is a dynamic factor implies that high spending tourists should be encouraged. In fact some economists have even suggested that India should concentrate on high spending tourists as the pressure on accommodation will also be reduced. However, one should note that for a developing economy like India all types of tourists are important and the number of tourists is also a dynamic factor. Besides in India, the average spending per foreign tourist is that of a backpacker. While this is due to the low-spending tourists from many underdeveloped countries, there are also indications to show that a major percentage of tourists to India are backpackers.

low spending tourists leads to greater pressure on the hotel industry also does not have firm grounding, as these types of tourists use types of accommodation, which are different from the ones used by high spending tourists. In fact it is the competition between low spending tourists and domestic tourists for accommodation that is more important. In this connection the domestic tourists should be given incentives to travel during seasons when the pressure from foreign tourists is less. Another point to be noted here is that the low spending tourists are mainly from the South and at least half the number of tourists from the South are of Indian origin who travel to South India and not the important cities of North India. Moreover, the argument that a greater inflow of This dispersal trend of tourists automatically

eases the pressure on accommodation. Another related point is that though India is similarly placed to Sri Lanka in attracting sun-lust tourists, it is actually not attracting such tourists. Suitable policies in this direction can help in a greater inflow of tourists and also increase in the number of days spent, which of course is still very high in the Indian case compared to its competitors.

6. Another question which is usually debated is whether India should increase its tourism prices (especially hotel rates)? As far as this is on par with its competitors, it will not greatly harm India's interests. However, there is another alternative. India can either raise its hotel prices or maintain the status quo, while lowering the air passage fares (of course within the limits allowed by the IATA). This can be an incentive for foreign tourists, who usually prefer the planes of their own country or of other developed countries, to not only visit India, but also travel in Indian planes. This can lead to a lowering of air fares to India by foreign planes as well, which is discriminately higher, while the same is lower to many neighbouring countries of India. The introduction of chartered flights and the open sky policy under the new economic policies of the government may lead to competitive prices, but the justification for such a policy is a separate question. One relevant point to be noted here is that it is the efficiency and quality of Indian tourist services which should be greatly improved. If this is done, the tourists will not mind a rise in tourism prices.

7. The theoretical solution to the problem of adverse terms of trade is to restructure the distributional pattern of productive resources from sectors where the foreign exchange realisation per unit is declining or susceptible to large fluctuations to those where unit value realisation is high and stable. This is not so relevant in the case of tourism services where quantity increases, leading to higher total foreign exchange earnings, are also due to relatively lower tourism export prices. However, what can be done here, is to increase even the foreign exchange realisation per unit of tourism services by improvement in quality and efficiency.

8. Finally, though exchange rate changes are important factors in terms of tourism trade,

devaluation or overvaluation are policies with wider implications, an examination of which is beyond the scope of this paper and we advocate only the consideration of a lowering of our passage fares. However, the present devaluation of the currency by the Indian Government will lead to a further deterioration of net barter terms of trade, but will increase the quantum of tourism exports. Here promotional measures to attract high spending tourists and highly potential markets and also flexible specialisation to cater to the different types of markets can be advocated. Already many promotional measures exist and new ones have been proposed. But they are not at all considered promotional when compared to India's competitors.

9. One interesting feature in the case of prices of tourism exports of India is that India is the cheapest destination in the world, but a complete tour package is uncompetitive compared to India's neighbours. The Thomas Cook Travel agents' results of Worldwide Cost of Living Index 1992 show that India provides the cheapest holiday resorts to western tourists with the cheapest food, wine and car-hire [Economic Times, January 9, 1992]. A three course meal in India costs Rs 250(\pm 4.80), a bottle of wine costs \pm 2.50 in India, £ 18.50 in Hongkong and £ 20.95 in Thailand: car-hire in India costs £ 50 a week, in Singapore £ 300 a week and in Hongkong, Kenya, Jamaica, Seychelles, St. Lucia and Thailand more than £ 200 a week. Compared to India, taxis are ten times costlier in Seychelles, car - hire six times higher in Singapore, petrol more than twice costlier in Hongkong, Bermuda and Seychelles. VISA International in its VISA Travel Cost Survey of 11 major cities including Hongkong, Singapore and Tokyo of 15 items, considers India as one of the best bargains for tourists in the Asia - Pacific region [Economic Times, October 31, 1992]. Bombay has the lowest food rates and taxi fares. Five star accommodation and fast food in India's business capital is one of the lowest in the Asia -Pacific region. Prices of soft - drinks, camera batteries, taxi fares, hamburgers, accommodation, steak dinners and tooth - paste, are the lowest in Bombay. Double room at a top five star hotel in Bombay costs Rs 5,525 compared with \$387.60 (about Rs 6,860) in Singapore, 425,000 rupiah

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(about Rs 6,248) in Jakarta and 5,700 Baht (about Rs 6,441) in Bangkok. However, the package price of Indian tours is uncompetitive [Suri, 1992b]. For example the package price of an eight days tour are as follows:

Sri Lanka	Thailand	India
DM2,246	DM2,518	DM2,873
DM2,398	DM2.608	DM3,298

While India is the cheapest destination, the tours are costly and the benefits do not go to consumers. The main cause for this is the high travel costs and most foreign tourists travel in planes of their own country or of other developed countries, the fares of which are costlier than travel by Air-India and also costlier than the air-fares to competing countries.

Finally, a removal of the many irritants in the tourism sector can also improve the quality of our tourism services and can generally help in increasing the quantum of tourism services and attaining higher income terms of trade. Then even the net barter terms of trade can be increased by raising tourism export prices without greatly affecting the quantum of tourism exports.

Summary and Conclusion

In this paper India's terms of tourism trade have been examined. After making a survey of literature, India's terms of tourism trade with important tourism trading partners of India were examined. It was found that India's net barter terms of trade with selected countries from the North were unfavourable and deteriorating, while with Pakistan, the single sample country from the South, they were favourable. But the net barter terms of tourism trade of India, uncorrected for exchange rate changes with countries from the North were favourable and with Pakistan unfavourable, indicating that changes in exchange rate is the most important variable of changes in India's net barter terms of tourism trade. India's income terms of trade with USA showed a sharp rise despite deteriorating net barter terms of trade, due to the rise in the quantum of exports of tourism services. Of the three components in the quantum

of tourism service exports, the number of tourists and expenditure per tourist were found to be the dynamic factors leading to favourable income terms of trade for India with USA. Since these two factors for other countries have shown a rise and definitely not a fall, it was inferred that India's income terms of trade with other countries had also been favourable. Further, expenditure per tourist was found to be a dynamic factor implying that high spending tourists should be encouraged for an underdeveloped country like India. In reality, all types of tourists are important and low spending tourists also should be encouraged, especially when the number of tourists is a dynamic factor. Further, the argument that low spending tourists exert great pressure on hotel industry for accommodation was not found to be correct. However, promotional measures to attract high spending tourists and highly potential markets and a policy of flexible specialisation to cater to different tourists-generating markets were suggested.

In tourism trade, actual prices were considered to be more important than changes in prices. The actual prices of India's tourism service exports were considered to be low compared to the North and competitive compared to the South. Thus cheaper tourism export prices of India and adverse net barter terms of tourism trade, were considered to have actually helped in boosting the quantum of tourism services exported by India. However, it was found that though India is the cheapest destination, the tours are costly and the benefits do not go to the consumers. This was due to the high travel cost and the preference of foreign tourists to travel in planes of their own countries, the fares of which are costlier than the Air-India fares. Again their air-fares to competing Indian neighbouring countries are lower. It was suggested that India should lower its air passage fares, while it could either raise its hotel prices or maintain the status quo. India could increase its foreign exchange realisation per unit of tourism services by improvements in quality and efficiency. Removal of the many irritants in the tourism sector was considered to improve the quality of India's tourism services, thus making income terms of trade more favourable. It was also inferred that with an improvement in quality of tourism services and the removal of irritants even tourism export prices could be raised and India's net barter terms of trade improved without greatly affecting the quantum of tourism exports.

In conclusion, we can say that trying to improve India's net barter terms of tourism trade need not necessarily be our objective. Improving income terms of tourism trade and balance of tourism trade should be our objective. For this purpose, better quality of tourism services and removal of different barriers to tourism trade and a policy of flexible specialisation in order to cater to different tourists-generating markets are needed. These could lead to improved net barter terms of tourism trade.

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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, and agencies of central and state governments 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. 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.

In the present section we publish:

1. Planning Commission, 1981; Report of the National Committee on the Development of Backward Areas : General Issues Relating to Backward Areas Development, (Chapters 2, 4, 5, 6 and 9), Government of India, New Delhi, November 1981.

NATIONAL COMMITTEE ON THE DEVELOPMENT **OF BACKWARD AREAS** Extracts from Report on General Issues Relating to **Backward Areas Development**

(Planning Commission, Government of India, New Delhi, November 1981.)

CHAPTER 2

PAST APPROACHES TO THE PROBLEMS OF BACKWARDNESS

In a large country like India, disparities in levels of development in different parts are inevitable. Regions differ in their history, their resource endowment and environment, the level of infrastructural development and the attitude of the inhabitants to development opportunities. However, with the growth of communications and the spread of education, knowledge about what is happening in other parts of the country spread and quite naturally the prevailing pattern of regional inequalities becomes unacceptable. There is a demand to correct these inequalities which the political and administrative system has to take note of. Because of this the problem of regional development in general and of backward area development in particular has been recognised in our plans. It is necessary to know what the plans have to say about regional aspects of development in general.

2.2 The First Five Year Plan was a pioneering exercise that recognised that, in the plan, "the regional aspect with its emphasis on the development of local resources has not been worked out sufficiently" (Chapter VII, Para 33, First Five Year Plan). The First Plan did not talk explicitly about the problem of regional inequalities or of backward area development except in the context of industrial location (ref. Para 3.8 of Report on Industrial Dispersal, NCDBA). It appears, however, that the planners, at that time, placed some emphasis on the need to work out regional plans. Thus, the Plan states as follows:

"Except in the smaller States, it is often desirable to prepare development programmes in terms of regions determined by physical, economic and administrative considerations. The need and priorities of different regions as well as their potential for short term and long term development should be taken into account in drawing up and continually review their development lated into action in any effective manner. programmes".

It is unfortunate that this very laudable suggestion of a regionalisation of State and Central Plans has not been achieved even thirty years after it was first suggested.

2.3 The Second Five Year Plan dealt more explicitly with the needs of what it described as "the less developed areas". The Plan stated that resource constraints would limit the extent to which this can be done but "as development proceeds and large resources become available for investment, the stress on development programmes should be on extending the benefits of investments to under-developed regions". (Chapter II, Para 28, Second Five Year Plan). More specifically the Plan proposed that the objective of more balanced development should be attained by (a) programmes for setting up decentralised industrial production (b) consideration of the need for regional balance in the location of new enterprises and (c) steps to promote greater mobility of labour and organise schemes of migration and settlement from more to less densely populated areas.

2.4 The unusual feature of the Second Plan approach is the emphasis placed on the mobility of labour from less developed to more developed areas. This has certainly taken place to some extent as is evidenced by the out migration from hill areas, the movement of migrants to the areas like the Rajasthan Canal Command and the Terai Zone in Uttar Pradesh, the large scale seasonal movements of construction labour and farm labour, etc. However, it is not clear that these streams of migration, except the seasonal labour movements, are in fact from less developed to more developed areas. Moreover, the role of the Government in organising or facilitating these streams of migration has been limited to a few specific schemes like Dandakaranya or the Rajasthan Canal. Most of the migration has taken place because of the push and pull of economic forces. Hence the Second Plan's bold statement that "steps have to be taken ... to organise schemes of migration and settlement" has not been trans-

2.5 The problem of balanced regional

development received much greater attention in the Third Five Year Plan when, for the first time, the Plan Document devoted a separate Chapter on the subject. The Plan took a more positive view of the possibility of reaching regional balance and stated:

"A large country with extensive natural resources viewing each phase of its development in the perspective of a long term plan, has the means not only to realise a high and sustained rate of growth, but also to enable its less developed regions to come up to the level of the rest" (Chapter IX, Para 1, Third Five Year Plan).

2.6 The Third Plan argued that the large multipurpose projects and the implementation of agricultural production and community development programmes, and of education and health schemes "carried the benefits of development to the remotest area" (Chapter IX, Para 6, Third Five Year Plan). The plan also drew attention to the programme of permanent improvements in scarcity area and the special outlays provided in the State Plans for Maharashtra and Vidarbha in Maharashtra, Eastern Uttar Pradesh and the hill areas of Punjab and U.P. 2.7 The Plan Document stated that "there are several important features in the Third Plan which enlarge the possibilities of development in areas which have in the past been relatively backward" and then goes on to list almost all the major sectors of development. The Plan reiterated the policy of using industrial location decisions as instruments for promoting balanced regional development. It focussed attention on the possibility of using large projects as the catalysts of regional growth and suggested that for the purpose "regional or area development plans should be undertaken at an early stage in the Third Plan" (Chapter IX, Para 18, Third Five Year Plan). Much was expected from the extension of power supply to rural areas and the development of transport and communications. The need for education and training in relatively less developed areas in which new industrial projects may be located was emphasised though now the emphasis was on skill formation since "skilled and semi-skilled people can move from one area to another with much less difficulty and are absorbed more readily wherever the local economy is developing rapidly",

(Chapter IX, Para 21, Third Five Year Plan). The Plan also pointed out the need to pay attention to the availability of competent administrative and technical personnel and on entrepreneurship development in backward areas.

2.8 By and large the approach outlined in the Third Plan is very general. The more specific and concrete suggestions in the Plan were not followed up except perhaps with regard to industrial location. Area development plans to maximise the impact of large projects have even now generally not been drawn up. Special measures to upgrade skills in backward areas have not been pursued with any vigour. There are as yet no official programmes to stimulate labour mobility out of depressed regions. Entrepreneurship development programmes for backward areas have been taken up only in a few cases and that also but lately. The lack of competent administrative and technical personnel continues to remain a problem in backward areas.

2.9 The concern for balanced regional growth and backward area development was thus articulated only in qualitative terms in the first phase of the planning period upto the mid-sixties. Systematic quantitative analysis of the problem of interregional inequalities had not been attempted. Though several useful policy initiatives had been suggested nothing very specific was undertaken except possibly for the location of several major industrial projects in backward areas away from the industrial centres. Many of these, like the steel plants, where specific location and their establishment in the interior was largely a consequence of the fact that the bulk of the raw materials required were located there.

2.10 By the mid-sixties, however, the concern for regional balance came into prominence. The Planning Commission undertook an elaborate statistical exercise which was published in 1967 in the form of a report on "Regional Variations in Social Development and Levels of Living - A Study of the Impact of Plan Programmes". This report analysed and described at some length the extent of inter-State and inter-regional variation in consumption, unemployment, land holding, rural investment and debt, agricultural development, educational and health facilities, roads, etc. The report also went on to examine more specifically the impact of certain key rural development programmes like the adoption of improved agricultural practices, minor irrigation facilities, soil conservation, school facilities, drinking water supply and other village facilities. The survey was essentially factual and restricted itself to measuring the extent of variation in quantitative terms between the States. It is significant because it illustrates the growing concern for the problem of regional disparities and because it is one of the first official documents to deal with it in quantitative terms.

2.11 The growing concern for redressal of regional imbalances found expression in the Fourth Five Year Plan which was formulated in 1969-70. With regard to industrial location the Plan states that not enough had been done to restrain the tendency of new enterprises to gravitate towards metropolitan centres. While discussing the problems of inequalities the Plan stated that the strategy of intensive development of irrigated agriculture led to a concentration of effort in areas which had the capacity to respond to growth opportunities. The concern for regional inequalities was manifested in the Fourth Plan's articulation of the policy objectives for agriculture where, along with the maximisation of production, the remedying of imbalances was given equal prominence. In pursuance of this latter objective, the Plan included special programmes for dry farming, for desert areas and for small farmers and agricultural labourers. This very explicit concern for neglected areas and classes was a significant shift in the orientation of development policy.

2.12 By the early seventies the problem of regional balance had come to the fore more prominently. The resolution setting up the National Commission on Agriculture dealt explicitly with this problem and stated:

"It has become clear that besides the irrigated areas which permit of intensive development through multiple cropping and application of inputs in intensive dose, there are large tracts under rainfed agriculture requiring special attention both in the matter of evolution of the appropriate technology suited to these areas and of making available the necessary resources to the farmers" (Para 4, Resolution setting up the

National Commission on Agriculture).

The terms of reference of the Commission required it to deal explicitly with the

"concept, potential and measures necessary for integrating area development with special reference to dry and rainfed areas, command areas of irrigation projects and remote, economically backward hilly and tribal areas" (Item F (i) in the terms of reference of the National Commission on Agriculture).

2.13 Regional variations and the specificity of regional requirements were dealt with in many parts of the Commission's reports. In its recommendations on what should be the policy objectives for agriculture, the Commission's report stated:

"Much greater attention to the backward areas in the country like hill areas, tribal areas, low rainfall, desert and other drought prone areas, flood prone areas, etc., is called for. In these areas, special programmes are necessary to create facilities and harness the development potential so as to increase the levels of output, employment and income and thereby promote balanced regional development. These areas should receive due consideration to the allocation of resources for the development of the requisite infrastructures. In the cost benefit analysis for investments in these areas due regard should be paid to social returns". (Report of the National Commission on Agriculture, Part II, Para 7.2.13).

This approach was expounded at greater length in Part XIII of the Commission's Report which dealt with rural employment and special area programme. In this report the National Commission outlined the strategy and policies required in special area development programmes for:

i) Hill Areas.

- ii) Tribal Areas.
- iii) Arid and Semi-arid areas.

iv) Kutch and Sunderbans.

2.14 The growing concern for removing regional imbalances was also reflected in the discussion on industrial development. The evolution of policy in this regard has been dealt with extensively in Chapter 3 of the National Committee's Report on Industrial Dispersal, and there is no need to repeat the discussion here. The main point is that in this case too, the effective action was taken in the early seventies when the schemes of Central investment and transport subsidy and concessional finance were discussed and finalised.

2.15 The concern for backward area development continued to grow during the Fourth Plan period. The debate on the incidence of poverty and how it varied between States began in this period. This debate highlighted not just the extent of mass poverty but also the inter-State variations in the percentage of population below the poverty line. The budget of 1970-71 and the White Paper, "Towards Growth with Social Justice", articulated very clearly the objective of redistribution and in this context included special programmes for dryland programme and rural works in chronically drought affected areas. The mid-term appraisal of the Fourth Plan in 1971 reinforced this trend and in the annual plan for 1972-73 the rural works programme for chronically drought affected areas was converted into the Drought Prone Areas Programme. The Integrated Hill Area Programme was extended and an Integrated Programme for Dry Farming (as an, extension of the Pilot Projects) was suggested. Blocks with a concentration of tribal problems had always received a special attention but in the Fourth Plan a few pilot projects on integrated development of tribal areas were started.

2.16 Thus by the time the Fifth Plan started in April 1974, the major features of the policy on backward area development had emerged. In terms of typology, desert and drought prone areas. hill areas and tribal areas were considered to be areas in need of special attention. The approach advocated focussed attention on integrated planning for a variety of activities rather than any limited sectoral programme. The special role of the Central Government in promoting the development of these backward areas was recognised. These are the elements that found full expression in the Fifth Plan. The principal innovation in this plan was the acceptance of the sub-plan approach in tribal areas. The final version of the Fifth Plan contained a very disturbing analysis of the extent of inter-district differentials in the level and rate of growth of agricultural output. This analysis highlighted the need for more effective measures to spread the agricultural revolution to new areas. 2.17 During the course of the Fifth Plan, the Planning Commission appointed an Internal Committee headed by Prof. S. Chakravarty to look into questions of backward area development. The Committee did not finalise its report but a draft report gives some indication of its approach. The draft report contains an index based exercise for the identification of backward districts which is dealt with in greater detail later in this report. However, as the Chakravarty Committee did not finalise its report, the Planning Commission naturally did not consider the recommendations contained in the available draft report.

2.18 Problems of backward area development received special attention in the first and second drafts of 1978-83 plan which was never finalised. These documents contained an extensive analysis of inter-regional and inter-State differentials. They did not suggest any new policy dimension except to focus attention on the importance of the regional approach as a complement to village, block or district planning. In this context the Plan stated:

"Problems of backwardness cannot always be tackled at village, block or district level. There are some barriers to development that affect a whole region within a State and would not be amenable to the sort of programmes that would emerge from village, block or district plans. At the same time, it may be necessary to realise the full potential of these local level programmes. Some examples of such regionally oriented investments are as follows:

- (i) Investment in major bridges, roads, marketing facilities or communication that could open up an area, make commercial agriculture profitable and possibly help to stimulate non-agricultural job opportunities;
- (ii) Investment in labour training which would be of particular importance in areas where a substantial change in the occupational structure is required;

- (iii) Encouragement of rural banks, credit cooperatives and other institutions to improve the credit net work and reduce exploitation;
- (iv) Support for land reforms and other programmes of institutional change;
- (v) Support for administrative changes designed to improve capabilities for plan formulation and implementation." (Draft Plan 1978-83 as revised Para 14.22).

2.19 It is clear that the problem of regional balance and of backwardness has attracted the attention of planners. The problem has sometimes been seen in terms of inter-State disparities though there is also a recognition that there are many disparities within each State also. The emphasis has been on backwardness in terms of economic performance, though the impact of historical and social factors on economic matters has been recognised. A clear concept of backwardness seems to be missing and the term is used in a more or less vague sense to designate areas that do not seem to be benefiting adequately from general development measures. The more concrete steps taken involve mainly special schemes like the subsidies for industry or the special area development programmes. Many of these special schemes are mere palliatives that fail to tackle the root of the problems of backwardness. What seems to be missing is the recognition that most backward areas have a potential for growth which can be tapped if certain special initiatives are taken. The important task of planning for backward areas is to identify what these special initiatives are in each type of backward area.

CHAPTER 4

CONCEPT OF BACKWARDNESS

In our country, a very large number of people believe that the area they live in is, in some more or less general way "economically backward". Many of them also feel that their requirements have been neglected in the processes of planning. This belief has found expression in the political system and manifests itself in a large number of claims for special treatment put forward by official and non-official organisations. Within the planning system, pleas for taking measures to tackle the problems of backward areas are common in the discussions at the National Development Council, the Planning Commission and the debate in Parliament. Thus, there is widespread public concern about the problem of backward area development.

4.2 There are many reasons for this and one of these is paradoxically, the quickening of the pace of development in the post-independence era. In a stagnant or slowly growing society, regional inequalities inherited from the past may continue but are unlikely to worsen in the ordinary course. Expectations of rapid advancement are not aroused and there is no clear vision of prosperity and plenty against which people can compare their own condition. A quickening in the rate of growth can change all this. As income and production grow expectations rise. The more advanced or more rapidly growing areas of the country set standards of production, consumption and economic diversification which the other areas wish to attain. Inequalities which may have been acceptable in a stagnant society now seem invidious and unacceptable because people can see that the prevailing order can be changed. Thus perceptions of backwardness are, to a large extent, a consequence of development.

4.3 The comparison with others can become all pervasive. The people in each area will compare themselves with those in a more advanced area and consider themselves to be backward relative to some area or the other. There are no absolute standards of 'backwardness' as there are no such standards for 'development'. Hence the concept is a relative one and in the ranking of areas, as perceived by them, all but the ones at the top are seen to be 'relatively backward'. In fact, with the internationalisation of developmental issues, the comparison is often with other countries and all areas may consider themselves to be backward, in an international context.

4.4 People's consciousness of the concept of 'backwardness' has been reinforced by the many financial arrangements and schemes that give special treatment to 'backward' areas. Each of these arrangements defines backwardness for its purpose in a particular way. Generally the definitions are so calibrated selectively so as to limit the geographical coverage of the schemes. Thus in the arrangements for fiscal transfers between the Centre and the States, backwardness has been defined in terms of the State income being below the national average. Similarly in the present scheme for concessional finance for industry, industrial backwardness is defined relative to the state average. Since the perception of relative backwardness has become so all pervasive, areas which are excluded in any arrangement feel aggrieved. Hence pressures arise to alter the definitions so as to cover the excluded areas.

The Concept of Backwardness

4.5 The root of the problem lies in the lack of clarity on the concept of backwardness and its relevance for the processes of planned development. In a multi-tier democracy it is also necessary that there should be some degree of consensus behind the specific definitions used to make the concept operational. What is the concept of 'backwardness' appropriate to the process of planned development? The Draft Report of the Chakravarty Committee on Backward Areas made some relevant observations on this matter. The Draft Report states: "The purpose of this Committee is to provide an approach towards the formulation of plans for backward areas where backwardness refers not necessarily to poverty but to factors which underlie such poverty" (Draft Report of the Chakravarty Committee on Backward Areas, Para 2.3). Later in the report when dealing with the appropriate development strategy for backward areas the Chakravarty Committee emphasised the need to identify the required "directional departures from national strategies".

4.6 The National Committee would agree that what is required is the identification of types of backwardness that are amenable to planned development. The Draft Report of the Chakravarty Committee does have this emphasis. However, there are certain other important features of the concept of backwardness which need to be made more clear.

4.7 The planning process takes care of themselves that are required for the purposes of general economic development. Within this framework backward areas need special handling in terms of

financial and administrative arrangements and institutional support. These arrangements and institutional support have to be additional to the general structure. In fact, it is this additionality of special additives to take care of problem areas which creates the urge to add further areas to the list. The important point, however, is that the backward area must have a potential for development and there must be some reason for supposing that by detailed planning, administrative and financial support the productivity of the area can be raised. This presumes that the area has potential for growth which at present has not been dealt with satisfactorily. Where there is no potential for growth, the answer, as already indicated in past plans, lies in out-migration. Thus, for purposes of planning, the areas identified as backward must have three key characteristics:

- (a) They must have potential for development;
- (b) There must be some inhibiting factor which prevents this potential from being realised; and
- (c) There must be a need for special programmes to remove or mitigate the inhibiting factor and realise the full potential for development.

In summary, the concept of backwardness that the National Committee considers relevant for planned development is that an area is backward if it is in need of special measures in order to utilise its development potential to the full. In this context special measures are not merely a question of finance but will involve directional departures or changes in the complex of policies, programmes, technologies and institutional arrangements in the various sectors of development.

Basis for Identification

4.8 The concept of backwardness outlined in the previous paragraph has to be operationalised in a manner that is least open to disputation and most likely to attract a consensus of agreement. As the Committee sees it, there are broadly two ways of operationalising the concept. The first is to rely on some overall index for ranking areas and treat all areas below some cut-off point as backward.

The second is to identify problem areas in different categories by specifying the constraints on development that can only be mitigated by special measures. With both approaches it is necessary to specify the geographical unit relevant for purposes of demarcation. In what follows we deal first with the specification of the appropriate geographical unit and then with the two alternative approaches to identification.

Unit of Identification

4.9 The concept of backwardness suggested earlier focuses attention on the need for special measures to realise the potential for development. This requires that the unit should be small enough to ensure a certain homogeneity of condition so that a further differentiation of approach within the area is not necessary. At the same time the unit must be large enough to be suitable for local planning. The special measures identified for each area would have to be implemented mainly by official agencies. Hence the unit chosen must fit into the framework of development administration. A further factor that has to be taken into account is the availability of quantitative data on the indicators chosen for the purposes of identification.

4.10 The district and the block are both suitable from the administrative point of view as they are both recognised levels in the hierarchy of development administration. From the point of view of data availability the position is somewhat better at the district level than at the block level. However, much of the data that is at present being compiled at district level from census enquiries or administrative control mechanisms can also be compiled and, in many cases, is being compiled at block level. Block level development administration has been around for a long time and the idea of block level planning has found much favour in recent years. Hence the availability of data at block level is already improving. In any case improvements in the availability of data at block level are necessary for the purpose of local planning.

4.11 The crucial consideration in choosing between the district and the block as a unit is the need for some physical and socio-economic

homogeneity within the base unit. The district in India, is on average, a large unit. There is also a great deal of variation in the size of districts. There are some districts which are very large in size (Bastar with an area of about 39 thousand sq. kms) or with a very large population (e.g., 24 Parganas with a population of 8.5 million) or with a variety of physical conditions (e.g., Ratnagiri which has coastal plain as well as hill areas). The potential for development and the measures required to realise this potential will tend to vary greatly within a district. Hence, if the district is chosen as the unit for demarcation, there is danger that the benefit of special measures may accrue largely to the more developed parts of the districts. The development block as a unit is more uniform in size and, because it is smaller than the district, more homogeneous in physical and socioeconomic conditions. The National Committee would recommend that the primary unit for the identification of backward areas should be the development block.

Index-based approach

4.12 The index based approach relies on an overall statistical measure of backwardness which may be used to rank districts/blocks by degree of development. A cut-off point is specified and all districts/blocks below the cut-off point in the ranking are considered backward. Since no single available indicator at district or block level is considered adequate by itself for this purpose, the statistical measure is built from a multiplicity of indicators. Since a number of indicators are used there has to be a procedure for weighting the separate indicators to aggregate them into a single measure. Thus the index based approach requires specification of the following:

- (i) A set of basic indicators;
- (ii) A procedure for weighting or aggregating so that these indicators can be reduced to a single measure; and
- (iii) A cut-off point below which areas are to be considered backward.

4.13 Many exercises based on the index approach to the identification of backward areas have been attempted. At the national level the most notable is the attempt made in the draft report of the Chakravarty Committee on Backward Areas which is reported in Annexure 4.1 to this Chapter. Several States have attempted index based exercises to identify backward districts/blocks for purposes of development planning.

4.14 The principal problem with the index based approach is that there is a great deal of arbitrariness at each one of the three stages listed in Para 4.12 above. This arbitrariness leaves much scope for disputation. An excluded area can argue for a different set of basic indicators or weighting systems or cut-off points which would be favourable from its point of view. Hence, even if the approach is accepted as valid, there may be a great deal of difficulty in reaching any agreement on the matter between the various participants in the planning process.

4.15 The set of basic indicators chosen for the construction of the index generally reflects the availability of data. There is rarely any prior consideration of what ought to be measured. Indicators are included because they are available. Critical factors are excluded because the relevant data are not available. There is a certain ter aency to rely heavily on data from the population census because they are readily available at any required level of disaggregation. When a wider and more representative set of indicators is used, as in the draft report of the Chakravarty Committee, the analysis has to be done at district level since compiled data for lower levels are not readily available.

4.16 From the point of view of the Committee there is a further difficulty in the type of indicators chosen. Generally these indicators reflect the result of a development process rather than the causal factors which led to the present situation. The Committee has suggested a concept of backwardness which requires the identification of areas in need of special measures to alleviate the constraints on development. It is not all clear that the types of socio-economic variables used in the index-based exercises reflect this orientation. For instance, in the indicators used in the draft report of the Chakravarty Committee the only ones which reflect constraints of a sort are the length of surfaced roads and the rate of literacy. Even these are not basic constraints in a strict sense and critical factors like rainfall, topography, etc., do not appear in the list of indicators in any direct fashion.

4.17 The aggregation of a variety of indicators into a single measure poses many difficulties. Since the choice of indicators does not necessarily reflect a prior analysis of relevant factors, there is as yet no acceptable method of aggregation. In many cases all the indicators are given equal weight on the principle of ignorance. With this approach some variable which is overrepresented in the set because data are easily available (i.e., literacy) automatically gets a higher weight. In some cases this problem is avoided by giving arbitrary weights to each indicator on the basis of some subjective judgement on the importance of the factors. If there can be some agreement on these judgements the method is workable provided, of course, that the indicators chosen are relevant.

4.18 A third method that has found favour is the method of principal component analysis. Roughly speaking, the method of principal component analysis can be used to reduce one set of indicators to a smaller number of indicators by taking into account the inter-correlation amongst the indicators in the original set. Each of the new and smaller set of indicators can be expressed as a weighted sum of the original indicators, the weights being derived from various arithmetical operations on the correlation matrix. Each of the new set of indicators 'explains' some proportion of the variance in the original data. The method is useful if any one of the new set of indicators (a) explains a substantial proportion of the variance, and (b) has the expected signs on the weights attached to each of the original indicators. There is no guarantee that this will always be the case. For instance, in the exercise reported in the draft report of the Chakravarty Committee the indicator labelled 'backwardness' has a positive (but small) weight attached to the value of foodgrains output per capita and to the length of surfaced roads per unit area. The positive sign on these two variables is clearly perverse since one cannot argue that the higher the per capita foodgrains output and the more dense the road network, the more backward is the area. Thus at the present stage we do not find the method useful and the belief that the principal component method solves the weighting problem is not well-founded.

4.19 The final element in the index based approach is the specification of a cut-off point below which an area is to be deemed as backward. Generally the medium or average value of the index is taken as the cut-off point. There is no sanctity in this assumption. The draft report of the Chakravarty Committee has used a more promising approach in one case. They have identified break-points or gaps in the scores as one proceeds down the ranking and grouped districts into four categories. This four-fold classification has the further advantage that it avoids the simplistic dichotomy of area into backward and advanced. However, there is still a great deal of arbitrariness in deciding at which of the many break-points one should place the cut-off level for identifying areas in need of special measures.

4.20 The index-based approach does not classify districts into problem categories and in fact further analysis is required in order to do this. All the districts/areas below the cut-off point do not necessarily have the same problem. A multiple classification of the sort referred to in the previous paragraph may be somewhat better. But here too the problem may not be the same within each group. There is also no indication that those below the cut-off are all developable and have the requisite potential.

4.21 It could be argued that the problems associated with the index based approach can be avoided by using simple measures like the percentage of population below the poverty line or the rate of unemployment or the value of domestic product per capita in the area. However, there are certain difficulties in accepting this argument.

4.22 Poverty and unemployment may be manifestations of backwardness but are certainly not causative factors. There are areas which have to be treated as backward even though they do not show a high poverty percentage or rate of unemployment. A typical example would be the hill areas of the Himalayas which, probably on account of out migration and remittance incomes, show fairly high levels of per capita consumption and low levels of unemployment. Nevertheless the Himalayan hill areas are in need of special measures to realise their full potential for development and must, in our view, be treated as backward. Hence, poverty and unemployment are not by themselves indicators of backwardness in the sense in which this term has been understood by this Committee.

4.23 With regard to estimates of domestic product at district/block level, some rudimentary calculations are possible. However, the usefulness of such income estimates is open to question. The income generated in an area is not the same as the income accruing. At a block or district level the difference between these two concepts can be quite substantial. For instance a block or district in which a very large industrial enterprise is situated will show a high level of income from manufacturing. But a substantial proportion of this income may accrue to people outside the block/district in the form of profits. Similarly, a block/district with a large forest area will show a high level of income from forestry. Here too the bulk of this income may accrue to the State Government rather than to people within the area. Apart from this, there are also some difficulties in defining clearly the income generated within a district from activities like rail transport, power distribution, etc. The Committee has seen one exercise giving estimates of district-level income for the U.P. districts. These estimates put almost all the districts of the hill areas and of Bundelkhand above the State average while Lucknow district falls below the State average. Clearly the estimates, even if they are correct, have failed to identify backwards areas in need of special measures to realise their potential for development.

4.24 It has been suggested that instead of using an overall index it may be easier to define sectoral indices to identify backwardness with respect to specific sectors of development, e.g., agricultural backwardness, industrial backwardness, educational backwardness, etc. The Committee feels that such sectoral indicators would also have to face the problem of identifying relevant indicators, aggregating them and defining cut-off points unless there happens to be some single indicator and a well-defined norm on which there is a fair measure of agreement. Moreover, it is not clear that these sectoral indicators will help to identify areas in which a wide range of special measures or initiatives will be required for realising the development potential which is really the concept of backward areas the Committee has suggested above. Such indices may be of use in the monitoring of regional inequalities at the sectoral level. In particular the concept of industrial backwardness may have some validity. But as a general answer to the problem of identifying backward areas, the sectoral index approach is not very promising.

4.25 The National Committee has considered carefully the possibility of using an overall index to identify backward areas in the sense in which the concept of backwardness has been defined earlier in Para 4.7. The Committee had the advantage of examining several studies in this field. The Committee feels that the present position with regard to data availability and the development of methodologies is such that an index based approach to the identification of backward area cannot be recommended. Such an approach will not be able to take into account all the relevant factors in an objective manner and the subjective judgements regarding the choice of indicators, weighting patterns and cut-off points will be open to extensive disputation.

Problem Area Approach

4.26 Earlier in Para 4.8 we have talked of two alternative approaches to the problem of identification of backward areas. The first alternative based on an overall index has been examined above and not found to be acceptable. The second approach has been described there as one which tries to identify areas which cannot realise their development potential unless special measures are taken to alleviate certain crucial constraints. 4.27 The terms 'problem areas' is somewhat vague and, in an under-developed economy, almost any area can claim to suffer from some deficiency that marks it out from other areas in the country. The term 'problem areas' has to be understood in the context of the concept of backwardness indicated in Para 4.7 above. To

reiterate, the Committee has focussed attention on the need for special measures involving directional departures or changes in emphasis in the complex of programmes, policies and institutional arrangements in the various sectors of development. A few examples will illustrate what is meant by 'directional departures':

- The national programme for agriculture production places great emphasis on the new seed water fertiliser technology which is optimal in irrigated or assured rainfall areas. However, this technology is not readily applicable in dryland areas where an alternative technology with a different mix of inputs, services and infrastructure is required.
- In desert areas the usual mix of rural activities is not possible and activities like animal husbandry have to play a much more important role than elsewhere.
- In hill areas, effective watershed management is much more important than elsewhere and activities like horticulture and forestry are as important as agricultural production.
- In tribal areas, the gap between the potential for development and the capability of the local population to utilise it is far greater than elsewhere so that special measures to provide the advancement of tribal households are necessary.

4.28 The instances given above are not meant to be comprehensive. They only illustrate what is meant by terms like 'problem areas' or 'directional departures' or 'changes in emphasis'. The specificity of technological possibilities, variations in the sectoral mix of economic activity, differences in infrastructure requirements and difficulties in the participation of local people in new economic activities will, to some extent, be found in almost any area. However, there are certain areas where these problems are of an order that requires special measures. In this sense backwardness as defined in the problem area approach is also a matter of degree.

4.29 The usefulness of the problem area approach lies not so much in any higher degree of objectivity in the manner in which the areas are identified. Its real usefulness for the purposes of planning lies in the fact that it avoids aggregating very different types of areas into one generalised category labelled 'backward'. Such aggregation can mislead and inspire attempts at uniform remedies for separate problems. In fact it is instructive that when discussing development strategy, the draft report of the Chakravarty Committee on Backward Areas despite the fact that it used an uniform index based approach had to partition the 179 identified 'backward' districts into five groups of which the last had to be described as 'an assorted group of problem areas'. 4.30 The problem area approach has one further advantage. Unlike the index based approach it is constructive in the sense that the process of defining and identifying backward areas itself suggests the nature of the remedies that have to be applied. For example, if an area is considered backward because it faces the problem of chronic drought then the main remedy suggested is drought proofing.

4.31 The difficulty with the problem area approach lies in ensuring that all problem areas are in fact taken into account. There is no sure way of ensuring that this has been done. The approach followed by the Committee was to consult the States and the people involved in development planning at the local level in a wide variety of areas. In these consultations the constraint on development and the types of areas needing special measures could be identified. In this sense the list of problem areas reflects the considered judgement of the development administration machinery. This is all to the good since the purpose behind the whole exercise is to provide this very same machinery with guidance for planning.

4.32 A certain number of problem areas have been recognised in the special area development schemes included in the plan at present. Specifically these schemes are the Drought Prone Areas Programme (DPAP), the Desert Development Programme (DDP), the Hill Area Programme (HAP) and the Tribal Area Sub-Plan (TASP). The Committee accepts special measures over and above the normal plan programmes. On the basis of its consultations the Committee would recommend the addition of two more categories to this list of problem areas, viz., chronically flood affected areas and coastal areas affected by salinity. The justification for adding these two

categories to problem areas is dealt with below. 4.33 The problem of flood affected areas has been studied recently by the Rashtriya Barh Ayog (National Flood Commission). The report of this Commission points out that flood affected areas seem to have had a poorer pace of agricultural advance than other areas. The National Committee also feels that chronically flood affected areas face certain special problems in the field of rural development. The high water levels in the flood season make it difficult to use many of the new high-yielding short duration, dwarf varieties. What these areas need for the kharif season are long term duration. long-stemmed varieties which can stay above the water level and flower after the flood season. A substantial shift towards rabi cropping may also be necessary. A programme to protect human settlements from flood damage will also be required. Hence the need for such special measures justified the treatment of chronically flood affected areas as backward areas within the meaning attached to the concept of backwardness in Para 4.7 above.

4.34 Coastal areas affected by salinity were identified as areas in need of special treatment by the National Commission of Agriculture. However, no centrally supported area development scheme is in operation for these areas, though the West Bengal Government has taken up a major programme of area development in the Sundarbans. Coastal areas affected by salinity cannot utilise much of the new agricultural technology and will require special measures to develop suitable salt resistant crop varieties, to reduce or control soil and water salinity, to promote new activities like brackish water fisheries, etc. Hence in this case too, the nature of the special measures required would justify their treatment as backward areas.

4.35 Thus the National Committee would recommend that the following types of problem areas be treated as backward for purposes of planning:

(i) Chronically drought prone areas.

- (ii) Desert areas.
- (iii) Tribal areas.
- (iv) Hill areas.
- (v) Chronically flood affected areas.
- (vi) Coastal areas affected by salinity .

These six categories can be viewed as six types of fundamental backwardness. In this sense an area may suffer from the handicap of more than one type of fundamental backwardness.

4.36 The National Committee specifically called for suggestions from the States and has received several other suggestions for inclusion in the list of backward areas, e.g., inland areas with saline alkali soils, ravine areas, kandi areas in the foot hills of the Himalayas and areas with a concentration of scheduled castes. Many of the suggestions have been taken into account in the criteria for the identification of each of the six categories of backward areas, e.g., areas of scheduled caste concentration and kandi areas have been allowed for in the definitions proposed later for identifying tribal areas and backward hill areas. In some of the cases the Committee is of the view that the nature of the special measures required is not such that a major directional departure in development strategy is required. For instance inland areas with saline/alkaline soils will require a special programme to correct the soil chemistry. However, beyond that, major changes in strategy may not be required. Hence for planning purposes such areas do not need to be treated as backward within the measure of the concept as indicated earlier in Para 4.7.

4.37 The six types of fundamental backwardness identified will help to identify the areas where suitable area specific development strategies can give results. However, there is one constraint which can make this difficult. This arises from the prevalence of feudal elements in production relations. The main characteristics of feudalism is that the fruits of labour go to the people at the top and as a result, the vast mass of people at the bottom have no incentive to change. Hence directional change and area specific strategies will have no effect unless the overall fundamental defect of feudal social structure is corrected. The problem of feudal elements affecting production is found not merely in the six types of backward areas identified above but also in many others. In fact, many areas which are not covered by the six types but which, nevertheless, seem to be backward may well be areas suffering from feudal hangover.

4.38 Besides areas affected by feudalism, a further category which is excluded from the typology presented earlier is that of areas which suffer from the lack of administrative presence. The developmental process in rural areas is very dependent on initiatives stimulated by the support systems for research, extension, credit input delivery and marketing support. There are many areas where the potential for development is not realised because these systems are poorly developed and indifferently staffed. Many instances of this can be found in areas like the north-east. The Committee recognises the gravity of this problem but for a variety of reasons has not treated administrative backwardness as a further type of backwardness. To begin with, administrative backwardness is not readily measured in any objective manner. The absence of institutions and the number of vacant posts can be quantified but the poor quality of personnel cannot be reduced to any index. Secondly, the answer to this problem lies in administrative action and not in any special area development programme. Finally, many of the areas suffering from administrative deficiencies are, in fact, the areas of fundamental backwardness listed earlier.

4.39 There is one further factor to which the National Committee would draw attention. This is the differential response of different communities to developmental stimulii. Studies done by the Institute of Economic and Social Change on Tumkur District show that villages with roughly similar national endowments and human skills have responded differently to development stimulii. Some have grown whereas others, similarly placed, have not. The studies have suggested an explanation based on a concept described as the 'community element'. This refers to the ability of a community to perceive development possibilities, throw up the necessary leadership and utilise the opportunities created by the process of development. The variations that arise from this 'community element' are readily perceived but the concept itself is not amenable to any meaningful quantification. It is also difficult to predict in advance of the attempt that this community will respond well to some initiative and that one will not. However, the Committee would hazard a guess that many of the communities who may lack the initiative to respond vigorously to development possibilities will in fact be found in the areas of fundamental backwardness listed earlier, particularly in the areas of tribal concentration. Hence the concept of 'community element' does not define an additional category of backwardness but indicates a consideration which should be dealt into the development plans for the areas of fundamental backwardness.

4.40 The Committee has also considered the problem of industrial dispersal and in that context identified certain areas as being in need of special measures to promote industrialisation. These areas have been defined in terms of the level of industrial employment and the proximity to existing centres of industry. Industrial backwardness in this sense, is distinct from the types of fundamental backwardness outlined earlier. It is a matter of history and cannot be linked up straightaway with an index of local potential of human endeavour. It is in a class by itself and remedies have to be sought, not in area development schemes, but in the creation of a commercial and industrial environment in a dispersed network of growth centres.

CHAPTER 5

CRITERIA AND STRATEGY FOR BACKWARD AREA DEVELOPMENT

INTRODUCTION

5.1 In the previous chapter the Committee has outlined the concept of backwardness and, in the light of this concept, suggested the following categories of backward areas:

(i) Tribal Areas.

- (ii) Hill Areas.
- (iii) Chronically Drought Prone Areas.
- (iv) Desert Areas.
- (v) Coastal Areas Affected by Salinity.
- (vi) Chronically Flood Affected Areas.

5.2 The Committee has dealt with the development of problems of these areas and suggested remedies in separate reports. Chronically drought prone areas and desert areas have been dealt with in one report while the remaining four have been

dealt with in four separate reports. These reports contain recommendations of the Committee on the criteria for identification and the strategy for development that needs to be followed in each of the areas. The purpose of this Chapter is to summarise the broad approach in each of these reports. The Committee would emphasise that the individual reports, rather than the summary of these contained in the Chapter, should form the basis for action.

5.3 The Committee has dealt with the problem of each type of area separately. However, there are some areas which can fall into more than one category of backwardness. For example, there is an extensive overlap between tribal and hill areas particularly in the north-east. There is also some overlap between tribal and drought prone areas, e.g., in south-east Rajasthan. In these cases the appropriate strategy has to be to combine the remedies suggested for both types of areas.

5.4 There is one important aspect of development strategy that is not dealt with in this chapter. This is the organisation of administrative and financial structures for development. This aspect, which is common to all type of areas is dealt with in a later chapter.

TRIBAL AREAS

Criteria for Identification

5.5 At present the Tribal Sub-Plan cover all scheduled areas and tehsils/blocks with more than 50% tribal population, leaving the tribal majority states/U.T.s of Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, Lakshadweep and Dadra & Nagar Haveli. The tribal sub-plan approach aims at a comprehensive development of the area with, of course, particular focus and emphasis on the tribals. However, in these areas there are other sections, particularly scheduled castes, who have a symbiotic relationship with scheduled tribes. Often they are the middlemen and have almost assumed the role of contact group for tribal communities in their relationship with the modern system. At the same time many of the scheduled castes in this area share the tradition of the tribal communities. Any scheme of development which does not take into cognisance at least the problems of scheduled castes is likely to result in imbalance and the possibility of manipulation of programmes. Hence the National Committee has recommended that all tehsils/blocks where scheduled tribes and scheduled castes taken together constitute 50% or more of the population should be covered under the Tribal Sub-Plan (Paras 3.35 and 3.6 RTA).

5.6 In spite of differences in problems between different zones there are a few common features of tribal economic and social life which have to be taken into account in the formulation of any development strategy. Some of the common features are as follows:

- (a) Their habitat is isolated and the terrain in these areas is difficult. The transport system is not well-developed.
- (b) Agriculture and collection of forest produce together contribute the bulk of the income of tribals.
- (c) Methods of agriculture are old fashioned and production is oriented to subsistence requirements.
- (d) The barter system for exchange of services and commodities still exists in tribal areas, the markets remain unorganised and commodity loans predominate making it easier for money lenders to operate.
- (e) Tribals spend large amounts of their income on social and religious ceremonies as a result of which they are perpetually indebted to the money-lenders.
- (f) Their low rate of literacy makes them vulnerable to unscrupulous persons in the bureaucracy or the forest contractors or outsiders.

Constitutional Provisions

5.7 The Indian Constitution envisages a special position for the protection and development of tribal communities. The Fifth Schedule of the Constitution gives the Union Government a special responsibility for administration of the scheduled areas. The various constitutional provisions relating to the administration of the Scheduled Areas are complementary to one another and provide a broad frame for action. However, a satisfactory plan of action has to be

drawn up to operationalise all these elements in such a way that they function in unison. In particular, the basic elements which go to determine the quality of administration have to be clearly defined. The constitutional responsibility of the Central Government for ensuring effective administration must be discharged. For this purpose, arrangements are necessary for assessing the state of administration in these areas and for ensuring that the State Government take suitable remedial measures.

Elimination of Exploitation

5.8 Elimination of exploitation is the essential first step. The basic approach and development policy in tribal areas has, quite correctly, laid great stress on protective measures. However, this cannot provide a solution to the problems inherent in a situation where two different systems of unequal strength, are coming in increasingly closer contact with adverse implications for the traditional. The strategy of tribal development, therefore, should stress at measures for building the inner strength of the community so that they are able to face, as quickly as possible, the new system on terms of equality. The tribal areas are passing through a stage when the individual has to cope with conceptual changes in relation to property, ownership of natural resources, etc. In this frame, education and health services have to be given a high priority in the developmental profile of the tribal areas. They have to be accepted not only as necessary investment for faster economic growth but also as an effective protective device during the transitional phase.

5.9 Some of the tribal areas have rich resources but lack of infrastructure inhibits progress in many ways. However, infrastructure in these areas needs to be defined in comprehensive terms. Infrastructure can be broadly classified into three categories, viz., (i) Economic, (ii) Institutional and (iii) Physical. Economic infrastructure, in this context, should comprise stabilisation of their *de facto* rights in a form acceptable in the new system. The institutional infrastructure includes extension services, financing institutions, local bodies, etc. The tribal communities are handicapped by their unfamiliarity with these institutions and benefits accruing from such developmental efforts do not, therefore, generally reach them in due proportion. Therefore the normal structure should be modified and designed so that they are within the comprehension of the tribals and they become active participants. The physical infrastructure comprises road network, electricity, etc. This infrastructure by itself cannot be a sufficient condition for tribal development and unless it is linked to specific economic programmes suitably adopted for the benefit of tribals, it may result in back lash effect.

Sociological Factors

5.10 There are certain sociological factors that have to be taken into account in planning tribal development. The tribal is often loth to accept the discipline of the new economic system. This can be taken into account, to some extent, by reworking the schedule of operations in a manner more suitable for them. The thought systems of the tribals are often very different from those of non-tribals. However, they can be used in a creative way to promote new ideas. Many of the traditional social customs of the tribals particularly drinking, have been exploited by vested interests at a heavy cost to the tribal community. Social education and voluntary efforts in this area is a pre-condition for meaningful economic programme.

Relationship with Scheduled Castes

5.11 The members of the scheduled castes and other communities at the same poor level in tribal areas need to be identified and helped to establish themselves in alternative occupations and contribute to the growth of the local economy. Some of them can become the new entrepreneurs with suitable assistance from the state. However, it will have to be ensured that Scheduled Castes do not emerge as a new exploiting class.

5.12 In family oriented programmes, the proportion of different needy communities other than the exploiters in the tribal area may be the guiding factor for fixing the number of beneficiaries in

each group. The members of the Scheduled Tribes may be assigned a share in proportion to their numbers and the balance being assigned to other people belonging to the weaker sections of the population. The concessions offered to Scheduled Castes in tribal areas should not be less than what is offered to them in non-tribal areas.

Forests and the Tribals

5.13 The tribal communities in India largely occupy the forest regions where, for a long period in their history, they have lived in comparative isolation. These communities have had a symbiotic relationship with the forests as was the case in the early history of most human societies.

5.14 However, it is clear that rights on the forests as were envisaged in the early days cannot be sustained in the same form. The rights in forests can be sustained only if there is comprehensive frame for the protection, use and development of forests in which the community and the individual must assume the responsibility for creation of new forest wealth and its protection. Thus, the tribal community which has symbiotic relationship with the forests, should be accepted as partners in the local forestry development efforts in each area. Today, it is possible by choice of a suitable technology and production pattern that any piece of forest land, about a hectare or so, can make a family economically viable, and forestry organised on modern lines holds great promise in tribal areas.

5.15 It is necessary that a systematic plan of action is worked out for minor forest produce so as to eliminate exploitation. The price of minor forest produce should be remunerative and linked to the market prices and all leases for collection of minor forest produce should be given exclusively to cooperatives of tribals. It is also necessary that the first processing of minor forest produce is organised within the tribal areas and through the cooperative system. The main objective should be to retain maximum benefit from this activity within the local economy which should accrue to the primary collector.

5.16 The investment policy in the forestry programmes has tended to over-emphasise the exotic needs of the modern sector disregarding some

times the needs of the local economy. The programme of forestry, therefore should make adequate provisions for mixed plantations with the objective of providing the tribal community with their basic requirements and increasing production of minor forest produce which may help them to supplement their cash incomes. A minimum percentage of useful species in all plantations should be fixed for each area taking into account their potential and the needs of the local economy. 5.17 Another important aspect of forest and the tribal economy which needs urgent attention is the method of working of forests. The bulk of the labour is casual and seasonal and recruitment is often through contractors. The essential tasks are cooperativisation of forest labour, making forestry operation as dependable a source of employment as is possible and giving the community a sense of participation by sharing with them the profits of forestry activity within the area.

5.18 An important problem for forest policy in tribal areas is that of shifting cultivation (*jhum*). The strategy for controlling shifting cultivation must depend on the extent to which the *jhum* cycle has been reduced by the growth of the population and the pressure on land. The problem is so widespread particularly in the north-eastern region, that all the households involved in shifting cultivation cannot be made to change over to settled cultivation even within a time period of 5 to 10 years. In this situation the strategy should be to concentrate on improving *jhum* in those areas where the cultivation cycle has not come down, say, below 10 years. In areas where the cycles is less than 5 years also, immediate steps to promote a settled cultivation should be taken. The remaining areas will probably deteriorate in a few years and in these preliminary steps towards settled cultivation must be started. There are various models of settled cultivation based on crop production, horticulture, plantation, animal husbandry or a combination of these. The model that is appropriate in any local situation would depend on physical features like slope, soil depth. etc., on the availability of infrastructure and on the aptitudes of the population. Hence the control of shifting cultivation will require detailed surveys for determining area-wise priorities and location specific planning.

Land and the Tribals

5.19 One of the important characteristics of a tribal community is its association with a territory and a tribal within this territory considers himself to be the owner of the and the occupier, by virtue of his traditional association and his personal effort in making it cultivable. However, over the years a variety of factors have loosened the tribal's hold on his land. The absence of land records, the pressure of outsiders and the connivance of officials has led to situation where substantial areas of tribal land have been alienated. Though various State Governments have taken a number of measures from time to time for protecting tribal lands, the total impact of all these measures has not been very significant.

5.20 The Committee has recommended that all transfers of land from tribal to non-tribals should be prohibited and prohibited effectively. Where no law exists, a suitable law should be enacted immediately. Simultaneously changes in legal procedures are necessary to ensure that the tribal is not defeated by the complexities of judicial processes. For example, oral evidence must be given full value in proceedings, the onus of proof that land has been acquired legitimately must rest with the non-tribals, the number of appeals must be limited, etc. Pass books for recording land rights must be introduced. Special legal assistance should be provided. Measures to restore alienated land are necessary and to ensure this, it may even be necessary to alter the statute of limitation. The regulation of land transactions in tribal areas must also direct themselves at measures to prevent fragmentation of holdings. Deforested land must be allotted exclusively to tribals.

5.21 The stabilisation of the land resource base of the tribal is a pre-condition for effective advance in agriculture and allied sectors. The protective measures referred to above can provide a firm base for a development programme. The new economy has to be built on the basis of a
family-wise programme taking care to ensure that the schemes are not too complex and are without the management capabilities of the tribals.

Education and the Tribals

5.22 Education must assume a key role during the present phase of tribal development and must be conceived in comprehensive terms to cover all aspects of community life where they come in touch with the new system. The most important aspect of education in tribal areas has to be that the community should be enabled to have a clear perspective of their relationship with the modern system.

5.23 Education in the elementary schools should be location specific. A child who may spend eight years in a school should come out better equipped for life in the village. The curriculum should be suitably restructured so as to have elements of agriculture, forestry, animal husbandry, cottage industry, etc., and the teaching of subjects should be relatable to specific problems. A programme of 'citizen education' with a comprehensive frame covering the needs of all sections of the tribal population is necessary. This should basically aim at protecting the community from a sudden cultural shock and enable it to graduate through the transitional phase without any erosion of their economic base.

5.24 Planning of education infrastructure should be adapted to the existing distribution of population with the clear objectives of providing universal coverage to children by the school system and also providing an effective citizen education to the community. In sparsely populated areas the organisation of educational institutions may be based on the concept of an elementary school complex consisting of 5 or 6 schools with one of the schools acting as a focal point.

5.25 At present there are schemes for providing financial assistance to tribal students by meeting the costs of education. Even though, general assistance may continue for all communities, special schemes on a more liberal scale should be prepared for the more backward areas and more

backward communities. Unless a suitable differential is built into the educational assistance scheme the gap will continue to grow and the process of educational spread may not pick up.

Cooperatives and Tribals

5.26 A tribal requires a package of services, the main components of which are credit for production as well as consumption, supply of seeds and other agricultural inputs and consumer goods and marketing of produce both agricultural and minor forest. These activities constitute the major areas of exploitation of the tribals. Large size multipurpose cooperative societies (LAMPS) are meant for this purpose; if LAMPS are to be effective, they have to be streamlined and restructured to provide short, medium and longterm credit for agricultural purposes; supply of agricultural inputs and essential domestic requirements, provision of technical advice and guidance, marketing of agricultural produce or products of allied activities and of minor forest produce, credit for expenses incurred to meet certain social obligations, primary processing of minor forest produce and the promotion of thrift. The entire package of services of the LAMPS should be available to the Scheduled Tribes and to every other poor family in the tribal sub-plan area identified on the basis of normal criterion.

5.27 The development strategy suggested by the Committee can be summarised in terms of the following principles:

- effective fulfilment of constitutional responsibilities,
- restoration of the tribal's links with his principal productive resources, viz., forests and land,
- education that is relevant and will help him to cope with the new economic system,
- institutional measures to protect him from exploitation in the supply of credit or essential goods or in marketing.

These principles clearly indicate a strong emphasis on administrative, political and social measures as essential before the economic or technological factors can really benefit the tribal. This is a consequence of the nature of the basic constraints on development in tribal areas.

BACKWARD HILL AREAS

5.28 In the Himalayas the Committee has accepted the areas already demarcated as hill areas in Uttar Pradesh, West Bengal and Assam as backward hill areas for special consideration. The exclusively hill States of Jammu & Kashmir, Himachal Pradesh, Arunachal Pradesh, Manipur, Mizoram, Nagaland, Meghalaya, Sikkim and Tripura are already treated specially as backward States and the needs of the backward areas in these exclusively hill States should be looked after under the State Plans on the basis of the guidelines we have given for dealing with backward hill areas.

5.29 In identifying the backward hill areas of the Western Ghats, the Committee has recommended that, excluding areas covered under the tribal sub-plan for which separate provision exists, the rest of the hill areas above 600 meters contour in the Deccan belt should be considered backward hill areas. The Committee has also recommended that all *khandi* areas in the foothills of the Himalayas should be treated as backward hill areas.

5.30 It has also been generally accepted that the problems of development are far more onerous and intractable in remote and inaccessible hill areas. The major problems which are more or less common to these hill areas can broadly be identified as follows:

- (i) The terrain is usually rocky and undulating and land available for agricultural operation is limited.
- (i) Hills have problems arising from land slides and soil erosion.
- (iii) There is lack of adequate irrigation sources and what there is has a high cost of exploitation and maintenance.
- (iv) Communications and transportation facilities in hill areas are often inadequate.
- (v) Agro-processing and storage facilities remain inadequate.
- (vi) There is a lack of suitable and adequate marketing facilities in hill areas particularly those located away from the hill stations and important towns.

- (vii) Terms of trade are unfair. Producers get low prices for their produce and at the same time the people in hill areas have to pay exhorbitant prices for what they require.
- (viii) There is a general reluctance on the part of the officials and staff to take up assignment in these areas. Because of out-migration of the educated and skilled adults local people remaining behind are not educated and advanced enough yet to fill up the gap.
 (ix) Records of right in land are inadequate.

5.31 Any strategy for development of hill areas has to take note of the economic constraints of the environment and to try to maximise productivity directly by crop production supplemented by suitable subsidiary occupations which the environment can support.

5.32 The majority of the people in the hill areas are living at the subsistence level and, therefore, there is an urgent need to raise the productive capacity of the economy by encouraging income generating activities like horticulture, animal husbandry, social forestry, tourism, etc. This may mean a change from a subsistence food crop to possible cash crops which may give more return. Then there is the problem of out-migration of adult males in search of employment outside imposing a heavy burden on women. In order to slow the progress of out migration, generation of gainful employment locally has to receive a high priority for improving the quality of life of the people. Collection of fire wood and bringing water from long distances occupy a great deal of time of women in hill areas. To reduce the drudgery of the women folk in these pursuits and also for providing them with subsidiary occupations to raise their standard of living, problems of supply of fuel, food and drinking water should be tackled on a priority basis.

5.33 Because of the paucity of administrative support and communication, no householder in the backward hill areas will risk the possibility of not producing a certain minimum food crop for his own family and depend on other people for his food. The problem can be solved if in areas where the food crops are replaced by new cash crops (a) suitable marketing facilities are built into the system to buy the production at fair prices and take them off the hands of the farmers of the area and (b) arrangements are made to supply the foodgrains commonly consumed in the area in fair price shops so that the farmer can buy his requirements at reasonable prices.

5.34 Development will have to be taken up first in the zones which can be much more productive under the new strategies and on the communication routes. The Committee is of the view that resources survey of various hill areas is essential for better planning of soil, water and crop management and also formulating plan for the region and it has, therefore, recommended that appropriate resources survey maps should be drawn.

Watershed Approach

5.35 In hill areas it will be generally found that the area for social and economic planning will be a watershed. Communication follow the streams. Social groups and village boundaries are generally coterminous with watersheds as communication across watersheds is difficult because of terrain. The the Committee. therefore. recommended that the watershed should be the primary planning unit rather than a block or a district. The watershed approach provides a sound basis for programming of soil conservation, water harvesting and harnessing of land use and planning social institutions. It is also possible to delineate watersheds micro into and mini-watersheds. A mini-watershed may be equated with the concept of a focal point and may cover an area of a cluster of villages with a population coverage of a fifth or sixth of a block population and micro watershed may cover an area of 1,000 to 1,500 hectares.

5.36 The watershed approach should mean planning and implementing soil conservation programmes for all types of lands and associated drainage system in the watershed within a reasonable time frame, with the objective of providing maximum protection to existing land and water resources while optimising their use for increasing production and employment benefits. It will, therefore, be necessary to undertake appropriate programme for preparation of a framework of watersheds by delineating the catchments and sub-catchments into smaller units and codifying them with a system which will be understandable to all users. Once delineation and codification is done, *inter-se*, priorities for the development of these watersheds should be assigned.

5.37 Once priority watersheds are identified and land classification completed it will be necessary to identify the areas needing treatment under agriculture forest and other land use practices. Depending upon a number of factors, such as slope, soil, rainfall, etc., a package of treatment measures will have to be chosen.

Land Use

5.38 The land use in the hill areas as in other parts of the country has been guided mostly by the pressure of the population on land and the tendency is to bring under cereal production even marginal lands unsuitable for cultivation. This problem is specially acute in the hill areas and has led to cultivation on slopes and on poor soil profiles thereby leading to very rapid soil erosion and a permanent loss to the productive areas. It is, therefore, necessary to see that the land use is adjusted to the potential of the land without leading to land deterioration. This can only be done by an active and intelligent extension approach. The farmer will have to be given alternatives which are more profitable to him.

5.39 Broadly speaking, forest covers in the hill slopes are ideal and should get priority. Cultivation of hill slopes should be discouraged as far as possible as this causes erosion. Even the high value crops like potatoes which cause erosion should not be encouraged on slopes. There should be long-term policy for covering such areas under perennial crops. The Committee has recommended that degrees of slopes beyond which cultivation should not be allowed, may be specified for different regions.

5.40 As far as possible, horticulture should be encouraged in combination with soil cover. Soil cover should preferably be comprised of grasscover mixtures suitable to the locality. This will provide a very good combination for horticulture and animal husbandry both of which can be complementary. 5.41 The approach that the Committee is suggesting need not necessarily mean that large amounts of foodgrains have to be imported from the plains. The watershed approach also involves the development of irrigation. The Committee has pointed out that with suitable high yielding variety of foodgrains being used, the hill areas can grow much more food than what they are doing today. Thus, the strategy must be to increase the irrigated areas in the zone taken up for a change over to horticulture, pasture development, vegetable growing, etc.

Animal Husbandry

5.42 Livestock rearing is of special significance in the economy of the hills as it is a key component of the mixed farming systems prevalent there. The quality of cattle in hill areas should be improved by an intensive cross-breeding programme. Because of the cooler climate higher levels of exotic blood are acceptable in the hills than in the plains with corresponding improvement in productivity. However, cattle development in the hills can only be taken up if arrangements for fodder supply are improved. Methods to improve the fertility and productivity of common pastures are necessary. The possibility of utilising nutritious fodder from forage trees has to be investigated and established. There is great potential for sheep development in the eastern and central Himalayas but here too pasture development is an essential concomitant. Piggery development holds great promise, particularly in the northeastern region, where there is a high concentration of pigs and a substantial demand for pork.

Forestry

5.43 The importance of forest cover on hill slopes cannot be overstated. In fact a very substantial portion of the forest areas of the country lies in the north-eastern region, the Himalayas and the Western Ghats. In recent years there has been extensive deterioration in the forest cover in hill areas because of the growing requirements of fuel and timber of a rising population, the deterioration brought about by uncontrolled grazing, damage from fires and the prevailing system of rights.

5.44 A suitable strategy will have to be developed for managing the forests in the hill areas of the country to answer the problem of environmental stability, at the same time meeting the needs of the hill people who are very much dependent on forest for many of their daily requirements. The density of population is on the whole much less than the average in the plains. Yet because of the abject dependence of the people of these areas for their fuel, fodder and to some extent food requirements in their daily life, forest areas have been severely depleted. Starting with the civil and community forests the depredations have now gone on into the reserved forests. As a result large areas though recorded as forest areas, at present, do not appear to have much of cover either in the shape of trees or grass resulting in severe soil deterioration.

5.45 The minor forest produce in all forest areas gives substantial employment though seasonal to the people in the areas in collection and sale of the minor forest produce. The general policy is that the purchase of minor forest produce in the forest areas must be departmentally managed so that the collectors of minor forest produce are given a fair price for their labour. This has yet to be developed on a large scale. Because of this uncertainty about the availability of fair prices and a continuous opportunity, there is over exploitation of the minor forest produce. A consistent policy will have to be developed to ensure that the tree wealth, which gives the minor forest produce is not only maintained but developed. Secondly, a fair price should be given to the produce based not necessarily on the labour charges alone, by complete departmentalisation of minor forest produce collection so that the urge to over-exploit is also curbed.

5.46 In the north-eastern region there is the problem of the extensive areas of forest that are outside the control of the Forest Department and are owned by district or village councils. In the interests of ecosystem management it is essential that silvi-cultural control over these forests is exercised by the Forest Department even though the ownership and the income from the forest remain with the district of village council.

Industrial Development

5.47 Industrial development in the hill areas has to be based essentially on the promotion of such activities in which hills offer a distinct advantage like forest based industries, vegetable and fruit processing, etc. Another area in which hill areas offer an advantage in terms of climate and dust and pollution free environment is electronic and precision goods. The major advantage of such industries is that they do not involve heavy transportation of raw materials. These are mainly skill based industries where the value added is substantial. Necessary steps will have to be taken for training and skill development so as to prepare the environment for location of such industries.

DROUGHT PRONE AND DESERT AREAS

5.48 From the point of view of this Committee drought proneness is a type of fundamental backwardness which needs a melioration. The fact that certain parts of the areas may have irrigation and other opportunities which are taken into account at present cannot affect the backwardness of the area where drought conditions persist. Since our objective must be to find the means for increasing and stabilising productivity in backward areas, it seems reasonable to follow for this purpose a synoptic definition that a block can be defined as drought affected, if the pattern and quantum of rain precipitation during the main crop season of the area makes the traditional cultivation of the main crop of the area hazardous in three years or more out of every 10 years.

5.49 In order to delineate an area as drought affected, on the basis of the criteria mentioned above, one needs location specific data on rainfall, the major crops in the area, their evapotranspiration rates and the soil moisture conditions and retentivity so as to work out the water balance for the major crops in the area. The pattern of rainfall is generally available at the block level but there has not been sufficient adaptive research yet in the country to work out the other parameters. If a scientifically accurate definition of drought proneness has to be introduced, it will be necessary first of all to gather these location specific data at the block level. This is going to be a long drawn process. Meanwhile,

it is not desirable to depart suddenly from whatever programmes have been developed for amelioration of drought prone areas as presently defined. The Committee has, therefore, recommended that till the necessary data are collected and a scientific assessment of drought prone blocks is made, the present area under the drought prone area programme may continue to be handled under the special area programme. It has been pointed out to the Committee, during its discussions with the States, that even on the basis of the present criteria, there are certain areas which need to be brought within the drought prone area programme. The Committee has recommended that all such cases should be examined on merit on the basis of the existing definition and brought within the programme if they qualify. At the same time, it would only be reasonable to expect that blocks which have already come to a level of development which will put them outside the drought prone area category, should be removed from the programme.

5.50 As in the case of semi-arid areas, the delineation of arid areas also demands more data than are available at present. However, from the trend of variation of rainfall and temperature amongst meteorological stations, the moisture parameters and observable arid region characteristics, a reasonable delineation, however, approximate has been made. The area classified as hot arid lies in the States of Rajasthan, Haryana and Gujarat. The Committee has not recommended any change in the present delineation.

5.51 Apart from hot arid areas, there are cold desert areas in the country - in Ladakh valley, in Jammu and Kashmir and the Lahaul and Spiti and Kinnaur region in Himachal Pradesh. As in the case of the hot and arid regions, the Committee has not recommended any change in the present delineation.

Strategy for Development

Basic Approach

5.52 The economic backwardness of the drought prone districts outside the desert area is due to not only the limitation of natural advantages but also to the manner in which the existing endowments have been put to use by men. The climatic and environmental conditions in these areas are less harsh than in the desert region. But unplanned over-exploitation of natural resources and neglect of conservation measures are responsible for a substantial imbalance in the ecology of these areas. The imbalance has arisen because of factors like denudation of forest and tree growth, over grazing, crop farming on marginal and submarginal lands, the resulting surface run off of rain water and soil crosion. This is what underlies the precarious production base and low productivity. In attempting the development of these areas, therefore, the restoration of the ecological balance between the water, the soils, the plants, the human and animal population should be a basic consideration and should underline the development strategy. This will require an appropriate land use pattern which will be conducive to attaining the necessary ecological balance. If a proper balance is achieved, it is possible that there should be better and more uniform retention of soil moisture vital for the growth of crops and other vegetation.

5.53 The problems of the desert areas are different in many ways from those in the semi-arid and dry sub-humid regions. An analysis of the situation shows a very complicated trend. Total cultivated areas are much less than total areas available for cultivation. Considering the density of livestock population, one would expect the uncultivated lands to be used as range lands, but this is not the case. There are as much different patches of land. cultivated or uncultivated, distributed in scattered bits, except may be for large units identified as forest lands. Animal wealth is under-exploited, in spite of the fact that the tract can boast of the best Indian dual purpose breeds of cattle and recognisable breed of sheep. The livestock economy is migratory in character, mainly due to lack of all the year around grazing and water facilities. In years of drought, a large number of animals, both cattle and sheep die due to malnutrition and diseases, thus depleting a valuable resource.

Watershed Planning

5.54 For a complete watershed approach one has to bring soil conservation measures, water con-

servation and storage measures, dryland farming. animal husbandry, afforestation and minor irrigation as the minimum number of disciplines under a coordinated approach. At present, the watershed approach (in the DPAP) is one of the many programmes that the district carries out under DPAP. It is taken as a separate programme by itself with a coordinated approach limited to the watersheds taken up under the programme. On the other hand, in the drought prone districts, many programmes of soil conservation, water conservation, dryland farming, animal husbandry, afforestation and minor irrigation are carried out both under the DPAP programme and under the general departmental programme of the State. A haphazard and scattered handling by each department of its programmes does not lead to the end result, one can get in a watershed approach if all of them cooperate within the watershed. This cannot happen unless the DPAP itself does not treat a watershed development programme as a separate type of programme but brings this in as a concept of coordinated handling of all the disciplines.

5.55 A watershed is a natural hydrological entity in its technical sense. It is a defined area which does not allow any water from outside the catchment to enter it and allows its water to discharge to a common point in a stream, rivulet or river.

5.56 A watershed approach to planning involves a careful study of basic physical features like the physiography, land slope, nature and depth of the soil and the hydrological behaviour of the soil slopes in the watershed. The type of soil conservation measures and moisture conservation measures and the allocation of the various parts of the land for the right type of vegetative cover, grass, trees or agricultural crops will depend on this initial analysis of the physical characters. As a first approximation in planning this approach should be within the present traditional frame of land use with modifications acceptable into the field. The next stage of development will be through demonstration and discussions to get the acceptance of the people in the watershed to the proper land use on the basis of proper soil and water conservation plan.

Role of Agro-Meleorology

5.57 Rainfall varies a great deal in the semi-arid and arid regions and the temperatures and high and generally moisture stress would be felt in some part or the other of the growing period of the major crop of the areas. The strategy should be to see that during the crucial growth periods of a crop, there is sufficient moisture in the soil to support evapo-transpiration requirements. This needs a close link up between the pattern of Land Use minfall in the area, the probabilities of the soil retaining sufficient moisture and cropping paticm.

5.58 In this context, the water balance technique seems to be a dependable approach for the objective of drought prone area amelioration as it takes into account precipitation, evapotranspiration and soil moisture storage and attempts to arrive at a balance between water income and water loss. However, owing to paucity of experimental data on evapo-transpiration and soil moisture over the semi-arid tropical regions of the country and evolution of appropriate area specific agro-climatic models, it is necessary to make a start with the preparation of a sowing rain commencement chart with available climatic data. The next step of great biological consequence to crop in problem areas is to assess the average inter-spell duration, i.e., the mean period between effective rain spells. The third step is to assess the duration over which the soil can sustain the crop before moisture replenishment through precipitation takes place. These three steps put together and considered in relation to the soil and flora lead to a distinction between the various degrees of drought proneness and also identifying hard core areas. By identifying the hard core areas, this approach also indicates the locations for intensification of ground water exploration, identifying possibilities of other methods of water supplementation, setting up of seed, fodder and fertiliser banks, etc., in the areas which are likely to be worst affected.

5.59 The statistical approach outlined above is useful for planning on a long range basis and has to be combined with a seasonal planning according to the progress of the season and march of weather. It is here that combined discussions among agro-meteorologists, agronomists, plan protection and extension officials would help in framing area specific bulleting for dissemination through mass media channels.

5.60 The Committee has recommended that the State Agricultural Universities, in collaboration with the Indian Meteorological Department and other concerned organisations, should take up such an analysis in hand immediately.

5.61 Sizeable parts of the area in the drought prone districts are not fit for arable farming. However, in actual practice, there has been growing trend towards bringing these areas under crop farming and crop husbandry has thus been taken to the marginal and sub-marginal lands.

5.62 The important point to be considered is how to reverse this trend. Today the technology is available to provide greater income to the farmer from the lands unfit for crop farming by putting these marginal and sub-marginal lands under pasture, horticulture, afforestation.

5.63 Despite the technology being available and its economic feasibility being established, the farmers are not changing over to the new pattern. The trouble is that every household is anxious to somehow produce sufficient foodgrains because of the fear of drought and famine, and also for a carry over for the next year when the food crops may fail. If the farm population is to be brought out of this fear complex and persuaded to change the present pattern of land use, there must be some guarantee that they will get their food requirements throughout the year at a reasonable price. from nearby fair price shops. This is the first essential and foremost support for a proper land use strategy.

5.64 The next step is to prepare an inventory of the natural resources of all arid and semi-arid lands. Surveys which provide comprehensive information with regard to land use capability classes, vegetation types, water resources, socio-economic conditions and human-animalvegetation relationship, etc., are necessary. Utilising the micro guidance given by such studies, the position will have to be refined for each block by suitably constituted inter-departmental groups so that extension workers can be guided on the types of land use that can be introduced with profit.

5.65 Once such maps are available, it would be necessary for the concerned planning and development authority in the area to draw plans to take up relevant developmental strategy for such lands as are found unfit to give better return or are in a position to give better return, if diverted to uses other than crop farming. The Committee considers this as a very essential step not only for proper land use and improving the productivity and economic conditions of the people living in these areas, but also in restoring the ecological balance which would go a long way in not only improving the conditions of the people in these areas but would also be in the large national interest.

Water Resources

5.66 Rainfall being scarce and highly variable and evapo-transpiration being generally high, water for development is the most scarce commodity in drought prone areas. Proper management of water to get maximum result out of the available precipitation, therefore, assumes extreme importance in the strategy for drought prone area amelioration. One of the systems of management is providing suitable irrigation schemes. The other type of management is moisture conservation of the precipitation on the land.

5.67 Whereas a lot can still be done by tapping available surface and ground water resources in the drought prone districts, it has long ago been realised that amelioration of drought prone districts can only be carried out effectively by transfer of water from more richly endowed basins to the drought prone areas. In future planning, the strategy will have to be to ensure that such inter-basin transfers are systematically developed and relief given to drought prone areas, particularly those which do not have much of natural precipitation. In badly drought affected areas, surface irrigation by gravity should be combined with lift irrigation to give relief to areas on a higher contour.

5.68 It is necessary that waste of irrigation water should be avoided and that the crops should be so

selected that they give maximum productivity for the water used and the timing of water so arranged that evapo-transpiration balance is maintained during the crucial periods of crop growth.

5.69 It will generally be found that surface irrigation projects will have a command much larger than what the storage water can irrigate under the present principles of irrigation. Similarly, the command of a ground water resources or a lift irrigation resource will be much higher than what the irrigation system can cover under present principles. In such a situation the available water has to be distributed over the command on a equitable basis. Our first objective should be to ensure that each family in the area gets a reasonably firm base for his economy so that in serious droughts only marginal help will be needed for the family. There is justification for bringing in the principle of social justice and equating distribution of water to the families.

5.70 Ground water exploitation and conjunctive use of ground and surface water will be an essential ingredient, in agricultural development of drought prone area. With saline ground water a proper planning of conjunctive use of saline and fresh water and suitable agronomic practices and selection of cultivators tolerating levels of salinity, will all have to be fitted in to the programme. Percolation tanks have special value in drought prone areas but such a programme will not give the maximum benefit unless the down stream open wells are constructed.

5.71 The provision of drinking water supply is important element in any programme of development in drought prone areas. These areas experience acute scarcity of drinking water, both for human population as well as livestock, because of low rainfall. In fact, no development of livestock is possible in potential areas without the facility of drinking water. Priority attention, therefore, needs to be given to locating sources of drinking water in those areas.

Crop Production

5.72 Successful dry land agriculture requires a two-pronged strategy. When the monsoon is normal, it should be used most effectively. The second part of the strategy comes into operation

the moment the weather turns aberrant. This approach must outline for each agro-ecological region the list of anticipatory measures and alternative crop strategies that ought to be adopted when there is evidence of the incidence of drought. This kind of programme involves steps like altering crop patterns, proper development and management of irrigation sources, midseason corrections in crop planning, introduction of crop life saving practices and building up of an appropriate seed and fertiliser buffer to implement the drought cropping strategy.

Animal Husbandry

5.73 Development of livestock has an in built superiority over crop farming in the drought prone areas in so far as fodder cultivation is less vulnerable to the dry spells and the harsh climatic conditions in these areas. Because of this, animal husbandry in conjunction with dairying can offer a more stable base than crop farming for sustained income for the rural households in these areas.

5.74 The drought prone areas are characterised by the scarcity of fodder and grasses for feeding livestock because of diversion of land to crops. The arid districts have less than five per cent area under pastures, though the pasture areas in the other DPAP districts are larger. Notwithstanding the land resource constraints, these areas do offer considerable scope for pasture and fodder development in the available areas with the latest technology for fodder crops and pasture development. This is an essential precondition for successful animal husbandry programme. The other problem is that of drinking water. This would have to be provided for in the water resource development plan.

Diversification of Economic Base

5.75 The main emphasis in the drought prone areas has so far been on agriculture and allied sectors and on restoration of ecological balance. But for an integrated development of any area, agricultural sector alone cannot help to achieve the objective. One of the major reasons for deterioration in the ecological balance in these areas has been excessive pressure of population on land. Therefore, unless alternative sources of income are provided to the population, any attempt to promote optimum use of land and water cannot succeed, in spite of the improved dryland agricultural practices.

5.76 There is seasonal out-migration of various types of labour from many drought prone areas in the country to take advantage of the semi-skilled labour opportunities available in the large scale industries and construction development taking place in the country. There is also seasonal migration to other areas. In planning the development of drought prone areas, these outmigration opportunities should not be lost sight of. It may be necessary to assess these opportunities and utilise them instead of trying to keep back people in the drought prone areas under low wage employment schemes.

Research and Extension

5.77 It is quite clear that a large number of technological innovations are available with research stations for increasing the productivity of drought prone areas. The major problem is the transfer of appropriate technology to the people in each specific watershed for promoting rational use of land, water and other natural resources. Effective transfer of appropriate technology for watershed development would involve the following activities:

- (i) ascertaining the present level of technology in use in the related sectors;
- (ii) identifying the type of technology needed and suited for the felt needs of the population of the water-shed in general;
- (iii) based on such feed back, need for adoption or adaptation of available technology for improving the productivity of the area and preventing the ecological deterioration;
- (iv) testing the suitability of new specific technology in different agro-physical and climatic regions requiring a large number of adaptive field trials and operational research projects under different geographical and socio-economic conditions; and
- (v) strengthening the linkage between research and field personnel.

5.78 It has to be noted that the development of Desert Development appropriate technology for the drought prone areas requires an effective feedback mechanism. The research has also to give priority to the development of low cost technology. A careful analysis of the methods of agriculture, animal husbandry, etc., in these areas might indicate that a few modifications in the existing practices could yield better results instead of introducing new innovations which may not only be costly but may also require lots of efforts before the farmer could be persuaded to take them up. It is, therefore, essential that the research should aim not only at evolving new technologies but also on improving upon the existing ones. More important than anything else is the need to bring about a multidisciplinary approach in research.

5.79 With regard to extension the Committee has drawn attention to the potential of a suitably modified Training and Visit method. In the T & V method there is a back stop by a Technical Group which trains the VLWs every fortnight during the cropping season or the programme to be put across in the field in the next fortnight. This technical group is expected to keep itself in tune with the season by being based on a demonstration farm where they will be replicating the programme and using it for training also where necessary. This back up technical group with a base experimental area is crucial for watershed programme. Besides the technical disciplines involved in the T&V, a soil and a water specialist will have to be included.

5.80 Whilst the above technical group will meet the requirements of all aspects of soil and water management and agronomy, the watershed programme has subsidiary production lines in animal husbandry, horticulture and forestry. The Committee has recommended that the expertise for this should be included in the Technical Group under the Project Administrator.

5.81 Effective conservation and water harvesting is difficult to accomplish individually as there are community problems related to the characteristics of watersheds. Therefore, any package of technology having the potential to provide attractive benefits to the farmer requires a community approach and cooperation for its successful adoption.

5.82 The economy of the desert areas should continue to be mainly animal husbandry oriented. The desert areas has a natural endowment of several good breeds of cattle and sheep. A major thrust of the development programme has to be on the prevention, in a large measure, of the nomadism of the cattle breeders and sheep owners. An organised programme of livestock development will have stabilising influence. An increase of animal population is, however, ruled out, since the vegetable resources even after development cannot sustain a large number. While containing the number, the breeding programme, through provisions of facilities and services, will have to be designed to improve the quality and productivity of cattle and sheep.

5.83 In the arid areas the major emphasis has to be on sheep development. The good breeds of sheep available in this region can be further improved both for wool and mutton. Apart from improving the quality of sheep, wool shearing and grading centres have to be established and arrangements made for wool and meat marketing. Another dimension to this development is the possibility of creating more employment in the cottage industry by processing the wool locally. For this, adequate extension support will be necessary.

5.84 A vigorous programme of livestock development is possible if feed and fodder resources are substantially increased to ensure the supply of nutrition to the animals. Attention has, therefore, to be paid to large scale development of pastures, regulated grazing to prevent over-use and creation of grass reserves and fodder banks for supply of hay in scarcity years. In canal command areas, the cropping pattern has to be adjusted to bring 30 per cent of the area under fodder crops in mixed farming.

5.85 Integrated plans of development have to be so designed as to pay simultaneous attention to the development of water sources, animal husbandry and pastures. In the strategy of development, water plays a pivotal role. Since there is a paucity of local water resources, water has to be inducted from outside the arid zone. The Rajasthan Canal project is an instance of such an effort. This canal is designed to irrigate areas along the western boundary of Rajasthan but the interior desert areas do not derive any benefit from it. The project should be recast to exclude unsuitable areas, where the cost of land levelling and development will be high and to construct lift canals to take some water deeper into the desert with a view to bringing more areas under irrigation and extending the benefit to a larger section of the community.

5.86 The limited quantity of ground water available in pockets can be exploited mainly for domestic and industrial use, it being rather expensive for irrigation. Large parts of the desert will still have to depend on rain. For maximising the utilisation of the scanty rainwater, suitable water conservation techniques like khadins bandhis and well have to be adopted on large scale.

5.87 In the early stages of development of the canal command areas, there will be water to spare in the canals. This opportunity needs to be utilised. As water becomes available in an area, a large scale programme of tree plantation, raising of shelter belts and wind breaks and rejuvenation of vegetal cover will have to be undertaken. This programme will arrest wind erosion, sand blowing and sand casting on arable fields and also reduce the desicating effect of hot winds on crops. Tree and grass cover on the unstable and new dunes in the canal commanded areas and on those which pose a threat to habitations, roads and railways should reduce the problem being faced now. The plantation programme is also intended to meet the requirements of fuelwood and small timber locally and to prevent over-exploitation of the existing resources.

Cold Deserts

5.88 The cold desert in the country occurs in Ladakh Valley in Jammu and Kashmir. The Lahaul Spiti Valleys and the Kinnaur region in Himachal Pradesh are also considered as cold semi-arid areas. The population in these areas is sparse. The extreme climatic conditions, lack of communication and the level of education make development of these areas a difficult task. All efforts made so far to develop these areas have achieved little success.

5.89 The agricultural season in Ladakh is limited to a short period between May and October in view of the high altitude, extreme cold, deficiency of oxygen and humidity. There are some streams and glaciers but there are problems associated with the utilisation of this water at higher elevations. The possibility of tubewell irrigation has not yet been established. The main crop taken in this area is crim, a kind of barley. This area has, however, a valuable resource in pashmina goat. 5.90 The Committee would like to emphasise that the available information is not sufficient for formulating the strategy for development and indicating the feasibility of different programmes. In its view, many more investigations and more extensive research based on local environmental conditions and physical and socio-economic constraints are required before viable economic programme can be implemented effectively in these areas. This has to be given the highest priority.

COASTAL AREAS AFFECTED BY SALINITY

Criteria for Identification

5.91 The National Committee on the Development of Backward Areas considers the problem of salinity on coastal areas as one type of fundamental backwardness. The Committee has suggested that the identification of such coastal saline areas to be based on a two pronged criteria to demarcate (a) soil salinity areas where the top soil is saline, and (b) water salinity areas where either the water strata for great depths is saline, or even if top 30 ft. has fresh water where fresh water is entirely by rainfall alone. For identification of the development technology suited to different conditions, it has been suggested that these areas be identified in terms of (a) saline soils, (b) saline alkali soils, (c) non-saline alkali soils, and (d) degraded saline alkali soil.

Strategy of Development

5.92 The Committee advocated different strategies of development for the east and the west coasts, respectively. On the east coast the principle of developing existing skills will lead to the obvious strategy of developing fisheries. The next important part of the economy will be agriculture in which some beginning of development can already be seen in these areas where fresh water is available. Development of village industries and tertiary sector growth will have to follow the primary growth in both fisheries and agriculture. In the west coast the entire economy will be based on fisheries except where agriculture can be developed on the lines of Kuttanad. However, it will be found that such development on the west coast today would be a high cost development and may not be economic.

5.93 The Committee has recommended systematic soil survey so that areas of high, medium and low saline conditions could be identified for seeking remedial measures. It has also been stressed that evaluation of the various measures already taken by the State Government is of equal importance.

Fisheries

5.94 On the question of fishery which provides sustenance for most of the fishermen in the coastal areas, optimal utilisation of the resources should be the prime aim. This will require rational provision of facilities for processing and marketing, including export of frozen fish. On account of the serious competition between the traditional and mechanised boats there is a need Transport for cost benefit analysis to demarcate the sphere of operation for each of them. In case of any displacement of traditional fishermen, suitable rehabilitation needs to be provided.

5.95 Brackish water fishery can provide sizable potential for development. Hectare for hectare brackish water fisheries gives much income than the composite fish culture followed in inland fresh water fisheries. Further, with availability of remunerative technology in brackish water fisheries, the use of scarce fresh water for culture fisheries should not be encouraged. The Committee has stressed the need to help smaller people pursue brackish water fishery. For to appropriately developing the individual small farms, support through an area development approach and provisions of appropriate supporting services including technical services, are

necessary. Transfer of technical knowledge to the fishermen is of vital importance and the responsibility on that count should be shouldered by the State Governments by providing the technical consultancy free of charge.

Agricultural Development

5.96 Agricultural development in the coastal saline areas has to rely on the adoption of a crop pattern in which suitable saline tolerant varieties are chosen. On account of the scarcity of fresh water, the Committee has suggested that suitable cash crops with low requirements of fresh water need to be chosen.

5.97 Horticulture development is seen to be another very remunerative pursuit to be followed. Sustained research efforts are necessary to find out the suitability of cultivators for better production. In the present setting, coconut production is seen to be the most remunerative appropriate horticulture strategy. For development of horticulture, etc., and also for complete protection of habitations, the Committee has recommended the shelter belt approach. 5.98 Animal husbandry does not have much developmental possibilities in these areas till appropriate types of fodder varieties can be developed to sustain that development.

5.99 To meet the growing demands of fisheries and agriculture, etc., road communications have to be developed to bring the marketable goods to the main urban markets. All weather roads may prove very costly and may not be achievable within an acceptable time frame. The Committee views the utilisation of pedal trays on cheap road system, as developed in Sunderban, to be the appropriate road development strategy.

5.100 The Committee has dealt in some detail with the problems of the Sunderban area of West Bengal and Saurashtra and Kutch areas of Gujarat. The entire area of Sunderban faces the problem of salinity, water logging and drainage. In the absence of up-land water supply the area is exposed to tidal action making the water highly brackish. For the development of the Sunderban

an integrated programme simultaneously covering crop production, fisheries, animal husbandry and forestry and providing for improvement in infrastructural facilities including communication and supply of potable water will be necessary. For the protection and development of land and increasing availability of fresh water for agricultural and drinking purposes, engineering and other measures as envisaged both in the Interim Plan of development of the Sunderban and in the Sunderban Delta Project should be undertaken. Industrial development should be restricted to such agro-based industries as do not aggravate the problem of fresh water in view of its limited availability. As an integral part of the overall development of the region, river, road and rail transport facilities should be considerably improved. Electrification should be extended to the area to support development.

5.101 In the case of Rann of Kutch and Saurashtra areas, the possibilities of brackish water fish culture are seen to be immense. The Narmada water availability in the area is bound to change the entire complex and as such a review of the development strategy at that moment would be desirable.

CHRONICALLY FLOOD AFFECTED AREAS

Criteria for Identification

5.102 Chronically flood affected areas constitute one of the types of fundamentally backward areas identified by the National Committee. The Committee has recommended that such areas should be identified on the basis of the following four criteria:

- (i) Flood frequency of at least one in three years,
- (ii) flood duration of at least 7 days period at a stretch,
- (iii) flood depth of more than the standing paddy at that time, and
- (iv) flash flood with strong current liable to uproot even if the duration is less than 7 days.

5.103 In order to delineate precisely chronically flood affected areas in different flood-prone river basins which are by and large already known to local authorities, certain basic data need to be collected. These include (i) records of stream flow (gauge and discharge) data extending as far back as may be available, (ii) data on rainfall in the catchment area producing the floods, (iii) contour maps showing areas flooded in different years and corresponding depth and duration of floods at salient points of the affected area.

5.104 The Committee has recommended the identification of all the flood affected blocks through ground surveys, etc., within a period of two years so that satisfactory ameliorative programme can be introduced. The Committee has no hesitation in saying that the actual areas requiring attention in the country will be much smaller than the area liable to floods.

Strategy for Development

Embankments

5.105 The Rashtriva Barh Avog (1980) has examined at considerable length the various factors that cause heavy floods in different river basins/deltas and has indicated the measures for rectifying the same. The intensity of the problem has been identified to be severe in the States of Assam, Bihar, Orissa, U.P. and West Bengal. For protection from the inundation and possible damage, the RBA has advocated a proper master plan for embankments. It has suggested abandonment of badly planned embankments and suitable strengthening and maintenance of other embankments to avoid breaches. The National Committee feels that any problem of flood amelioration must first ensure that this basic recommendation of the RBA is translated into effective action within a reasonable time frame.

5.106 Embankment breaches and consequent damages are, in most cases, man-made. The Committee has suggested that remedy for this needs to be sought in people disciplining themselves to ensure that technical advice in these matters is obeyed meticulously and legislations are faithfully observed. The Report of the Committee, however, does not concern itself with such human action and is addressing itself only to areas which are affected by the natural havoc and in the flood plains outside the existing embankments demarcated in the Master Plan. The Committee feels that this is where nature's direct havoc on the economy will be felt and considers that if it is of chronic nature, it would create problems of backwardness.

Flood Damage

5.107 Flood damages can be of two types, viz., crop damage and damage to house and cattle. People have adjusted themselves to the nature of the environment in areas which are flooded by mainly growing paddy in these areas and by sheer experience they have evolved methods to grow the right type of paddy. The paddy plant can normally survive seven days of submergence (which is taken into account in the identification criteria suggested above). Normally, it will be found that areas where floods cause crop damage of a severe nature to the paddy cultivation will also be the areas where house damage and cattle damage would occur. As such the Committee has stressed that if the crop fed area involved is identified, the other problem areas will automatically be identified to a larger extent.

Cropping Strategy

5.108 The Committee has recommended that an appropriate cropping strategy would be to popularise suitable flood escaping or flood tolerant cropping system or intensifying crop production with irrigation in flood-free months. Keeping these in view the Committee has dealt with some of the cropping strategies and sequences for five identified States where chronically flood prone areas predominantly exist. The detailed cropping patterns have been given in the relevant Chapter of the Report on the Chronically Flood Affected Areas. Intensive research activities have developed newer varieties of crops suitable for flood prone areas and the Committee advocates the restructuring of the cropping accordingly.

Irrigation

5.109 For popularising such a cropping strategy it will be necessary to make available irrigation facilities in such areas. To suitably back up the envisaged cropping pattern strategy the Committee has advocated a fairly comprehensive irrigation strategy. Khadir lands and diara lands are fairly well identified in different States affected by chronic floods. Generally such lands which are in the vicinity of rivers have a fairly high water table and it is possible to arrange for irrigation by tapping ground water through, for instance, shallow tube wells which have to be covered or sealed during the monsoon season when there is high flow in the rivers with consequent submergence. Areas which are in the fringes of the dry weather flow line of the river can be irrigated by providing river lift pumps and the distribution can be arranged by portable aluminium or flexible polythene pipes which can be removed before floods inundate the areas. In either case the pumps and motors have also to be portable and have to be removed during the flow of the river.

5.110 With regard to power for pumping as far as Khadir lands are concerned it may be possible to provide overhead electric transmission lines which may not get affected during the flood season. So far as the islands diaras are concerned and the Khadir areas where the submergence during flood season is high, diesel sets have to be preferred even though the cost of pumping will be higher. This is suggested because it would be very costly to take the electrical transmission lines nearer the river edge with high submergence and also across the rivers to supply power to the lands. 5.111 Apart from the Khadir areas and the island diaras there are several other pockets in the States referred to above, where water stagnates in the natural depression even after flood season for a long time and no crops are grown. The chaurs of North Bihar and the "Bheels" in West Bengal are typical examples of such areas. In such areas a strategy to retain some water in the natural depressions for providing lift irrigation during the later part of the rabi season and during hot weather season should be considered. If part of these chaurs are deepened and isolated by wire netting even inland fisheries and water plants which command good market can be developed.

5.112 It may also be possible to carry canal water for irrigation land rendered flood-free during rabi and summer seasons if there is any major, medium or minor surface irrigation scheme operating in the relatively higher areas in the neighbourhood. In Assam there are many small tributaries of the Bramhaputra which carry perennial flow. A system of lifting water during the rabi and summer season is already in vogue in some parts of the State. This programme should be accelerated.

Upper Reach Control

5.113 For knowing the precise details about the behaviour of the upper reaches, the Committee has recommended that full potential of the Lands at Imagery be utilised. For reducing the run-off. the Committee has recommended (i) prohibition of production in hilly catchment, (ii) contour bunding in hilly catchment, (iii) construction of flood retention reservoirs, (iv) small check-dams on the tributaries to delay run-off to point of concentration, and (v) elaborate flood fighting arrangements at vulnerable points with adequate support of flood forecasting and warning thereof. The Committee has favoured the watershed management approach for the upper reaches management and has recommended that the trade-off, between the two conflicting alternatives of low flow augmentation or flood reduction, be decided through cost benefit analysis. For effective implementation of the programmes an inter-disciplinary team for each basin has been favoured.

Human Settlements

5.114 For the protection of human settlements various alternatives like strengthening of house structures, raising the level of the whole village or ring bunds around villages have been considered and the pros and cons of each have been highlighted in the Report of the Committee.

CHAPTER 6

INDUSTRIAL DEVELOPMENT OF BACKWARD AREAS

The National Committee's approach to the identification of backward areas has been based on the recognition of various types of fundamental backwardness, viz., concentration of tribal population, hilly terrain, drought areas, chronically affected areas by floods and salinity in coastal areas. Industrial backwardness, however, is a category apart and is not a matter of environmental constraints. It is largely a matter of history and cannot be linked up straightway with any index of local potential or human endeavour. The problem of industrial development of backward areas has engaged the attention of policy makers for a long time. The National Committee has dealt with this aspect in detail in three reports:

- (i) Report on Industrial Dispersal;
- (ii) Report on Village and Cottage Industries; and
- (iii) Report on Industrial Organisation.

These reports deal with the entire range of manufacturing industries from household industries to large projects. They contain recommendations on a wide range of policies, programmes and institutions for promoting the industrial development of backward areas. The first part of this Chapter summarises the conclusions and recommendation in these three reports. It also examines some of the recommendations in the light of subsequent discussions with State Governments. There were two issues relating to industrial backwardness which the National Committee had not dealt with in its earlier reports, viz., the transport subsidy scheme and State Government incentives for industry. These two aspects are dealt with in the second and third part of this chapter.

Industrialisation of Backward Areas

6.2 The present pattern of location of industry is a consequence to a large extent of the early phase of industrialisation in India. The major industrial centres which had developed during this period were Bombay, Calcutta, Madras, Delhi, Ahmedabad and Bangalore. The share of these centres 1921 to 9.6% in 1951 and 12.9% in 1971.

6.3 A variety of policy measures have been used to influence the pattern of industrial location. In the early phase of development, the emphasis was on the location of public sector enterprises in backward areas and on the development of industrial infrastructure in these areas. An attempt was also made to use licensing policy to push industries into backward areas. A major change in the policy package came about with the institution of the Central investment subsidy scheme and the scheme of concessional finance in 1971. To this were added certain concessions in corporate tax to units in backward districts which came into force in 1974.

6.4 The Committee has evaluated the working of policy measures particularly the investment subsidy and Concessional Finance scheme in some detail. The bulk of the subsidy seems to have accrued to States which were not considered backward by the Pande Working Group on whose recommendations the schemes were established. The pattern of dispersal also shows that amongst the eligible districts, a small number which are at close proximity to relatively developed industrial centres seemed to have derived a major part of the benefit. The Committee's evaluation also show that the availability of concessional finance and subsidy has been a significant motivating factor in determining location decisions.

6.5 In the case of public sector units, the Committee found that much of the investment had flowed to backward areas. This is true not merely of units based on local raw material but also of engineering enterprises. However, the Committee notes that the multiplier effects from these large projects in backward areas have been very limited mainly because government directives on ancillarisation do not seem to have been pursued with any degree of vigour.

6.6 In the Report on Industrial Dispersal, the Committee has outlined the strategy for industrial dispersal. The central principle of this strategy is that incentives for industrial dispersal should be given in a manner which persuades industries to move away a sufficient distance from existing centres into remoter areas. At the same time the Committee recognises that there are economics

in manufacturing employment rose from 4.7 in of agglomeration and that the new centres which have to be developed away from existing centres must be of sufficient size. Hence the Committee has combined the dispersal approach with a growth centre approach. The salient features of the specific recommendations of the Committee for operationalising the strategy are listed below:

- (i) The cut-off criterion for the selection of centres for the development of medium and large industry would be that they should have a population of at least 50,000 and that they should be situated at a minimum distance from an existing industrial centre. For this purpose "existing industrial centres" should be all town/urban agglomerations with an employment in non-household manufacturing of over 10,000. The minimum distance should be 150kms for centres with an employment of over 150 thousand, 100 kms for centres with an employment of 50-150 thousand, 75 kms for centres with an employment of 25-50 thousand and 50 kms for centres with an employment of 10-25 thousand.
- (ii) 100 such centres should be selected out of all eligible towns for development in the Sixth Plan.
- (iii) Each growth centre should be managed by an Industrial Development Authority which would have the charter to development and provide the necessary infrastructural support as well as to mobilise funds from institutions like IDBI, HUDCO, etc.
- (iv) For institutions like IDBI, HUDCO, etc., to play an effective role, it would be desirable that appropriate financial support to these institutions is assured during the Plan period.
- (v) State Governments should undertake to provide the requisite infrastructural facilities at the selected locations and to orient their own promotional efforts in the same direction. Urban development programmes may be used in these centres on a priority basis.

(vi) The schemes of Central capital subsidy, concerning finance and income-tax concessions may continue for the Sixth Plan period for all small industries located outside the cut-off areas specified under recommendation whether located in a growth centre or not. The infrastructural support the Committee will be recommending for each growth centre will not be available for industries which may come outside such growth centres.

6.7 The Committee has discussed its recommendations with several State Governments and various suggestions for modifications have been made. The Committee would like to take this opportunity to react to some of these suggestions.

6.8 It has been suggested that the areas ineligible for incentives within a State should be defined only in terms of areas around existing centres within the State. Thus the effect of centres outside the State should not be taken into account. The Committee has considered this suggestion but is unable to agree with it. The spread effects of industrial centres do not recognise State boundaries and we have several instances of new centres that have developed because of the impulse generated by existing centre outside the State, e.g., Hosur in Tamil Nadu and Alwar in Rajasthan. The acceptance of this suggestion would create an anomalous situation in a place like Delhi where it would mean that areas in the neighbouring States on the border of this highly developed industrial centre would be eligible for incentives and concessions. However, the Committee accepts that the spill over effects of a centre outside a state may be somewhat lower than in the State itself and some modifications of the distances may be acceptable. A shorter distance accepted by general consensus among the States for such a situation may be used for determining ineligible areas in a State because of the effects of existing centres outside the State.

6.9 Several States have suggested modifications in the assumed cut-off distance on the ground that the spread effects of industries are not as wide as the figure recommended by the Committee would suggest. The cut-off distances recommended by the Committee reflect a judgement which the Committee considers valid. The main argument advanced by States is for a shorter distance. The Committee is prepared to accept a shorter distance criteria provided the distance is not made so short that our objective of industrial dispersal in all the backward areas of the country is thereby not reached within a foreseeable future.

6.10 The Committee has defined existing centres on the basis of the level of employment in nonhousehold manufacturing as per the 1971 Census. It has been argued that non-household manufacturing includes a large number of workers and in small scale manufacturing units whose spread effects are likely to be much less than that of large factories. Hence it has been suggested that the cut-off distances, applicable to centres where the major part of employment is in tiny units, should be somewhat lower. The Committee feels that there is some validity in this argument. However, statistics to differentiate between employment in tiny units and other units are not readily available. If such data can be obtained, the Committee would not have any objection to different weights being given to tiny unit employment and other employment in nonhousehold manufacturing, the relative weights being determined by consensus. The weighted employment would be the standard employment figure for identifying 'existing centres'.

6.11 The modifications suggested above are in the nature of refinements in the schemes suggested by the Committee in its Report on Industrial Dispersal. The basic thrust, however, remains in that the objective must be to disperse industries away from existing centres into the interior so that within a reasonable time frame backward areas have the advantage of an industrial economy. Only then will there be some measure of equity in the access to industrial employment in different areas.

6.12 The Committee has dealt at some length with the policies and institutions required for promoting small industry in backward areas. These areas suffer from a lack of entrepreneurship and in the early stages of development the small industry is likely to be the major activity at least for local entrepreneurs. Hence the promotion of small industries in these areas is of paramount

importance.

6.13 The major items which need to be covered in any policy package for small industries are:

- (i) Entrepreneurship development,
- (ii) Credit,
- (iii) Raw Material supply,
- (iv) Common service facilities for repair and maintenance, finishing, testing, etc.,
- (v) Marketing support.

In this report on Industrial Dispersal as well as in the Report on Industrial Organisation, the Committee has made many specific suggestions in each of these areas. This would need to be pursued with vigour if industrialisation of backward areas is to be promoted. The Committee has also emphasised the role of labour training and suggested specific measures for ensuring that local people benefit from the industries set up in backward areas.

6.14 The promotion of industries in backward areas will require extensive support from official agencies. In its report on Industrial Organisation, the Committee has examined the working of existing institutions in the support system and suggested measures for strengthening organisations like SIDO, SISI, the Directorate of Industries, DICs, etc. The strengthening of this institutional infrastructure is of vital importance if the basic objective of industrial dispersal is to be achieved.

6.15 The problems of village and cottage industries are essentially different from those of small industries. The Committee has dealt with them in its report on the subject. The significant point that emerges from an examination of available data is the decline in the employment in village and cottage industries, despite the many measures which have been taken to protect and promote them. The strategy suggested by the Committee focuses attention on three crucial elements. The first is upgradation of technologies to ensure quality standards, reduction of drudgery and higher productivity. Second, a covering organisation to provide the required support for raw material supply, marketing, credit and technology, and third a group approach in which cluster of artisans are identified and served by the covering organisation. The Committee has suggested a variety of measures for translating this

strategy into action. The role of village and cottage industries in diversifying the employment structure in rural parts of backward areas is very substantial and the measures suggested by the Committee would need to be pursued with vigour.

Transport Subsidy Scheme

6.16 In pursuance of a decision taken by the Planning Commission to set up two Councils at its meeting held in September, 1968, the Planning Commission had set up two Working Groups to study the question of regional imbalances. One of the Working Groups was to recommend criteria for identification of backward areas and the other was to recommend fiscal and financial incentives for starting industries in backward areas. The latter Working Group made a recommendation in the following terms for provision of a transport subsidy for industries in selected backward and remote areas of some States and Union Territories.

"Transport Subsidy: We feel that there is a case for giving transport subsidy for reasons of special remoteness of certain areas for taking out the finished products for a period of five years. Upto 400 miles the distance should be considered as normal and beyond that the transportation cost for finished products should be subsidised for such backward areas as may be selected in the States of Assam, Nagaland, Manipur, Tripura, NEFA and Andmans. The transport subsidy should be equivalent to 50% of the cost of transportation in the case of the backward areas specified in J & K State".

6.17 The matter was examined in greater detail by a Committee on Transport Subsidy headed by Shri. T. Swaminathan. The recommendations of this Committee were as follows:

- (i) A transport subsidy should be given by the Centre for promoting growth of industries of all sizes in certain selected areas.
- (ii) The scheme of transport subsidy should be limited only to the States of Jammu & Kashmir, Assam including Meghalaya, Nagaland and the Union Territories of Manipur, Tripura and NEFA.

- (iii) Transport subsidy should be given only in respect of industrial raw materials which are brought into and finished products taken out of the State of Jammu & Kashmir and the north-eastern region and not for internal movement.
- (iv) In the case of Jammu & Kashmir State, the subsidy should be given for transport costs between the rail head at Pathankot and the site or location of industrial unit in the State. When the railway line is extended upto Jammu & Kashmir and opened for traffic, subsidy may be restricted to movements between Jammu and the site of an industrial unit.
- (v) In the case of Assam, including Meghalaya, Nagaland, NEFA, Manipur and Tripura, subsidy should be given on the transport costs between Siliguri and the site of an industrial unit. While calculating the transport costs, the cost of movement by rail to/from the nearest railway station and cost of movement by road from/to the nearest rail-head to/from the location of an industrial unit should be taken into account. In the case of goods moving entirely by road or other mode of transport, the transport charges may be limited to the amount which the unit might have paid had the goods moved by rail up to the nearest rail head and thereafter by road.
- (vi) Freight charges for movement by road should be determined on the basis of transport rates fixed by the Government concerned from time to time or the actual freight paid, whichever is lower.
- (vii) Cost of loading or unloading and other handling charges such as from the railway station to the site of units should not be taken into account for the purpose of determining the transport subsidy.
- (viii) All new industrial units to be set up subsequent to the announcement about the transport subsidy, should be eligible for subsidy equivalent to 50% of the transport costs of both raw materials as well as finished products.

- (ix) The existing units should also be eligible for the subsidy provided that they undertake expansion or diversification subsequent to the announcement about the transport subsidy, resulting in an increase in production of at least 25 per-cent over the average annual output during the preceding three years. In such cases, the subsidy should be restricted to 50% of the transport costs of the additional raw materials required and finished goods produced as a result of the expansion or diversification.
- (x) Except for the plantations, refineries and the power generating units, all other industries, in public as well as the private sectors, should be eligible for the transport subsidy, irrespective of the size of the industrial units.
- (xi) 50 per cent of the transport charges for movement of steel from the Gauhati stockyard to the site of the industrial units in the north-eastern region should also be subsidised.
- (xii) Claims for transport subsidy should be scrutinised and settled by the Directorates of Industries of the States and Union Territories and, therefore, the Governments concerned should be reimbursed by the Ministry of Industrial Development and Internal Trade.
- (xiii) In order to check any misuse of the subsidy, it would be necessary for these Directorates of Industries to carry out periodical checks to ensure that the raw materials and the finished products in respect of which the subsidy had been given, were actually used for the purpose by a system of scrutinising of consumption of the raw materials and the output of the finished products.
- (xiv) The proposed scheme of transport subsidy should be implemented for a period of five years.

The above recommendations were accepted and the scheme was put into effect from July 1971. 6.18 The Transport Subsidy was initially introduced with effect from 15-7-71 to the States of Himachal Pradesh and the North-Eastern Region

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comprising the States of Assam, Meghalaya and Nagaland and the Union Territories of Manipur, Tripura and NEFA. For Jammu & Kashmir, Pathankot/Jammu were declared the railheads and for the North Eastern Region, Siliguri was declared the railhead. From 24-8-1972 the scheme was extended to the State of Himachal Pradesh and the hilly areas of Uttar Pradesh, comprising the districts of Dehradun, Nainital, Almora, Pauri Garhwal, Tehri Garhwal, Pithoragarh, Uttar Kashi and Chamoli. For Himachal Pradesh, Pathankot, Kirtpur Sahib, Nangal, Kalka, Ghanauli, Yamuna Nagar, Barara and Hoshiarpur were declared the railheads and for hilly areas of Uttar Pradesh, Dehradun, Rishikesh, Moradabad, Bareilly, Kotdwara, Shahjanpur and Rampur were declared the railheads. With effect from 1-12-1976 the scheme was further extended to the Union Territories of Andaman and Nicobar Islands and Lakshwdweep with Madras Port and Cochin Port respectively as the local points from which the transport subsidy would be admissible. Finally on 5-12-1977 the scheme was further extended to the State of Sikkim with Siliguri as the focal point.

6.19 In the case of Andaman and Nicobar Islands, the transport subsidy is given on transport costs by sea and road between Madras Port and the location of the industrial unit in the Union Territory. In the case of Lakshadweep, the transport subsidy is given on transport costs by sea and road between Cochin Port and the location of the industrial unit in the Union Territory. If any other port on the mainland is used for the purpose of transport, the transport costs are limited to the amount which the industrial unit would have incurred, had Madras or Cochin Port, as the case may be, been used or the actual transport costs, whichever is less.

6.20 The total amount disbursed under the transport subsidy scheme is reported in Annexure I. As these data show, the disbursements under the scheme are nominal and amounted to Rs 20 lakhs only upto 30-9-1980. The low level of utilisation of the scheme suggests that, as presently designed, it does not seem to serve any useful purpose. Hence the rationale of the scheme needs examination.

6.21 The transport subsidy scheme, as presently designed, subsidises the cost of transport of raw materials and finished goods from some defined rail head to the plant site. The defined rail heads have been indicated in Para 6.18 above. It will be seen that these rail heads are situated at a considerable distance from major markets and raw material sources in metropolitan cities, ports and other industrial centres. The cost of transportation from the defined railhead to these centres of demand and raw material availability is not subsidised. A large industrial plant situated in the interior in the north-east may be linked mainly with Calcutta for raw material supply or marketing of output. These plants will get a subsidy for the movement upto Siliguri but not for the onward movement to Calcutta. Similarly a plant in Kashmir will get a subsidy upto Pathankot/Jammu but not for any further movement to Delhi. Hence the real advantage accruing from the subsidy may not be a very substantial proportion of transport costs, particularly considering the involved procedures for claiming the subsidy.

6.22 The transport subsidy is calculated as if the movement takes place by rail whenever railway facilities are available and by road otherwise. However, plants in remote regions or destinations prefer road transport, even if rail facilities are available all the way, because of the advantages of point to point movement and safety of material. In this case too the proportion of the subsidy to actual transport costs is greatly reduced.

6.23 For the purposes of the subsidy, mining units are not considered industrial units and there have been suggestions that this should be corrected if the exploitation of mineral resources in remote regions is to be promoted.

6.24 One final point worth noting is that the definition of raw material does not cover fuels. This is a particular problem in Jammu & Kashmir, Himachal Pradesh and the hill areas of Uttar Pradesh where fuel requirements of industrial plants have to be met by imported coal or diesel or fuel oil.

6.25 The transport subsidy scheme in its present state does not seem to be very effective as is clear from the very low level of disbursements. Hence the National Committee is of the view that an alternative approach is required to meet the problem of high transport costs and uncertain availability or raw materials in remote areas. 6.26 The types of industries that are likely to be

set up in the remote and hilly regions fall broadly in the following categories:

- i) Major raw material based units,
- ii) Units based on the climatic or environmental advantage of hilly regions,
- iii) Industries to supply local demands,
- iv) Other small and village industries.

Industries in the first category as well as small industries based on local raw materials would not require any subsidy of raw materials if they are properly located. The problems of internal transportation within the regions and the linking up of supply areas with the industrial plant would have to be covered by suitable infrastructure investments. However, these raw material industries may then require subsidiary inputs which may come from outside the region. Industries based on local demands may require raw materials from outside the region for which a transport subsidy may be of some use. Environmentally based industries like electronics or drugs are basically not transport intensive and the incidence of transport costs in the total costs being low, the benefits of a transport subsidy may be limited. Small industries in the region may well require raw materials from outside. Some saving in the cost of these raw materials would certainly help but better availability is probably important.

6.27 The Committee would suggest that the transport subsidy scheme should be linked up with the improved arrangements for raw material supply, that it has suggested. The Committee has recommended the establishment of a state level supply and marketing corporation for supporting small and village industries. In view of the Committee these corporations should be responsible for much of the raw material supply from outside the region. The Committee would suggest that the transport subsidy on raw materials should be payable to these corporations when established and other official support organisations rather than to the using enterprises. Such a subsidy may be easier to police and administer than the present arrangements. The

Committee would recommend that, for controlled or canalised raw materials, the transport subsidy should be calculated on the basis of the lowest cost of transportation from the actual supply point to the concerned depot of the support organisation.

6.28 The transport subsidy on raw materials cannot be limited to controlled or canalised raw materials supplied through official support organisations. It would have to cover other raw materials as also supplies obtained directly by industrial enterprises in the eligible regions. The Committee would recommend the presence of a transport subsidy in these cases on the following basis:

- (i) The source of supply may be deemed to be Delhi for eligible areas in J&K and Himachal Pradesh, Lucknow for eligible areas in U.P. and Calcutta for eligible areas in the north-east, Sikkim and West Bengal or the actual supply point if it is nearer.
- (ii) For a certain distance from the deemed or actual source of supply no subsidy should be payable. This cut-off distance will have to vary for the different eligible areas and may be determined after closer study by the Ministry of Industrial Development. This same subsidy may also determine the proportion of transport costs for movements beyond the cut-off distance which would be subsidised.
- (iii) Through road movement should be supported and the norms for permissible road haulage and costs may be determined by the Ministry of Industrial Development.

6.29 With regard to the regions to be covered, the Committee would recommend the inclusion of the Darjeeling district of West Bengal to the present list. The Committee would not recommend any change in the class of eligible units or the quantum of the subsidy. However, the subsidy should also cover coal and petroleum products but in this case should be calculated on the basis of the costs of transportation beyond the specified railhead only. In the case of Andaman and Nicobar Islands and Lakshadweep port charges should be included in the calculation of transport costs. 6.30 Apart from the transport subsidy, the Committee would recommend that more stockyards and depots should be established in the remote regions in which the transport subsidy is applicable, for the supply of raw materials by public sector organisations like the SAIL, STC, NSIC, etc. The higher transport costs of material, stockyards and depots in the remote regions can be absorbed by the national organisations. Till such time as more stockyards are established, the costs of transportation up to district headquarters should be absorbed in the national system. An assessment of the raw material requirements in the region should be prepared by the Ministry of Industries who should then pursue the matter with the concerned organisations for ensuring the necessary supplies.

6.31 Pricing systems for major industrial raw materials often involve a degree of freight equalisation. For example, cement, steel and fertilisers are sold at a uniform price at all railheads/stockyards in the country. Such systems automatically involve a subsidisation of raw materials supplied to remote areas. However, such systems are not in force in several other important commodities like coal, cotton, rubber, plastic, raw materials, etc. When the commodities are produced in the private sector and are not subject to price and distribution controls not much can be done through the pricing system. However, commodities produced or marketed largely in the public sector can be covered by uniform pricing systems. At present freight equalisation and uniform pricing systems are under attack as they can lead to incorrect location decisions and unnecessary transportation. The Committee would not wish to comment on this general aspect. However, it would suggest that in any pricing system for commodities produced or marketed through the public sector, a degree of freight subsidisation on supplies to remote areas would be worthwhile.

6.32 With regard to a transport subsidy on the sale of output (i.e., on marketing) it is necessary to consider the need for such a subsidy for the different types of units mentioned in Para 6.26 above. Major units based on local raw materials will have the advantage of raw material supplies. The environmentally related units will generally

not be transport intensive and a subsidy on transport costs is of limited interest to them. Industries based on local demand will clearly not require any transport subsidy on movements out of the region. A subsidy on the transport costs of sending products out of the region may be of some relevance mainly for some small and village industries. In these cases the transport subsidy on the movement of output may be paid to the official organisations which offer marketing support to small and village industries. The principles underlying such a subsidy may be as follows:

- (i) The destination of output may be deemed to be Delhi for eligible areas in J&K and Himachal Pradesh, Lucknow for eligible areas in U.P. and Calcutta for eligible areas in the north-east, Sikkim and West Bengal or the actual destination whichever is the nearer.
- (ii) For certain distance upto the deemed or actual destination, no subsidy should be payable. The cut-off distance would have to vary for different eligible areas and maybe determined after closer study by the Ministry of Industrial Development. This same study should also determine the proportion of transport costs for movements beyond the cut-off distance which would be subsidised.
- (iii) Through road movement should be supported and the norms for permissible road haulage and costs may be determined by the Ministry of Industrial Development.

6.33 Irrespective of a transport subsidy improving the transport infrastructure in the remote regions is a necessary pre-requisite for industrialisation. The development of new roads, bridges or other transport facilities that shorten the distance to the national road and rail network may have a more significant impact on the costs of transport for a wide range of industries. It would also assist in the development of other sectors like horticulture, plantations and industry.

6.34 Many of the remote regions have perforce to be served by road transport. In this case the regular availability of trucking services may be more important than the cost. A scheme to subsidise trucking operations in these remote regions may be considered. This could take the form of loans on concessional terms for the purchase of trucks provided these trucks are based in these areas. The easy loans could be given to private operators or to state road transport corporations. The growth of locally based truck fleets would improve the availability of transport facilities, which may be of greater consequence particularly for small industries or low weight/high volume industries. 6.35 The high costs of transportation from the remote regions to major centres of demand and raw material supply can also be taken into account in the freight policy of the railways. The Committee would recommend that the freight rates from the remote regions as presently identified for the transport subsidy scheme, to the nearest metropolitan area should be set at a concessional level.

State Government Incentives

6.36 Apart from the incentives to industry offered by the Central Government, the State Governments also give a large number of concessions to new industrial units or expansion of existing units in the State. A list of these incentives as of 1980 is given in the Annexure 2 to this Chapter.

6.37 The important items on which State Governments offer concessions to industrial units are the payment of sales tax and octroi duty, the tariff charged for power and water supply and the cost of land/sheds in industrial estates. Jammu & Kashmir, West Bengal and Tamil Nadu also offer an outright investment subsidy.

6.38 The first point worth noting about the State Government concessions is that many of them apply across the board and do not have any built in preference for industrially backward areas. The States which have built in some preference for industrially backward areas, as defined by them, in various concessional schemes are listed below (the figures in brackets indicating the total number of States/Union Territories offering that concession).

- (i) Investment subsidy West Bengal, And-(5) hra Pradesh, Gujarat.
- (ii) Sales Tax concessions (20) Gujarat, Madhya Pradesh, Maharashtra, Uttar Pradesh.

- (iii) Octroi concessions Haryana, Madhya (12) Pradesh.
 (iv) Power Tariff conces- Madhya Pradesh sions (18)
 (v) Water supply (5) Karnataka, Maha
 - rashtra, Madhya Pradesh.
- (vi) Subsidy on land/sheds (12) Maharashtra, Orissa, Uttar Pradesh.

Generally there does not appear to be much selectivity in the selection of eligible areas. 6.39 The definition of industrially backward areas used by the State is not connected in any way with the definition used for the central subsidy scheme for the scheme of concessional finance. Each State follows its own criteria or judgement of the area in need of such concessions. The quantum of the concessions offered can be very substantial. The net effect of the State Government subsidies is that dispersal has not taken place and the entrepreneur has gone to the more developed parts of the State. In this sense the purpose of utilising the Central incentive to disperse industries has been blunted.

6.40 There is a certain escalation of incentives as each State offers concessions to match those offered by competing States. Industrially more developed States like Maharashtra, Gujarat and Tamil Nadu offer concessions which the less developed States cannot match. Moreover, the concessions offered by the more developed States are not restricted to the backward areas of that State as determined for the Central scheme. In Guiarat for instance the sales tax concession is available in all areas located 25 kms away from Ahmedabad and Baroda and 16 kms away from Surat, Rajkot, Bhawnagar and Jamnagar. In Tamil Nadu there is no differentiation by area. Thus the substantial sales tax concessions offered by the industrially more developed States virtually negate the orientation of the Central Government schemes.

6.41 The objective of industrial dispersal policy is firstly the industrialisation of industrially backward States and secondly within the State the promotion of industries in the industrially backward areas. The Central schemes have been devised for this purpose. When States give across the board incentives this thrust is blunted. Entrepreneurship is limited and when incentives are available virtually across the board, the entrepreneur naturally prefers to go to the more advanced States and also to the more advanced of the designated backward areas. The industrially backward States have difficulty in competing with the more advanced States in granting concessions and the urge to grab industry is working against the interest of these States.

6.42 The National Committee recognises that the State Governments will wish to promote industrial development in all areas within their territorial boundaries. The Committee would, however, suggest that the State Governments cannot plead for central scheme for industrialisation of backward areas if their own actions work against the orientation of these central schemes. Once a certain consensus on the concept and definition of industrially backward areas is reached, then the Central and State Governments must work together to promote industrial development in the identified areas. Hence the State Government schemes must also reflect the same geographical orientation as the central schemes. They must build in a preference in their own schemes of concession for the areas identified as industrially backward for the central schemes.

CHAPTER 9

GROWTH CENTRE AS THE CATALYST OF AREA DEVELOPMENT

The Committee has in its several reports dealing with areas of fundamental backwardness suggested measures for increasing productivity and utilising fully the development potential of these areas and also for achieving a reasonable distribution of benefits towards the good of social justice. All these measures will lead to the development of the basic rural potential and the industrial potential of the area. Yet there is a certain gap in the framework of policy which needs to be filled. As regards general rural development, the approach has been towards increasing the skills for getting maximum return out of the new technologies and the potential of

the area for development in agriculture, animal husbandry, horticulture, forestry and fisheries. This frame leaves out a sector of opportunities for the semi-skilled and highly skilled population and educated youth in the areas of fundamental backwardness which is available in the general growth of the nation in various fields of development. Taking an overall picture of the backwardness we see, as in the hill areas of the North. large scale out-migration of highly skilled and semi-skilled personnel for earning a livelihood suited to their skills. Out-migration of skill and entrepreneurial talent seems to be a general movement from areas of fundamental backwardness to more prosperous areas giving better opportunities. The Committee in its report on 'Industrial Dispersal' pointed out the relevance of keeping back entrepreneurial talent and skilled and semi-skilled personnel in the backward areas for the development of industries in those areas. 9.2 From the First Plan onwards the country has been investing very substantial funds in building up the infrastructure in transport, power and irrigation, exploiting the vast mineral resources and in establishing basic industries and developing huge urban complexes. These investments are scattered all over the country. Many of them like the irrigation reservoirs and the hydel scheme and many basic industries relating to minerals and exploitation of minerals itself are located in the areas of fundamental backwardness in the country. These large projects provide opportunity for employment directly to highly skilled, skilled, semi-skilled and unskilled labour. The projects also provide opportunities of secondary and tertiary growth which are sometimes very large and where secondary production units like small and ancillary industries and service systems need to be developed. The tertiary sector of service is many faceted and the more sophisticated the basic unit the more highly spread are out the opportunities for tertiary investment and employment.

9.3 A broad view of how these large projects, many of which are in the backward areas, have really initiated and started the growth of the people in the backward areas, shows a disheartening picture. The classic case is the Jamshedpur Complex in Bihar which has not led to much complementary growth in the rural areas away from the huge urban complex. This large complex of industries was started long before freedom. Since Independence many large industrial projects have been set up in backward areas, e.g., at:

- Bhilai, Rourkela and Bokaro (Steel)
- Korba (Coal, Power, Aluminium)
- Sindri, Gorakhpur (Fertilizers)
- Namrup, Barauni (Fertilizers and Petroleum)
- Bhopal, Hardwar, Ranchi, Jhansi (Engineering)

The list would be even larger if coal and mineral development schemes, power projects and irrigation projects are included. In most of these projects neither the direct involvement in the construction of these projects nor the secondary and tertiary growth opportunities could be availed of to any large extent by the people of the backward areas round about. Further, there has been no complementary growth in other sectors of the economy as we normally expect. A thesis that growth by itself leads to distribution of growth cannot be controverted better than by a look at these projects. The Committee has noted with much concern this gap between the possible opportunities and the availment of the opportunities by the surrounding population. The Committee has tried to see if a bridging of this gap is possible. The broad conclusion is that this is possible provided very substantial support, planning and implementation of various infrastructure and aid programmes are carried out by the State administration.

9.4 Broadly speaking, we can foresee five major types of development which would create growth centres with substantial potential for generating all-round development in the backward areas surrounding the projects and amongst the people of the area. These are:

- (i) Industrial complexes:
- (ii) Growing Urban complexes;
- (iii) Raw material exploitation (forests and minerals and industries based thereon);
- (iv) Large Irrigation Projects; and
- (v) Hydel and Thermal Projects.

9.5 The type of secondary and tertiary potential generated and the measures required to ensure that this potential is used for the development of the backward area will vary from case to case. In order to gain some insight, the Committee decided to undertake an exercise for a specific project, viz., the Indravati Project in Orissa.

9.6 The Indravati Project in the district of Koraput in Orissa is a very large hydel project. It is also an irrigation project irrigating 5.4 lakh acres in the district of Kalahandi, neighbouring Koraput. The Committee with the help of the Government of Orissa and the concerned administrative departments of that Government has tried to build up a possible frame for area and people's development on the basis of the potential generated by the project. The preliminary frame that was developed out of these discussions is enclosed at Annexure 9.1. This gives broadly a glimpse at the magnitude of the problem involved. In particular this pinpoints these aspects of the planning and implementation process that are important for tieing up the growth centre's potential with the development of the backward area and its people.

9.7 The construction phase of the project has many opportunities for suitable entrepreneurs to avail of the employment and earning opportunities. The construction itself generates secondary and tertiary growth in the infrastructure creation and the service supports required. The summary discloses that the sectors of opportunity appear to be:

- (a) District employment in the construction itself for semi-skilled and skilled labour of various grades and competence;
- (b) Large-scale ancillary industrial development to supply materials required for the construction and for the housing projects that are part of the project;
- (c) A new road structure which will lead to large scale traffic movements which itself will generate opportunities for supporting services at various key centres along the road. These centres in effect become sub-growth centres;

- (d) The induction of a large working population earning wages and salaries at high level in a poor backward area generates demands for various consumption goods including vegetables, meat, eggs, milk, etc., which can be supported by an aggressive rural development programme in the surrounding areas; and
- (e) The transport and other services give opportunities to entrepreneurs, particularly unemployed educated youth to earn a living by following these opportunities.

9.8 A survey was done of the availability of various types of semi-skilled and skilled labour within a radius of 100 miles from the Indravati Project. The result has been summarised in Annexure 9.1. The important points that have to be noted are that (i) the opportunities for even semi-skilled labour like blacksmiths, masons and carpenters are far in excess of what this area can at present provide from the existing artisan groups; and (ii) the estimate only covers the direct employment in the project. The secondary growth in the villages and the new requirements of these services in the villages have not yet been assessed. A continuous monitoring of demand will have to be made and steps taken to train the local people to avail of the opportunities. Thus, besides the project plan, a large secondary plan for training of manpower and its absorption has to be made. The responsibility for doing this must rest with the district planning centre working in association with the project.

9.9 Large scale ancillary industrial development providing materials required for the construction of the project and for the housing can well be developed in these backward areas following the guidelines that have been given in the report of the Committee on 'Industrial Dispersal'. These industries will have to be nurtured from the start in ensuring the ancillarisation of the demand of the project. What is equally important is keeping an eye on what can happen to these industrial units developed in the backward areas when the project is no more. The Committee in its report on 'Industrial Dispersal' has suggested linking up the marketing of the goods of the small industry with the demand that is raised by the State and various Governmental organisations for regular

supplies of maintenance goods. This process should also be started from the beginning whenever such a potential for development is created by large projects.

9.10 The new road structure leads to opportunities for developing sub-growth centres which themselves will then generate secondary and tertiary employment in the surrounding areas. Such sub-growth centres where a large number of people will be gathered will require various amenities and services. Proper town planning in the beginning itself for the sub-growth centres will save a lot of trouble later on. Thus town planning and town development will have to be linked up to the growth centre approach. The urbanisation policy of the government stresses the importance of promoting the development of small and medium towns. The spin-off effects of large projects generates a potential for such development. The district planning centre must identify these opportunities and provide for them in the development plan.

9.11 Supply and services for the large population that will congregate at the project and at the sub-growth centres will require consumer goods and various services. Unless there is sufficient planning of the production of the necessary consumer goods as far as possible in the surrounding areas and for training people for taking up the service occupations that are available, the general experience has been that opportunities are grabbed by generally more forward people from other areas of the State or outside. If our interest is in benefiting the local population and raising their standard of living, this planning of consumer goods production, both agriculture and otherwise, and training people for the services opportunities must be an essential part of the State contribution to the development of the backward areas.

9.12 Transport services give a lot of opportunities for self employment of educated unemployed youth. These opportunities are of a fairly remunerative kind. Entrepreneur identification, their training, credit and technical advice that may be needed have all to be laid down by the State. This is another sector of planning which cannot happen by just wishing.

9.13 Last but not the least, the development of the area to be irrigated by the project itself calls for

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tremendous amount of detailed planning of the Industrial Growth Centres opportunities and how to avail of them. Annexure 9.1 gives detailed picture of the location specific 9.17 In the report on 'Industrial Dispersal', the planning required. More detailed work in localising programmes and projects in agriculture and connected subsidiary occupations will itself absorb a large number of planning and executing personnel.

9.14 Agricultural development in the vast areas that would be irrigated will need marketing facilities, credit transport for moving the surplus production to outside markets. Unless this is planned in advance and the facilities are provided. agricultural development and development of other subsidiary occupations will not progress satisfactorily. Thus, another large scale effort at detailed planning and implementation has to be taken care of by the State.

9.15 This resume gives some idea of the vast magnitude of planning and implementation machinery that a State has to invest in, if large hydel and irrigation projects are to benefit the local people. Incidentally, the study will show that in the higher levels of technology and skill, the local region cannot possibly supply all the requirements. Opportunities will have to be shared by people from other forward areas of the State itself. The report also shows how forward planning for induction of students into the various technical levels and courses and then tying up with the project requirements, requires very detailed planning.

9.16 The report of the Indravati Project cannot be taken as a final say on the magnitude of the opportunities or of the planning and implementation process. The State is pursuing the matter in greater detail by adaptation of the broad features of the preliminary frame. Whereas the exercise can give some idea of what is necessary in hydel and large irrigation projects, the opportunities in the other types of growth centres may need different approaches and different sets of disciplines. In the following paragraphs some very broad and general suggestions are offered. Unless this is followed up by detailed planning for the individual type of programmes for getting sufficient guidance on the actual difficulties in implementation, the parameters will not be clear.

Committee has already given an idea of the developmental opportunities arising from the construction and running of the industrial complexes. The Committee has also suggested a District Planning Unit which will look into these problems and ensure that the opportunities for growth are availed of by the surrounding backward areas.

(Ref. Para 9.29 of the Report on Industrial Dispersal, NCDBA). Broadly, the requirements can be identified as:

- (a) Opportunities for direct employment in the construction and operational phase of the industries that will be located in the industrial complex. A similar strategy to that followed in Indravati Project may be used. The principal difference is that the longterm requirements of skilled labour in the industrial complex will be more substantial and will require detailed planning of labour training. The Committee has dealt with this aspect in some detail in its Report on Industrial Dispersal.
- (b) A rapidly growing town attracts large number of people in direct employment in the industries located there and the secondary and tertiary growth. This will generate a large demand for consumer goods supplies and various domestic services. Detailed planning has to be done to see that the demand is sufficiently satisfactorily met as and when it arises and at the same time, the people in the area round about get the opportunity to enter this service field and also in making supplies to the consumer requirements from local production.
- (c) The educational requirements of an industrial growth centre would be much more than in a hydel or irrigation project. Similarly, medical facilities will be of a higher order. Unless the necessary infrastructure for both of the right quality is built up the growth centre will not develop and hence further development will not take place.

(d) Transport and communication services will be tremendously important in an industrial growth centre.

Growing Urban complexes

9.18 Urban complexes can grow rapidly for a variety of reasons like the influx of industry, the growth of administration, the development of new trading and service activities, etc. Town planning deals with planning the development of urban complexes. Growing towns are taken up for planning to ensure that haphazard growth does not ultimately make development difficult. It is assumed that town planning and its implementation will be duly looked after by relevant development groups. planning and The development in urban complexes gives opportunities for secondary and tertiary employment and opportunities for consumer goods supplies. Only if this planning is done in detail the surrounding areas can benefit. At present town planning is usually conceived of only in physical terms like zoning of land use, laying down of water supply, sanitation, roads, etc. The economic development potential of urban complexes is seldom taken into account systematically. It is necessary that the economic content of town planning exercises be strengthened if the objective of benefiting the local population is to be achieved.

Raw Material Exploitation (Forests and minerals and industries based thereon)

9.19 The magnitude of these projects may not, in many cases, be large except in large mining programmes and industries based on minerals. Opportunities for secondary and tertiary sectors may be limited. But the general experience is that wherever projects of this nature are developed in backward areas normally, local people do not get a look in either for employment or for marketing their goods at reasonable prices. The linkages between such projects and opportunities for local people to avail of them, will need a planning and implementation organisation. At what level this will be and what will be the sectors that will have to be looked into will be highly project specific.

9.20 Many large projects taken up in backward areas have a rehabilitation component for the displaced population. This is particularly true for large water resource projects and projects based on raw material exploitation. The funds provided in the project for rehabilitation can be used in a constructive way to promote area development and to strengthen the linkages between the project and the surrounding area. The present approach which sees rehabilitation largely as a matter of compensation should give way to a more positive approach which combines rehabilitation of the displaced families with area development.

IMPACT OF CULTURE, STATUS OF WOMEN AND DEMOGRAPHIC BEHAVIOUR

Kumudini Dandekar

This book by Alaka M. Basu, visiting fellow at the Institute of Economic Growth, Delhi, is a useful addition to the demographic literature available for India. It examines the effect of culture and the status of women on the demographic behaviour of two groups of women. These are from North and South India living in the slums of Delhi. The demographic practices and attitudes are found to be different in the two groups, the major part of which can be explained by the cultural differences envisaged through the status of women. There are scores of studies in the field which often lay stress on the demographic attitudes of women affected by socio-economic variates. But in the present book the idea is to keep the socio-economic variates constant and attribute the observed differences to cultural ones affecting the status of women.

With the above objective in view, two samples of women are chosen in the present study from a slum colony in Delhi. In fact these slums represent many regions in the country giving a cross-section of poor from these regions. The idea in choosing the slum in Delhi is to closely supervise the investigational work. The two groups chosen for the present study live in the same colony of slums having the same socio-economic circumstances but different regions of origin. One group of households is from Tamil Nadu (T.N.) immigrants representing South India and the other is from Uttar Pradesh (U.P.) representing North India. There is no difference in the public amenities of the two groups so that they share the same public utilities and health facilities. They could use these to determine their reproductive behaviour, child and infant mortality and physical well-being.

In spite of such care to keep the two groups in the same environment, they behave differently demographically and respond differently to the facilities offered. These differences in the interaction and behaviour are analysed very ably by the author providing supportive secondary data

for the states and the country besides of course the primary data from the present micro-study.

To analyse the data in the enquiry and interpret these, culture is defined in terms of region of origin and cultural norms are the attitudes and practices of the two groups. The effect of these on demographic behaviour is closely examined and demographic behaviour is defined as fertility, child mortality and sex differentials in physical well-being. Status of women through which the culture acts is defined at three levels, namely, a) the extent of women's exposure to the outside world; b) the extent of their active interaction with this extra-domestic world; and c) the level of autonomy in decision-making. The analysis in the book gives an answer to the question: How do these affect fertility, child mortality and sex differentials in physical well-being.

With the above objectives in view the household listing was done for the 614 T.N. and 976 U.P. immigrant households. Data were collected for each and every member of the household regarding their socio-economic status, recent births and deaths. Women's questionnaire included information on total fertility history of all ever-married women below 60 years of age. The questionnaire was modelled along World Fertility Survey core questionnaire but it also included questions on female autonomy and attitudes and behaviour on matters related to the position of women. For children less than 12 years of age their activities, daily routine, school attendance and work participation were noted. Finally the heights and weights of female respondents and of their children below 12 years of age were recorded. In addition a longitudinal morbidity survey for six months studied the health status of children under 12 years of age. This was done on World Health Organisation (1978) lines and details such as medical care sought, duration of illness, diet, child-care during illness, the number of school days missed and other normal activities were noted. Defecation and urinating

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habits or garbage disposal habits were also recorded. These gave an idea as to how mothers with different origins perceived the public utilities offered to them. The longitudinal survey covered 1,055 children from U.P. and 523 from T.N. All the usual necessary care for language differences was taken so that these did not disturb the reliability or comparability of the data. Usual field work problems while dealing with interview methods and dealing with migrants were recognised and tackled.

The slum colony studied stood on 12.4 hectares of land, with each household given a 25 square yards plot and had a population of about 1,75,000. It was a glorified slum with great overcrowding having some minimum public facilities of water and toilets. Every household was offered a loan of Rs 2,000 to build a dwelling. Houses were poorly ventilated and overcrowded. In such an atmosphere T.N. women did their business by selling vadas and dosas. People from every part of the country clustered here who besides finding employment in the city did vending, tailoring, electrical repairs, and small scale manufacturing of various knickknacks. Uncontrolled expansion in this colony led to bad hygiene and sanitation. When inside and outside of dwellings were classified for hygiene at least 40 per cent had poor exterior and 17 per cent had poor interiors.

Though facilities were inadequate, there were planned schools, hospitals and markets. There were no private toilets, and public toilets were not used properly. Besides, the place was distressingly insanitary because garbage was thrown all over the place. Municipality did not clean the roads. People did not care where they threw garbage, though two-thirds of U.P. households and eighty per cent of T.N. ones reported throwing garbage on the official heap.

Transport facilities provided good connection with the centre of the city. Cycle rickshaws were there but these were mostly run by the slum people for the nearby well-to-do. There were seven dispensaries for 1,75,000 people working at inconvenient hours and having very inadequate supply of medicines. There was a 28 bed maternity hospital for the use of the slum dwellers. Due to inadequate medical facilities there was a proliferation of private medical practitioners who

provide medication for 5/10 rupees and that too mostly injections. There were *dais*, one for every 500 households.

Educational facilities were impressive on paper. There were nursery schools, pre-school activities and free lunch at such schools. Still the attendance was only 50 per cent. For 1,000 population under integrated child development scheme there was one *anganwadi* i.e., pre-school centre providing supplementary nutrition, immunization, health check-up services for children under 6 years of age or for pregnant and nursing women. However all these facilities were grossly under-utilized even by working mothers.

The households had migrated to Delhi in search of employment. But rarely did the South Indian and never did the North Indian women decide independently to migrate to Delhi. Migration was dependent on males. Females accompany if males are sure to get employment. In the sample under study T.N. migrants migrated with families and not as individuals like U.P. migrants. Hence the sex-ratio i.e., males to 100 females was 103 in T.N. sample and 140 for U.P. sample. Twenty per cent U.P. households had no women while T.N. had only two per cent of such households. While in T.N. sample such men were widowed or unmarried, U.P. households without women had 85 per cent men currently married. All these details threw enormous light on how far the women in U.P. households were regarded as important entities.

46 per cent of the women in T.N. households in the age group 19-59 years were unemployed and in U.P. 95 per cent women were unemployed. In the 40+ age group, 41 per cent T.N. women were widowed, divorced or separated while their counterparts in U.P. sample were only 14 percent. U.P. women when without men, would pack up and go back home. Not so the T.N. women. T.N. women's migration to Delhi showed relatively more social and economic independence indicating their stable and permanent migration like men with whom they moved. In other words, U.P. women were not as economically motivated to migrate as South Indian T.N. women, since they had a different culture with low participation in the labour force. Besides, they did not consider economic opportunities attractive. South Indian women thought that women had as much responsibility as the men to work and support the family.

Life styles and socio-cultural variation in the two samples showed that T.N. households were economically worse off having household income of Rs 832 as against Rs 926 in U.P. sample. This was so even when T.N. women were employed in much larger numbers. Rooms were less per household, electricity was less common and borrowing more common and less percentage had their own water in T.N. sample. With them even housing structure was less solid. On the other hand T.N. sample had lower fertility and hence smaller number of children but it had larger family size because of extended families living together. They had larger number of people who had crossed 60 years of age and had less ties with their region of origin. This was probably because T.N. households migrated as households and not as individuals. There were 2 earners per household in T.N. sample and 1.3 earners in U.P. households.

T.N. women seemed different. Eleven per cent women from U.P. had some education. T.N. had 23 per cent such women. Six per cent U.P. and 65 per cent T.N. women were employed with none from U.P. and 53 per cent from T.N. working as domestic servants. Husband's education was 4.4 years in U.P. and 3.2 years in Tamil Nadu. In the U.P. sample 85 per cent households had salaried jobs while their number in the T.N. sample was 59 per cent. Age of women at marriage was 8.9 years and 16.1 years, respectively, in U.P. and T.N. samples.

T.N. women spent greater part of the day with cultured atmosphere when working as domestic servants. When they worked as hawkers selling *wadas* and *dosas*, the activity gave them self confidence and ability to deal with strangers and made them important, or main, bread winners in the family with husband's uncertain employment.

With mothers remaining away from home for long hours during the day, as many as 20 per cent of T.N. children were left with none to look after them. Probably because of this U.P. children were taking relatively better advantage of schooling facilities. But disadvantage in schooling can be attributed to practical as opposed to intrinsic or cultural factors. Was language coming in the

way? Or was it that they did not have their mothers to send them to school? Tamil women were exposed to innovation and notions of female autonomy which reduced birth and death rates but did not expose children to education as expected of them. But the Tamils sent their children to private schools as also to English medium schools, perhaps speaking for the quality of children's education they expected. It was also observed that the sex-differential among the Tamil school-going children was less than that in U.P. children. Primary focus in this discussion was on cultural differences in the two samples. For instance, in the Tamil households outlook on women's time is more important as shown in the use of gas more among them than in U.P. households (95 per cent as against 82 per cent). Similarly men helped women in Tamil households but none in U.P. households. So also the sex differential in male and female children's help was more in U.P. households.

Thus when one comes to details there were infinite differences in the households living in the same locality and on the same level of poverty. These led to the consideration of cultural differences leading to different demographic behaviour. Knowledge, attitudes and practices of women in the area of fertility and health varied. The position of women that was at the back of this variation was determined by their exposure to the outside world, their interaction with it and their capacity to take decisions in leading a household.

The author is concerned with absolute levels of women's position on the demographic variates and not necessarily their positions relative to men in their households though they are strongly connected. Thus the author compares the status of women in one group relative to those in the other group. To make decisions on most matters a lower level of female autonomy in decision making does imply a greater inequality with males. The important point that needs stress is that however advanced and independent the men in the community are there is little hope for desirable changes in the demographic behaviour if the women do not grow as well.

Leaving aside most powerful factors such as education and employment one can consider the influence of literature on culture, or of religion or of patriarchal kinship structure or of history of foreign invasions on the position of women which affects even the level of education or employment. However the author's interest is in terms of outside exposure, interaction outside and autonomy the women enjoy. The two most important factors affecting the position of women are (a) marriage and kinship pattern and (b) potential for female employment.

In most northern and southern parts of the country the family is predominantly patri local and patriarchal; but because of major differences in marriage practices between the two regions, this family structure ends up having profoundly different implications for day to day or usual functioning and status of women. Marriage differences may reflect ancient differences in the economy of the two regions. Northern pattern was associated with a primarily pastoral economy and, therefore, required the incorporation of outsiders to increase its strength, while the southern pattern was closer to agricultural economy whose strength lies in bringing closer the already related kin. In actual practice, therefore, in the North village is an exogamous unit for the purpose of marriage and the whole village is supposed to have a common ancestor. There is taboo on marriage to near relations. If a daughter is given in marriage in a particular village, another daughter cannot be given in the same village for the next two generations at least so that a new bride is thrown in a situation where she cannot see a single familiar face. She is cut off from her natal kin and eventually she is supposed to integrate completely with her husband's household.

In contrast, in the south, intra-kin marriages and marriage within a village is allowed. There is a give and take of girls between two related groups. Thus the girl often marries among those known to her. As a consequence, she is not only free in her new home but has contact with her natal kin. Such marital pattern has great influence on the position of married women and their potential for economic activity.

In the 1987 Paper providing 1981 Census data regarding the states in India, women in labour force as main workers were 5 per cent in U.P. and 22 per cent from Tamil Nadu. But among the workers in U.P., 48 per cent were cultivators

farming their own or rented land so that they did not get exposed to outside men while only 23 per cent T.N. women worked in that capacity. In U.P., working women worked as agricultural labourers in only 35 per cent cases and in T.N. these were 53 per cent. In U.P. households in the present sample, women were primarily involved in activities which centred around traditional homebased feminine skills such as sewing for exclusively female clientele. In U.P. households sewing machine was used in 22 per cent homes while only 8 per cent Tamil homes had it. This was not because U.P. households were wealthier but because U.P. women were considered to follow more respectable occupation of sewing without exposure outside.

The seclusion was extended to other areas of life such as seeking medical care or using public services in general. In a number of ways, Tamil women seemed to do well in exposure outside. For instance, having some education, being gainfully employed, watching T.V. or listening to the radio regularly, meeting friends in the colony or outside the colony were more frequently done by Tamil women. Meeting parents regularly or going out with husbands was also more frequent with Tamil women. But not going out with the husbands was also common with Tamil women because they were too busy and perhaps they did not consider their husbands equal. Similarly, decisions on food expenditure, food distribution, non-food expenditure or sick child's treatment were much more often decided by Tamil women than U.P. women. And one has to remember that Tamil women were employed in gainful occupation much more which probably gave them the capacity and urge to take decisions and lead an active life. But while comparing Tamil and U.P. women it seemed that the difference in women's position was much more among the uneducated showing that it was not the education but something else - call it a status or culture which got imbibed among women even when they were not educated.

Fertility differentials are seen to be great both in the present samples as well as the census data and it is also seen that the migrants belonging to the lowest socio-economic levels have higher fertility than the average for their states of origin. However, the first birth interval, i.e., the interval between the effective marriage and first birth is shorter for Tamil women than the U.P. women which could be attributed to the friendly atmosphere in the newly married home because of the marriage pattern. Due to this marriage pattern even when young married girls went to their natal kin they were not totally separated from their husbands. However the total fertility was less among Tamil women and they desired less number of children, less number of sons and even when women wanted more children. Tamils were practising spacing methods so that they could postpone getting children. Among Tamils stopping child bearing with sterilization, or using non-terminal methods of contraception (their number threefold compared to U.P. women) was again more common than among U.P. women. However, the average birth interval of U.P. and Tamil women was the same because U.P. women breast-fed their children much longer and the practice of modern methods of spacing common among Tamils was less than a substitute for breast-feeding. For U.P. women, breast feeding helped to lengthen the birth interval. That is why even the rural areas of both the states of origin had longer birth intervals.

There was a definite cultural difference rather than biological difference in the two groups of women. Among Tamils there was a higher proportion of divorced, separated and widowed women for three reasons. One was the lower survival of widows of U.P. than of T.N. Second reason was that T.N. women had higher rate of separation. Thirdly, after separation or widowhood, T.N. women were more likely to continue to lead their own life rather than return to their affinal kin in the village of origin.

Education was found to affect fertility; but among T.N. women the new norms have spread touneducated women too, because of more spread of education affecting the culture of all - the educated and the non-educated. Because of that, U.P. women thought 2.16 was the ideal number of sons to have while T.N. women had 1.69 sons as the ideal. This son preference may arise out of economic dependence of north Indian women with many agricultural activities barred to women. So also in case of widowhood they had

to depend on sons. It has been the general observation that countries with greatest son preference have the lowest rate of contraceptive acceptance. More the sex preference, more the fertility; this phenomenon has been proved by many demographers. For instance, if South India had one-son preference and North India had two-sons preference, then: a) among women with one child, no North Indian will terminate childbearing while 51 per cent South Indians will, b) with two children, 28 per cent North and 80 per cent South Indians will cease child bearing, c) with three children 58 per cent North and 91 per cent South Indians will stop child-bearing. Similar calculations regarding wanting another child have shown that son-preference has always kept a higher level of fertility than the other case.

In examining the child mortality, it was observed, as expected, that lower the age at child birth higher the mortality. But with higher age at child birth also child mortality rises giving a U-shaped curve. Another part of this phenomenon is that very often women start working later after initial married years. As a result, they cannot look after the children so well in poor conditions and hence higher mortality is observed, for instance, in T.N. women.

Considering the birth interval and its relationship to child and infant mortality it was observed that usual demographic factors do show the expected relationship with child mortality in the present study. Two factors however seem important in the regional differences. These are sex and parity which exert their influence in quite different ways. While the sex distribution of births in the two groups is more or less similar, the sex pattern of child mortality varies greatly in the two groups. In the U.P. sampled aughters seem to die at a much higher rate. As for parity or fertility, the impact of child mortality is similar for both groups but fertility levels themselves are different.

Environmental contamination was another aspect of child mortality which is considered by the author in this study. The environment was the same in the two groups, but the personal habits differed and these affected child mortality. The mean number of illnesses in six months studied was lower in T.N. than in the U.P. sample. Gastro intestinal ailments were more in U.P. sample. T.N. had better immunization level though difference was small. Seventy per cent of U.P. households had pukka housing structure while less than half of T.N. households had it. This was probably because of differential priorities rather than poverty. But higher respiratory illnesses in T.N. households could be partly due to the poor housing structure to be faced by Tamil group in the severe winter of Delhi. But gastrointestinal ailments could be caused by different waste disposal habits such as 80 per cent T.N. households threw their garbage in the official garbage heap which was disposed by the municipal vans while only two-thirds U.P. households did it.

Personal habits such as urinating and defecating near the households were noted in the study. U.P. girls even at the age of 10-12 years urinated in 51 per cent cases and defecated in 25 per cent cases, in the space outside their homes. Corresponding percentages were 36 per cent and 15 per cent respectively for T.N. households. Among the personal habits there was another aspect which is rarely noted in other studies but was noted in the present study. Women from U.P. group delayed breast-feeding immediately after the birth of a baby for three or more days in 84 per cent cases. Corresponding percentage among T.N. women was 54 per cent. This was because of misconceptions regarding colostrum supposed to be bad for babies. On the other hand during this interval only 18 per cent U.P. and 30 per cent T.N. women boiled the water they administered to the babies. This habit exposed U.P. babies much more to neonatal infections probably raising the death rate among them. Similarly, the habit of breast feeding upto 21.4 months among U.P. and 17.4 months among T.N. mothers was followed by giving solids to babies from the age of 12.8 months among U.P. and 9.6 months among T.N. mothers. This latter habit was healthier for Tamil babies. But once the solids were started the diet pattern for T.N. children was worse off than for U.P. Custom seems to be the main culprit for deleterious dietary practices.

According to the well known nutritionist Dr. Gopalan, there is severe protein-caloriemalnutrition in South India, W. Bengal and Orissa than the rest of the country where there is only

one staple food rather than two. In T.N. there may be more non-vegetarians but non-vegetarian food being more costly they obtain less protein than predominantly vegetarian, North India getting protein from pulses. But leaving this, Tamil women were more amenable to change if a piece of information was passed on to them. For instance, Tamil women were difficult to contact because they were busy working, for the first dose of immunization. But once contacted they did not recoil like U.P. women (because of fever or other reaction) and continued to complete the immunization process. Similarly once informed of the advantages of starting breast feeding on the first day of birth, 40 per cent young T.N. women were amenable to start breast feeding the same day of delivery. Though malnutrition was more severe among T.N. children (defined weight for age, height for age or weight for height) the death rate of these children was distinctly lower. As for hospital facilities, T.N. women took three times more advantage for deliveries than U.P. women who clung to home delivery. A similar Registrar General's child mortality survey for the states indicated that 94 per cent births in U.P. state were delivered by untrained dais and 50 per centin T.N. But immunization, hospitalization of birth, breast feeding from the first day, using boiled water for the babies, all these reduced child mortality not only among educated but even among uneducated mothers in the T.N. sample. In certain ways these uneducated mothers were superior even to the educated women from U.P. sample. This brings out one fact boldly. It is not the variations in the socio-economic background which are responsible for regional differentials in child mortality and it is the cultural identity independently and powerfully determining the mortality among children.

A very unpredictable relation between employment and child loss was observed. Working women have more child loss. This is also seen in various states in Registrar General's survey in child mortality in 1979. This sounds unpredictable because with employment a mother has economic independence and, as many studies have shown, with increase in income by female employment, always more is spent for child welfare. This leads to closer examination of child care variable for children of working women. It is observed that in the South and in T.N. the number of children with nobody to look after is larger. Actually, with women's employment, access to knowledge about better child-rearing practices is more common and there is greater confidence in translating this knowledge into behaviour. But it is probably poverty to get proper help to mind the children that goes against working women from poor classes.

In short, it has been found that cultural background influences demographic behaviour in large measure through its intermediate influence on the position of women. The irony is that women who suffer from lower status are so aware of it that they themselves first discriminate among their children and neglect daughters causing great sex differential among death rates as well as in the physical well being, by sex. Being aware of their economic and social worthlessness, the U.P. mothers cause the tragic sex-ratio of child deaths (Females/Males) of 8.2 for U.P. sample while for T.N. children it is near unity. This resulted in 111 child deaths in U.P. sample per 100 deaths in Tamil Nadu. This figure of 111 will be more if one takes into account the under-reporting of dead daughters.

For any study to be fruitful there has to be a policy relevance. In the present case it is amply clear that administrative policies to influence the demographic behaviour of the public cannot afford to be culture blind. It is fine to have a centrally funded programme (such as family planning) but the actual content of the programme needs to be made flexible to suit local realities. One need not imagine that standardized services or pushing for economic growth will automatically change the demographic behaviour of people. Economic growth is one important way of changing women's status and demographic behaviour. But to seek more results, the present book suggests that economic growth needs some non-economic help too.

There has to be a culture-specific approach. For instance, in North India health services even when offered would not be utilized by women and their daughters who avoid exposure outside. So some special care has to be provided to them until their

culture changes. Development of good domiciliary services for antenatal care and child-birth is necessary for women brought up in North Indian culture. There is a strong tradition of home deliveries especially in the North and this should be exploited by the health-care system. The financial savings caused by fewer hospital births can be channeled into relatively greater investments in midwives and female medical staff for North India. This will lead to increased medical care of women and female children. Similarly, women do not use public taps and toilets and hence expenditure is wasted, as noticed in the U.P. sample. Hence the sanitation also is not improved. Women take bath with clothes on in odd places to avoid public gaze. Could secluded public baths be provided?

There may be advantages in co-education. But there is presently segregation of girls from boys and that should continue for some time, otherwise the drop-out rate of females will increase.

There also seemed the tendency to go to a private medical practitioner (especially among the South Indian women who were mostly working) because of the inconvenient timings of the Government doctors in public dispensaries. This suggests that the working times of doctors should be suitable to most women nearby. So also there should be more female staff in the government dispensaries. There was found great faith in the medication among both the sample groups. This could be better utilized to promote good health so that one need not wait for education or other socio-economic traits changing the women to utilize health facilities. In this matter public facilities laid stress on immunization. But immunization is only one aspect of prevention that the health system needs to concern itself with. The dissemination of information and education on health related matters is another equally important aspect which seems somehow left out at present. This was demonstrated well by the misconceptions regarding colostrum considered bad for a baby, or use of castor oil to flush the new-born baby's digestive system by mothers. Women wrongly thought, that a newly born child needed less medical attention than an ill older child, or that in a bout of diarrhoea, the liquid intake should be drastically reduced. If women

are better informed on these matters education should become less important a determinant of health. The health-care system should have better communication with people especially those who have no other source of information, such as uneducated, unemployed or physically secluded. One cannot easily change the cultural background or women's position. What can be manipulated are some of the links in the chain between regional backgrounds and demographic behaviour and most importantly female education and employment levels. In the samples observed, education tended to lower fertility and child mortality but increased sex differentials as in U.P. On the other hand, employment level lowered fertility and sex differentials in child mortality but increased the overall level of child mortality. This confuses one; but education seems to be important because, if employment is due to better education than due to pressure of poverty, the child-care will not suffer and mortality will not increase with

increasing employment level.

After all this discussion one may argue - how far do the migrants represent the states of origin? Migrants, of course, are likely to be different. But their wives were not necessarily migrationoriented. They moved along with their husbands. Moreover both the groups were comparable because both wives' groups were near about 19 years of age when they migrated. Both were in Delhi for about 12/13 years. Further, when exposed to innovation, their reactions are noted in this study illustrating how culture differentials affect demographic behaviour. What is more important is not statistical representation but approach to the problem of analysing differentials.

To conclude: the status of women has an important bearing on the quality of life, length of life and sex-differentials in mortality and physical well-being. This subject has been oft-repeated but the approach of this book is entirely new.
THE UNRELIABLE LAW OF STATE LIABILITY IN INDIA

Suneeti Rao

Liability is a nebulous term in law, it is defined and redefined by the courts several times. Generally anybody who committed a wrong is liable or responsible for the harm caused by that wrong and the burden of providing remedy for it naturally lies on the wrong-doer. Liability is thus a necessary bond between the wrong-doer and the remedy for the wrong committed. Originally the wrong-doer had to make good the loss suffered by others as a result of his wrong, only if he was at fault. He was believed to be at fault, if he entertained malice or evil intention and so caused the harm. Gradually courts made the wrong-doer pay damages for his reckless or negligent deeds, even when he had no intention to cause harm. Now, the courts have developed the principle of strict liability, according to which, any deed resulting in unreasonable interference with another person's interest must be compensated. whether the doer's doing (action) is reasonable or unreasonable. Thus courts have attempted to rationally develop the concept of duty of care vis-a-vis liability. The principle of risk is the jurisprudential basis for liability without fault. Foreseeability of harm being caused by the action or its omission, proximity between the doer and the sufferer of that wrong, voluntary assumption of responsibility, such as promise, choice, etc., and reliance are some of the aspects of the duty of care. This kind of liability is designated as civil liability and is distinguished from criminal liability.1

The book under review gives an interesting account of the liability of one particular wrongdoer, viz., the state. It traces the origin and history of the concept of state liability in various countries and deals with it exhaustively in the case of India. Three types of liability is generally attached to the state; 1) liability in tort, (a tort is a breach of duty or obligation imposed by law, which results in damage to the person wronged, possibly undesired and unintended by the wrong-doer; it is a civil wrong. There are various kinds of torts, for example, a tort of negligence, i.e., a breach of duty

to take care, a tort of defamation, i.e., communication to a third party of matter which is likely to adversely affect a person's reputation, etc.); 2) liability in contract; and 3) liability arising under the statutory provisions made by the state itself, statutory liability under, for instance, taxing or penal laws of the land. The author has, however, not adopted this conceptual approach in his perception of state liability. His treatment is not subjectwise, split into state's liability in tort (tortious liability), contractual liability and statutory liability. On the contrary, his discourse is geographical and chronological, i.e., countrywise and then period-wise.

The book is divided into five parts which are further split into ten chapters. In addition, it has a foreword, a preface and an introduction that summarises its contents. The author explains here the reasons and the occasion for bringing out this treatise. He was greatly disturbed by the judgment of the Supreme Court in Kasturi Lal's case (Kasturi Lal v State of U.P., AIR 1965 SC 1039) where an innocent citizen, Ratia Ram, was deprived of his gold by a state employee, a police head constable, and yet the law had no remedy for the wrong he suffered. The author felt there was 'something basically wrong in our legal system' (p. xix). His deep anguish prompted him to work on this study which he dedicates, befittingly, to the suffering victims of state wrongs.

The first part, 'State, Individual and the Law', delineates, in brief, on the emergence of the welfare state from the laissez-faire system. The liability of the state emanates when the state, in addition to its sovereign functions, undertakes non-sovereign functions for the welfare of the people, such as providing public utilities, controlling the production line through standardisation in the field of food and drugs or licensing for the manufacture of certain products, etc. The state is then naturally treated by courts as any other individual, without its shield of sovereign immunity. A line of distinction is, however, drawn between the sovereign and non-sovereign functions of the state and liability for damage

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The reviewer is grateful to Prof Sathya Narayana, ILS Law College, Pune, for clarifying the concepts in the law of tort. * State Liability In India: Retrospect and Prospect: by G.P. Verma, Deep & Deep Publications, New Delhi, 1993.

caused by the latter is squarely placed on the state, because the commercial, industrial and developmental activities of the state and its instrumentalities are not different from those of private enterprises.

Along with the welfare state the doctrine of vicarious liability gained ground concurrently. This doctrine states: A is liable to C for B's conduct, for instance, an employer is liable for the wrongs committed by his/her employees because the employer has control over his employee's activities, is benefitted by them, has chosen negligently a wrong doer as his employee, has indulged in the luxury of getting his work done through his employee instead of doing it himself and hence must pay for this indulgence, and so on. Of all such reasons justifying the doctrine of vicarious liability, the most rational and suitable for the contemporary times is the theory of loss distribution. Employers today are normally not individuals but substantial enterprises or undertakings. They delimit through insurance their liability for the wrongs of their employees for a specified period. Further, the cost of insurance (premium) is passed on to the customers to whom they sell their products or services and thus the cost of liability is spread out thinly over a large number of people. Insurance also allays their fear of economic ruin, and simultaneously, guarantees the victim that funds would be available to compensate him. Moreover, there is the possibility of profitable business for the insurer.

One of the lacunae of the present study is that the complexities of contemporary, complex, integrated economic organisations, like the main branch or head-office with several branches throughout the world, or a company with subsidiaries as well as sub-subsidiaries or ancillary units and sub-contractors supplying parts to the main manufacturing firm, etc., are ignored. Again, the legal responsibility (liability) is placed on the owner of the firm which was normally a single legal identity or personality in days gone-by. Today it is no longer so. Courts generally take the view that legal responsibility may be ascribed to that firm which has ownership of 51 per cent of shares, authority and control. Further, the radically changing nature of the contract of employment makes it difficult to ascribe to the

employer the vicarious liability for his employee's wrongs. There are now such atypical, flexible employees as part-time employees, retainees, agents, service contractors, casual workers, temporary employees, and abroad, even flexi-workers and homeworkers, who depart drastically from the stable or permanent, fulltime, regular employees. Such complex economic organisations are occasionally nationalised or established right from inception in the public sector. In such public sector enterprises, the legal responsibility of the state for their employees' wrongs poses challenging problems which are not dealt with by the author.

State Liability in the UK, the USA and France

The second part deals with the state liability in the U.K., the U.S.A. and France. In the U.K. the rule of law has been the cardinal principle of governance. It implies 'equality before law' and equal subjection of all classes to the ordinary law of the land administered by the ordinary courts'. Yet, upto 1947, two ancient prerogatives of the state, 1) - the king can do no wrong, and 2) - the king cannot be sued in his own court, offered the state immunity from suits for damages for the wrongs committed by it. The Crown Proceedings Act, 1947, is the culmination of a long struggle for making the king pay for his wrongs. The author has brought out the history of this struggle very succinctly. He has also discussed the provisions of the Act and how the British courts have interpreted them in various cases. The term 'Crown', says the author, is a collective term for all those who enjoy Crown status, that is, all those who are appointed directly or indirectly by the Crown and who are paid for their duties from the state funds. However, certain employees of the Crown, such as judges and magistrates, enjoy immunity both substantial and procedural.² The transgressions committed by them in the performance of their judicial functions do not render the Crown liable. But there are certain statutes which place liability on the employees of the Crown for wrongs committed by them even while performing their official duties, e.g., the Police Act, 1964, holds the chief constable responsible for an unlawful arrest or malicious prosecution by a constable. Similarly, the Land Transfer Act,

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1897, which made registration of title to land compulsory, provided for an insurance fund. It was utilised for compensating any loss to citizens, caused due to a mistake in the land register. By the Land Registration and Land Charges Act, 1971, this fund was abolished but since then the British Parliament provides for the payment of such compensation. The author, for his own reasons, has not referred to this genre of state liability.

The Crown Proceedings Act, 1947, subjects the Crown 'to all those liabilities in tort to which ... a private person of full age and capacity' would be subjected. The Crown is made liable for most of the torts or civil wrongs, such as negligence both at planning as well as operational level, trespass, nuisance, and breach of statutory duty, though not for every breach of statutory duty. The Crown also enjoys the privilege of not disclosing certain classified confidential documents in public interest, although the courts have the power of inspecting them. They decide whether the disclosure would harm public interest and whether, therefore, they should not be disclosed.

The next chapter is devoted to the discussion of the state liability in the U.S. That the feudal prerogative of the doctrine of sovereign immunity should have been accepted and faithfully followed in the U.S. is, indeed, a mystery but it was introduced in the Constitution by the Eleventh Amendment in 1798. The author points out that only the 'twentieth century saw a gradual movement from State irresponsibility to State responsibility' (p. 71), and in 1946 came the Federal Tort Claims Act (FTCA). As the title makes it clear, the Act is limited to the liability of the federal government alone and contains thirteen explicit exceptions, for example, torts committed in discharging discretionary and specific administrative functions like loss or miscarriage of letters, assessment or collection of taxes and customs duties. Several intentional or wilful torts, too, were excluded. For example, courts are not to entertain claims against the state 'arising out of assault, battery, false imprisonment, false arrest, malicious prosecution, abuse of process, libel, slander, misrepresentation, deceit, or interference with contract rights' (p. 75). Yet as the author has quoted from Davis, '... of

all deserving tort claims against federal, state and local governmental units, probably far more are paid today than are unpaid' (p. 87). The reason, as pointed out by Davis is that the payment of tort claims by the various governmental units is governed only in part by general statutes, like the FTCA, 1946. In addition to such statutes are: (i) private enactments that allow compensation as a matter of grace- ex-gracia payments; (ii) special or limited piecemeal public legislation, say, the law regarding workmen's compensation for state employees; (iii) laws imposing on the state indirect liability through such means as insurance or indemnification of public employees; and (iv) the judge-made doctrine regarding liability of the governmental units in their non-sovereign, proprietary functions (p. 88). Obviously, political priorities and exigencies compel governments all over the world to compensate.

The author narrates as illustrations a few interesting cases, e.g., in 1947 a ship loaded with amonium nitrate fertilizer exploded and caused a disaster resulting in many deaths and much destruction in Texas city. The Supreme Court rejected the claim of two hundred million dollars under the FTCA. The American Congress, however accepted the liability for damages on the ground that the U.S. government allowed introduction of an inherently hazardous explosive into commercial transactions without proper safeguards and warnings and passed a special statute for paying the damages. Surprisingly, the Congress never thought of amending FTCA, 1946, for this purpose. The Act was, nevertheless, amended in 1974 to hold the state liable for such wrongs as assault, battery, false imprisonment, false arrest, malicious prosecution and abuse of process committed by law enforcement officers (fn. 253, p. 103). In the words of Street, as mentioned by the author, though the FTCA aims at assimilating 'the subject (i.e., the citizen) suing the State and the subject suing fellow citizens as far as reasonably practicable, the assimilation is far from complete' (p. 94).

The second part concludes with the discussion on the state liability in France. Of all the three foreign countries mentioned in this monograph, state liability in France should have been studied in depth since, as the author himself admits, the French system of state liability is more advanced than the Anglo-American one. 'Today *le droit administratif* (French Administrative Law) presents itself to the world as a fully developed system of administrative liability, far beyond anything thus far evolved in the common law world ... a better and balanced system of State responsibility' (p. 104). Yet it receives the least attention in the volume.

A few of the main reasons for the better growth of the principle of state liability in France are: 1) replacing the doctrine of sovereign immunity of the state by the maxim that the 'state can do wrong' and, as an honest person, will seek to repair damages (the French Revolution played a significant role in this); and 2) separation of judicial and administrative authorities. The Counseil d'Etat was not bound by any civil law. Consequently it innovated and developed its own principles of state liability; first it established a distinction between service fault and personal fault and asked the state to pay damages in all cases of service faults whereas in the case of personal faults, the aggrieved party had to sue the official at fault in a civil court. However in certain cases there is a cumul, a French term for combination of both types of faults; so the principle has been evolved: 'the fault may be severable from the service ...; but the service is not severable from the fault', if the service has provided the conditions for the commission of the fault (p. 109). The most appropriate illustration of this principle is that of a government official using a state-owned vehicle for his private, unauthorised trip and causing injury to some victim/s by his negligent driving. Not only the official in his personal capacity but the state, too, is made liable to pay damages. Thus the negligent employee of the state and the administration both jointly pay damages.

In addition to the liability of the state for the faults of its employees, the state is also expected to shoulder the burden of absolute liability, that is, liability without fault. The activity of the state is carried on in the interest of the entire community. If such activity results in damage to a particular individual, the state should make redress, whether or not there is a fault committed by the public officers concerned. The state is, in some ways, an insurer of what is often called

social risk (Pp. 111-112). The author points out the following five kinds of risks, where the state, generally, accepts responsibility for damage.

1) Risk due to dangerous operations or risk in the neighbourhood,

2) Risk out of employment,

3) Risk due to certain judicial acts and their execution,

4) Risk due to legislative acts,

5) Risk in cases of statutory liability.

Perhaps a more profound rationale for state liability without fault is the principle of equality of all citizens in bearing public burden. This principle, as the author quotes from Brown and Gamer, is founded in the declaration of the Rights of Man.

At the end of each of the three chapters of the second part, the author critically assays the state liability in tort in the three countries, as established through various legislative provisions and judicial precedents. He reflects that the concept of tortious liability of the state has been, no doubt, developed boldly in France rather than in England or the U.S., yet there are certain demerits in the French system too, such as competing jurisdiction of the specialized administrative courts and civil courts and slow procedures leading to delayed justice. While the appraisal compiles the views of such authorities in Administrative Law, as Street, Treital, Hogg, Bernard Schwarz, H.W.R. Wade, etc., there is very little of his own evaluation. There is no reference to the developments after England and France accepted the jurisdiction of the European Court of Justice or to the significant shifts brought about in the concept of state liability in Human Rights, protection of which is made obligatory by international conventions.

State Liability in India Before Independence

The third part of the volume with four chapters is devoted to the discussion on state liability in India chronologically. The first two chapters deal with state liability in Pre-British India, and British India while the next two chapters delve into state liability under the Constitution.

The first chapter in the third part is further divided into sections A, B and C; section A examines state liability in ancient India, B in the medieval period and C under the East India Company rule.

In ancient India state liability was, in practice, synonymous with the king's liability as in the U.K.; but theoretically the British maxim, Lex non potest peccare, i.e., the king can do no wrong, was not acceptable to Hindu legal system. Manusmriti prescribes thousand Karshapana fine for the king for any fault on his part, as against only one Karshapana for the common man for the same fault (p. 125). The author also supports this view with quotations from the Jataka and Kalhana's Rajtarangini. During the Vedic period kingship was a purely secular institution. It was only during the Brahmana period that, under the sway of religious ideas, Agni, Savitar and Brihaspati were believed to enter the person of the king, through ablution at coronation. Smritis and Puranas confirmed the belief in the divinity of the king. However, it did not confer infallibility on the king (p. 127). Mahabharata explains exhaustively not only the origin and development of the state but also the duty of the king to maintain the rule of law - Dharma, a 'Sanskrit expression of very wide import with, perhaps, no corresponding word in any other language' (p. 127). In spite of such ideological supremacy of law being the basic tenet of ancient Indian civilisation, the author points out F.S. Nariman's observation to the contrary, that in 'ancient and medieval India, the question whether the king or his ministers were liable for their acts to a private individual was an impertinent one - the query would have been regarded by those in authority as treasonable and in extremely poor taste' (p. 128). The author observes that the belief that Dharma (law) was mightier than the king was eroded after the Dharmashastra period (i.e., between 1000 B.C. and 300 B.C.). But the sanctity of property was respected. Manusmriti, Naradsmriti, Yadynavalkyasmriti and Kautilya's Arthashastra all speak of the liability of the king and his officers to compensate the victim out of the king's treasure, if the stolen property was not restored. Still more stringent measures were prescribed, if any of the king's officials resorted to corrupt practices which deprived a citizen of his property. This indicates that the concept of vicarious liability of the master was well-developed during this period.

He was held liable, both civilly and criminally, for his servant's acts performed during the course of his employment and for the master's benefit. This can be confirmed from such expressions as *apradhnuyut* (both civil and criminal liability of the master for his servant's wrongs) and *viniyuktah* (wrong committed by the servant during the course of his employment) found in *Brihaspatismriti*.

Section B of this chapter (ch. 5 of part III) deals with the medieval period when India was under the Islamic rule. Like Hindu law the Islamic law too, placed the authority of the king subordinate to that of law - the sacred law of Quran. The Islamic polity was founded on the conception of shar (Islamic or Mohammedan law) which treated the ruler and the ruled equally. But the institution of the state and that of the king were gradually unified, and during the Moghul period the sweet will of the absolute ruler of the state rather than any rule of law became the final word in all matters. Consequently, only a few instances of the state being held accountable for the wrongs committed either by the king or his servants are found recorded in history.

Section C of this chapter surveys the period when India was slowly conquered by the British. The author divides the history of British authority in India into three periods: 1) the Charter or trading period, from 1600 to 1764; 2) the double (dual) government period, from 1765 to 1857; and 3) the Crown period from 1858 to 1946. In this section C the author covers only the first two periods.

(1) The Charter or trading period: In spite of more and more political powers conferred on the East India Company through various Charters, the Company as well as its officers or merchants 'were never exonerated from the liability attaching to every subject of the Crown' (p. 134). The common law as well as several statutes provided for actions to be brought to the Mayor's courts against the Company for the torts and trespasses committed in India by the servants of the company. Unfortunately there is no recorded evidence in the form of authentic law reports of any such cases decided by Mayor's courts. The first set of law reports was compiled only after 1829 (fn. 53, p. 143). (2) The double (dual) government period: This period, beginning from 1765, ushered in the territorial sovereignty of the East India Company. There existed, however, a system of dual government under which the responsibility of maintaining law and order through courts of law was shouldered by Indian *Nabobs* while the authority, i.e., complete control over the revenues and full power of maintaining its armed forces, was savoured by the British.

The Bengal Regulation Act, 1793, provided for the vicarious liability of the East India Company for torts of its employees. According to the Charter Act, 1833, the compensation was to be paid from the revenues of India (p. 137). Yet these Acts were passed by the British Parliament mainly to gain control over the Company and not for bestowing legal rights on Indian subjects/citizens. It is interesting to note how the courts determined the liability of the state in the various cases brought before them during this period. In 1758, in Moodalay v The East India Company it was held that the common law doctrine of sovereign immunity, that the king can do no wrong. was not applicable to disputes in India and that, although the Company had rights as a sovereign power, it had also duties as individuals. The Company succeeded in claiming sovereign immunity in 1793 in Nabob of Carnatic v The East India Company since the subject-matter of the suit was a matter of political treaty between the Nabob and the Company. Hence the Company had acted throughout the transaction in its political, sovereign capacity.

In 1840, the judiciary determined that the Company was liable to pay damages for its officials' arbitrary acts of trespass and other civil wrongs even when such acts were committed in its political, sovereign capacity, as long as such acts were authorised or ratified or adopted by the Company. The principle of law established here was that there was no distinction between acts performed or authorised by the Company in its political, sovereign capacity and those in its commercial capacity.

The next chapter (ch. 6) throws light on the concept of state liability in India during the period when she was governed directly by the British Crown (1858-1946). Under the Government of

India Act. 1858, the Secretary of State or other members of the Council of India were not personally responsible to compensate for their or their officials' wrong acts but the damages and costs of any suits were to be paid from the revenues of India. Again, section 32 of this Act declared that their liability was the same as that of the East India Company before 1858. Because of this section, and also because of section 65 of the Act, the then legislatures of India were restrained from legislating any law that would have accorded the government any sovereign immunity. Section 41(b) of the Act IV of 1898 (Burma) tried to take away the jurisdiction of civil courts to decide a claim to any right over land against the government. But the Privy Council held it ultra vires, i.e., invalid as it contravened section 65 of the Government of India Act, 1858 (p. 149). Hence section 176(1) was included in the Government of India Act. 1935, to enable Indian legislatures, both federal and provincial, to make laws restricting Indian subjects' right to sue the state. This position was maintained till the Constitution came into force.

Of the judgments on state liability rendered during this period, the most remarkable one, which the author calls 'historic', is Peninsular and Steam Navigation Company v The Secretary of State for India. It was held in this case that there was a clear-cut distinction between tortious (wrong) acts performed by the state in exercise of its sovereign powers, i.e., powers which cannot be lawfully exercised except by a sovereign, and such acts in the nature of private business performed as by any private individuals. The state is liable to pay compensation for the latter type and not for the former kind. The author further stresses the ratio, the guiding principle of law evolved in the judgment, to be followed as precedent in future such cases, that the wrongful acts of the state, for which the state is not bound to pay compensation, comprise only three types of activities: acts of State, military operations and judicial functions; they are the truly sovereign activities (Pp. 153-154). The author reiterates the 'act of state' doctrine, defined by Fletcher Moulton, L.J., as early as in 1906 as follows: 'An act of State is essentially an exercise of sovereign power and hence cannot be challenged, controlled

or interfered with by municipal courts. Its sanction is not that of law, but that of sovereign power' (p. 257). Thus it is an executive act, performed as a matter of policy in the course of its relations with another state, including its relations with the subjects of that state, e.g., acts resulting from 1) declaration of war; 2) making of peace; 3) treaty of cession; 4) recognition of foreign government; 5) annexation of territory; etc. (p. 258). Unfortunately, however, there were some instances of misinterpretation, when it was held 'that state liability would extend only where there was some profit (accrued) to the Government out of the alleged tortious act'. All the rest were sovereign acts of state, not to be questioned in a municipal court. One particular case, Etti v The Secretary of State, mentioned by the author (p. 159) is of significance even today, although decided in 1939. The plaintiff's three days old son was admitted to a government hospital for treatment and when cured, he was informed that the infant had been taken away by some one else. The plaintiff alleged that the loss of his son was due to the negligence of the hospital authorities. But his claim was rejected by the court on the ground that since the hospital was maintained for the benefit of the public at the expense of public revenues, it was 'a proper function of Government', a sovereign function. Hence the Secretary of State was 'not liable for the tort of his servants employed in the hospital'.

Even the recent legislation like the Consumer Protection Act, 1986, as amended in 1993, excludes state-run hospitals from the liability to pay compensation for their staff's negligence in their patients' treatment; and here state-run hospitals include those maintained and managed by municipal or other local self-government authorities. Private medical practitioners are, however, covered by this Act and patients can sue for compensation if the medical treatment given to them was deficient due to negligence. This unfortunately reveals the colonial hang-over.

Other grounds devised by the state to reject claims for compensation are as follows: 1) the alleged tortious (wrong) acts being neither ordered nor ratified by the government; or 2) they being performed in the execution of statutory authority under sanction of municipal law. The

author then alludes to F.S. Nariman's [1971] view that: while the Government of India could be sued in all cases, where the East India Company was liable to be sued, some of the English judges in India engrafted an exception - the Government of India could not be sued in the municipal courts for the wrongs committed in the exercise of sovereign powers of the government. This exception was not justified by any act of Parliament or by the law in force in India. It was a judge-made adaptation and was not applied uniformly by all the judges. Hence arose the confusion (Pp. 163-164), and the author finally infers: the sovereign and non-sovereign quagmire has long plagued the law of the country and a comparative study of the cases shows an irreconcilable conflict. The absurdity of the classification is increased when sovereign and non-sovereign characteristics of an activity are mixed as in modern times (Pp. 173-174).

State Liability Under the Constitution

This chapter is perhaps the *sine-qua-non* of this study. Consequently the author allocates the maximum number of pages, seventy-eight pages to it. It is divided into four parts:

A) General, B) The two judicial approaches, C) The Supreme Court's twin decisions, and D) Wider view of state liability: Modern judicial activism.

Part A elaborates the history of Article 300 of the Constitution of India, which deals with state liability under the Constitution. The author traces its genesis to section 10 of the Charter of 1833, which was replaced with minor amendments in various legislations, such as, section 65 of the Government of India Act, 1858, section 32(2) of the Government of India Act, 1915, as amended by the Government of India Act, 1919, and section 176(1) of the Government of India Act, 1935. He then sketches the evolution of the Article in the Constituent Assembly - clause 214 of the Draft Constitution, Draft Article 274 of the Constitution and eventually, the present Article 300 of the Constitution (Pp. 179-180). However, the same 'refer back' approach of the British rulers was adopted in all these transitions, whereby the previous legal status remained unaltered. This is indicated clearly by the wording of the Article, for instance, 'in the like cases as the Dominion of India'; 'if this Constitution had not been enacted'; etc. (Pp. 181-184).

There are three parts in Article 300. The first deals with nomenclature of the parties to a suit against the state. The second defines the extent of liability and the third makes the above provision subject to any amendment by either the Parliament or a state legislature. The author quotes numerous interpretations of the wording of the Article from almost all the relevant judgements. States formerly under the rule of Indian princes still pose a problem; since the liability of the succeeding state cannot be greater than that of its predecessor state, the law as laid down under the Constitution applies only to British India and not where Indian princes ruled formerly. The author regrets that such disparity should create an anomaly in law and recommends its immediate removal through appropriate legislation (Pp. 185-187).

Part B of the chapter acquaints the reader with the two divergent attitudes adopted by the courts in the matter of state's tortious liability in transactions of sovereign nature. One view is that the state is not accountable for any damages for all its sovereign activities. The other approach favours further division of such activities into two categories, viz., 1) acts of state falling within the sphere of foreign affairs, defence and public administration described in England as the state's prerogatives and for which the state enjoys absolute immunity; and 2) acts performed under the sanction of municipal law or under statutory obligation, say, acts of detention or arrest by police, seizure of goous, etc. If the state commits wrongs while performing such acts it is liable to pay damages. Decisions regarding state liability where the state carries out socio-economic and welfare activities, such as postal and railway services, medical relief, building reservoirs, etc., are reviewed. The author, in addition, lists a few guidelines for determining what constitutes the tortious liability of the state, as laid down by the full bench of the Punjab High Court in Bakshi Amrik Singh v Union of India (Pp. 211-212).

Nevertheless he concludes the part by commenting that the archaic conundrum of the sovereign functions of the state has not been satisfactorily disposed of by this judgment.

It, however, seems strange that the author does not refer to recent special legislations enacted for the purpose of paying damages to the aggrieved for the lapses on the part of the state employees engaged in welfare activities, like the Railway Claims Tribunals Act, 1987, which has such special features. Similarly the author sometimes uses misleading titles; e.g., on p. 206 he mentions 'Postal Service: Not a Sovereign Function', thereby suggesting that in case a person suffers loss due to postal inefficiency in delivering the mail, he/she has a right to sue the state. This is not correct. Section 6 of the Indian Post Office Act, 1832, provides immunity to the postal authorities for any such default, unless the loss has been caused fraudulently or wilfully. It is only under the Consumer Protection Act, 1986, that a person, who has suffered loss due to postal inefficiency, may sue the state for compensation in a consumer court.

Part C of the chapter discusses at length two landmark decisions of the Supreme Court, State of Rajasthan v Ms Vidhyawati and Kasturilal v State of U.P. Mostly the comments of such legal authorities as H.M. Seervai, A.R. Blackshield, S.N. Jain, M.P. Jain, etc., besides copious quotations from the two judgments are incorporated. To be precise, a hundred footnotes are found in this part which comprises of hardly twelve pages.

Part D enumerates all the recent cases, particularly those where the state was made to pay compensation including those filed through writs or by social activists, environmentalists and voluntary, non-governmental organisations, and those that are generally known as public interest litigation (PIL) cases, particularly the cases regarded as milestones in judicial activism such as Rudal Sah v State of Bihar (AIR 1983 SC 1086), Sebastian M. Hongray v Union of India (AIR 1984 SC 1026), PUDR v State of Bihar, and so on. In all these cases monetary compensation was awarded as it was 'one of the telling ways in which the violation of the (fundamental) right can reasonably be prevented and due compliance with the mandate of Art. 21 secured'. Recently another such case was decided by the Supreme Court, Nilabati Behera's case. Her nine year old son, Suman Behera died in police custody. She was awarded Rs 1.50 lakh compensation. It was a relief granted for her claim under public law, and was in addition to the remedy in private law for damages for the tort. Secondly this judgment is significant because the Court here refers to Article 9(5) of the International Covenant of Civil and Political Rights, 1966, which was ratified by India in 1979 but with a reservation 'that the Indian legal system does not recognise a right to compensation for victims of unlawful arrest or detention'. According to Soli Sorabjee, [Indian *Express* 30-8-1993] after this judgment the above reservation will cease to have any effect. The book under review refers neither to Article 9(5) of the International Covenant of Civil and Political Rights, 1966, nor to the reservation with which India ratified it in 1979.

The Bhopal Gas Leak Disaster case is outlined in brief alongwith other cases resulting from accidents in hazardous industries. The state was alleged to be negligent in its duty, while issuing permits and licences to these factories. The author also mentions the Public Liability Insurance Act, 1991, and applauds it as 'the first of its nature in any part of the world', not knowing that the law of liability insurance is more developed in the western countries under the law of tort, e.g., the Third Parties (Rights Against Insurers) Act, 1930, the Occupiers' Liability Act, 1957, Nuclear Installations Act, 1965, etc., of England.³

To conclude, the author makes the following observations:

1) As the functions, powers and duties of a welfare state increase, it is very difficult to draw a clear-cut 'line where the administration ends and business begins' or *vice versa*; so subtle is the distinction.

2) The modern democratic and welfare state presupposes equality between the governor and the governed. Hence the concept of sovereign immunity of the state is an anachronism.

3) Reconciling the social or public interests on the one hand and individual, private claims on the other poses a problem in our country. In other words, balancing the Directive Principles of State Policy and the Fundamental Rights is a difficult task. The author is of the view, 'what is being done for the whole society should not be borne to the detriment of one individual as he has to bear only his share.... The socialisation of risks and compensation has to be considered while laying down the infrastructure of the state liability' (p. 243).

Chapter eight expounds in detail the meaning of 'an act of state', the modern version of 'might is right'. Many illustrations from numerous judgments delivered during both periods - preindependence and post-independence, or more precisely, post-constitution era - are provided. In addition the author elucidates the two diametrically opposite views regarding enforceability of individuals' claims against the succeeding sovereign with transfer of power. The principle that cession of territory by one state to another was an act of state, and that, the subjects of the former state could enforce only those rights which the new sovereign recognised, belongs to the old imperialistic doctrine (Pp. 279-280). The new doctrine of acquired rights accepted throughout the world presumes the continuity of the rights of the erstwhile citizens of the ceding state even after the change-over of sovereignty to the new state. Moreover, in the context of the merger of the former independent states ruled by the Indian princes with the Union of India, the concept of ceding and absorbing states is not applicable. It is foreign to our Constitution, since all the people of India, to whichever part of the country they might have belonged, through their representatives framed the Constitution which recognises the fundamental rights of the citizens and they cannot be deprived of these rights except by authority of law. This is in tune with the liberal trends in the modern principle of international law on state succession. Again the fact that a right cannot be enforced does not mean that it is extinguished or that it does not exist; nonrecognition by the new state only makes it unenforceable in the municipal or local courts. The author appeals to the Supreme Court to accept this reading at the earliest and to review/overrule the law laid down in earlier judgments accordingly (Pp. 282-285).

Part IV of the book 'Reappraisal of the Law' is

mainly devoted to 1) - the First Report of the Law Commission of India, 1956, 2) - the Government (Liability in Tort) Bill, 1967, and the Report of the Joint Parliamentary Committee (JPC), 1969, to which the Bill was referred. Although twenty-five years have passed since such legislation was mooted, yet, as the author aptly points out 'it was aborted before delivery' (p. 314). As pointed out in Human Rights in India: The Updated Amnesty International Report, [1993 p. 87], 'Successive Indian governments have persistently resisted all attempts to establish the right to monetary compensation for wrongful actions by their agents and officers. They have argued that the state is not liable for the acts of its officers when discharging 'sovereign functions'. They have also failed to act on the 1956 Law Commission's recommendation that state liability should be the rule and 'sovereign immunity' the exception'.

The Law Commission's report is synopsised chapter by chapter along with the justification for the Commission's preference for the British model to the American or French law. Attention is drawn to their first and foremost recommendation:

"... the State should be placed in regard to torts committed by its servants and agents in the same position as a private citizen' (p. 299).

The Government (Liability in Tort) Bill, 1967. a sequel to its predecessor Bill of 1965, is discussed in its entire sweep, right from its origin, aims and objectives, its clauses and sub-clauses as well as its course through the Parliament along with the JPC's brief report on the Bill. Both these bills were a natural corollary of the Law Commission's report. The last part of the chapter evaluates the criticism of the Bill, which has been assailed on various grounds, such as, 1) taking away citizens' existing rights against the government instead of giving more, under the guise of immunity provided to it; 2) carving out too sweeping exceptions to the rule of vicarious liability of the state; 3) providing extravagant immunities to the state in respect of claims arising out of defamation, malicious prosecution or unlawful arrest; 4) not giving full sanction to government accountability, one of the basic pil-

objections levelled against the Bill, derogatorily designated as the Government (Non-Liability in Tort) Bill (p. 314), are cited from well-known authorities in administrative law, like M.C. Setalvad, S.P. Sathe, H.N. Mukherji, I.P. Massey, and others.

The fifth and final part of the book, 'Conclusions and Suggestions' offers little supplementary minutiae. The foregone conclusion in the opinion of the author is that the concept of sovereign immunity should be abolished altogether. He takes the support of the principle of equality and argues that the public should bear equally the burden of loss resulting from state action; it should not rest where it accidently falls; in implementing social welfare policies individual welfare should not be abridged, 'fair deal and no favour' being the guiding principle in order 'to avoid the excesses of totalitarianism on the one hand and the uncontrolled individualism on the other' (p. 344).

There are two appendices giving the text of the Government (Liability in Tort) Bill, 1967, and of the British act - the Crown Proceedings Act, 1947. The utility of the book has been enhanced on account of 1) - tables of statutes of India, the U.K. and of the U.S.; 2) - a fairly adequate bibliography of books, articles, reports and of parliamentary debates, not only of India but also of the British Parliament and of the American Congress, as well as of the dictionaries referred to by the author; and 3) - the usual tools of quick reference, table of cases cited and subject and name index (combined).

The book under review would be a great help to students of administrative law and of law of torts. The author has taken pains to compile here all the scattered materials, which are otherwise difficult to locate, with footnotes galore, yet one wishes they were printed accurately (for instance, fn. 47, p. 18; fn. 63, p. 144; fn. 16 and fn. 17 p. 174; fn. 154, p. 321; etc.). There are quite a few avoidable printing errors, such as, he find(s), p. 12; to advice (s), p. 104; are (of) a wide import. p. 146; its (it) perpetual subject to, p. 133; plaintiff('s) case, p. 159; the later (latter) purported, p. 160; is an act which profess (es), p. 166; will the (lie) against the State, p. 192; etc. lars of a democratic state; etc. Most of the Likewise at certain places a little more clarity or lucidity and resisting cumbersome constructions Official Secrets Act, 1911, offers the state ironwould have been welcome.

The most conspicuous shortcoming of the study is, however, the non-mention of two landmark judgments, which are authorities on the statutory liability of the state, and are significant not only to India but to all the Commonwealth countries. It is absolutely necessary for the author to include them in the next edition of the book. They are 1) **Province of Bombay v Municipal Corporation of** Bombay, [1947] AC 58, and 2) State of West Bengal v Corporation of Calcutta, AIR 1967 SC 997. The former provided the state with almost universal immunity. It held that the state was bound by its own statute only when a) the statute expressly provided for it, or b) the object of the statute would be wholly frustrated, if the state was not bound by it. This rule, known as the Bombay rule, spells out that the state is committed to its own laws, only when its own position is not prejudiced. It was made more stringent by the Privy Council in Madras Electric Supply Corporation v Boarland, [1955] AC 667, when it was decided additionally that the state was obliged to follow its own laws only when it was to its benefit. This precedent is being followed in almost all the Commonwealth countries even in the nineties; in India it was repudiated only in 1967, when the second case, State of West Bengal v Corporation of Calcutta, mentioned above, overruled it, on the grounds that to uphold it would contravene the Indian constitution. In fact, as early as in 1960, Justice Wanchoo had expressed in his dissenting opinion a similar view in another case, The Director of Rationing and Distribution v Corporation of Calcutta (AIR 1960 SC 1355). He contended: (it is) 'inherent in the conception of the Rule of Law that the State, no less than its citizens and others, is bound by the laws of the land'. The author is likewise silent on the liability of the state for the disclosure of documents, vis-a-vis the individual's right to information. The

clad immunity.

All the same the book is a welcome contribution to legal literature and probably the first of its kind on the subject, written by an Indian author.

NOTES

1. When a person is held criminally liable for the wrong he has committed he is punished or fined, but the person wronged is usually not compensated.

2. Substantial immunity refers to the protection given to the judges from being sued for damages, even when they apply the wrong law in a case, or apply the proper law but misinterpret it; procedural immunity, on the other hand, means they are not to be sued for damages even when they follow a wrong procedure in deciding a case, suppose, they do not have the jurisdiction - the authority - to hear a case and yet they have heard and delivered the judgment; yet they cannot be asked to compensate. The independence of the judiciary is ensured by both these kinds of immunity.

3. There is industrial injury insurance of various kinds, such as workmen's compensation insurance, credit insurance, title defects in property insurance, casualty or loss insurance for covering the hazards of sudden explosions from equipment, etc.; however, a substantial part of the premium collected on such casualty insurance policies is utilised for inspection services rather than loss protection. The state through suitable legislation creates a legal obligation to insure in most of the developed countries; insurance is mandatory for liability deriving from damage caused by certain products or services, to illustrate, in Germany - drugs, in Belgium - travel agencies, in Italy - sale by mail, and so on. In case the state fails to make appropriate legislation, the state too, is made to redress the loss alongwith the manufacturer / provider of services.

4. While the review was in the press it was announced by the Akhil Bharatiya Grahak Panchayat, a consumer organisation, that it would sue the state in the National Consumer Grievances Redressal Commission for the damage caused by the earthquake in Marathwada region of Maharashtra in India. The cause of action for the suit is the negligence of the state which did nothing, in spite of repeated warnings from the geo-scientists. It would be interesting to see the outcome of this suit, since it might make the Indian state more accountable to its citizens.

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BOOK REVIEWS

Dr. Abul Malik A. Al Sayed, Social Ethics of Islam: Classical Islamic-Arabic Political Theory and Practice, Vantage Press, New York, 1982, Pp. 289+84, Price \$ 24.95.

Dr. Al Sayed was born in Iraq, where he received his education upto his law degree, studied further in the U.S.A., has held many teaching posts in Iraq and Saudi Arabia and has been a consultant to the Prime Minister of Iraq.

Dr. Al Sayed has in this book tried to find out what are the basic philosophical considerations which need to go into the building up of a good political-bureaucratic system in Islamic states. His frame of reference covers only the Arabic states of the Middle East, especially Iraq and Egypt, which, as Dr. Al Sayed argued, had developed a very high level of political thinking a few centuries ago.

Dr. Al Sayed argues that the planting of western instruments of political management on the Middle Eastern soil has not been a great success because those instruments have been accepted only formally by people in positions of power. Their attitudes continue to be the same as in the past, the attitudes produced by their cultural inheritance. So, Dr. Al Sayed is convinced that it is necessary to have a proper mix of the cultural values and the requirements for survival.

It is with this background that Dr. Al Sayed has turned to looking through the cultural heritage of the Middle-East. He has had to leave out the past seven hundred years, as during that period the political management of the region was an unmitigated disaster. The Ottoman empire, of which the Middle-East was a part, was an outand-out autocracy. For several centuries, it was the 'Sick man of Europe'. Dr. Al Sayed had therefore to go back to the Abbasids who ruled Iraq from 752 A.D. for about 160 years (for 300 years?) and to the Fatimids who ruled Egypt from 909 A.D. to about 1171 A.D. These dates are actually quite vague and in fact this vagueness is a symptom of the central problem of the history of the Middle East. Who, should we say, was in power? Islam does not recognise the separation of spiritual and temporal powers. Prophet Mohammad was the philosopher as well as the king. The same unified control continued under

the first four Caliphs till 661 A.D. But that type of control was envisaged only for the small collection of the tribes of the Saudi-Arabian peninsula. As the fury of the Arab conquest spread in all directions, this unified control was no longer possible. The conquerors were also not willing to be totally subservient to the religious power. There had to be some theoretical solution to this problem.

The present book is to a large extent a historical presentation of how well this problem wastackled in the Middle Eastern regimes of the 7th - 13th centuries. Dr. Al Sayed has given us a full picture of the political thought developed by several Islamic Schools named after their founders, the development of a working relationship between the *de facto* power of the state and the over-riding *de jure* power of the Caliph or Imam, the centres of *de facto* power, the organisation of the departments of the government, military as well as civil, the type of taxes and such other structures of the state.

The student of history will get abundant material in this well-researched, well annotated, well indexed book. There are however some fundamental questions which remain unanswered and would leave the reader unsatisfied.

Once we agree that the cultural past largely determines the present condition of any society, we must also admit that a decline of the society is also attributable to its cultural past. People who want to have only an unadulterated pride in their past find themselves in a fix. In India also we see the same situation. Unadulterated pride in the glorious Hindu culture has to be reconciled with its decline. Dr. Al Saved has done what his Hindu counterpart does - put the blame for the decline on the ignorance, indolence and, worse, on the leaders of the aging religious hierarchy. Dr. Al Sayed has used the word 'Pseudo-Islamic' for all the practices which are now adjudged to be wrong. Attacking the basics of the culture is too sacrilegious to be a practical and wise move! Other, culturally neutral historians have shown the history of the Middle East in a different light. A good book is 'Middle East, Past and Present' by Yayah Armajani, a teacher of history in the U.S.A. There is also a historical novel 'Lords of the Golden Horn - Ottoman Empire' by Noel

Barber, which deals with how the empire declined after the 1550s. A bizarre thing has happened during the entire Ottoman rule extending right up to the 20th century and during the Mamluk rule in Egypt from 1250 A.D. to 1517 A.D. - The rulers were all 'slaves', i.e., progenies of slave girls inducted into the rulers' harems from various non-Arab nationalities. That system was the sword-man's answer to the central problem in Islam - who will have the real power? The Muslim faith requires every Muslim to give unstinted allegiance to his Imam or Caliph. The sword-man found out that Islam allowed a system of slaves, who, though Muslims, were not free Muslims and had to submit entirely to their temporal masters. What better way then to create a class of slaves for providing the society with rulers and functionaries! That these slave rulers got enmeshed in the politics of the harem-women and of the large body of eunuchs who guarded them was another tragedy of these societies. All the pedantic writings of the Islamic jurists or other thinkers could not prevent this distortion and decay of the Islamic polity of the Middle East. Dr. Al Sayed has dwelt at length on Ibn Khaldun's contribution to the Arab-Islamic political thought. Arnold Toynbee has also praised Ibn Khaldun's analysis of history as 'the greatest work of its kind that has ever yet been created by any mind in any time or place'. But Ibn Khaldun came on the scene not in the golden period of the Arab power but during its last days. Himself a non-Arab, he was in the service of the Mamluks, the slave dynasty of Egypt, upto the end of the 14th century. By the time he was propagating his theories of social history, a new destructive force had already started demolishing the Muslim polity of the Middle East. This force was of the non-Muslim Il Khans of Central Asia. Before he died in 1406 A.D., Ibn Khaldun had to see his master vanquished by Timur Lang.

That is why the reader of this book would remain unconvinced that the thinkers of the golden era of the Arab society had found a solution to the central problem of its administrative system, more so when he finds that even in the 20th century the Al Azher mosque in Egypt firmly rejects the idea that Islam should be secularised by the separation of religion and the state. It says:

'This theory is absolutely false..... According to the unanimous consensus of the Muslims, Islam is the totality of the precepts transmitted by the Prophet in regard to doctrine, cult and legal relations among people. These precepts form one whole and cannot be dissociated, one from another' (p. 263).

Dr. Al Sayed has concluded his book with recommendations of a general nature as to how the administrations in the Middle Eastern states could be improved. He in effect accepts Al Azher's above-mentioned stand. Well, he has been in the thick of events and probably knows best what is achievable there through politics, which, as is well-said, is the art of the possible.

The main title of the book may lead an Indian reader to expect some discussion of a question that is relevant to India - What is the legitimacy of a non-Muslim state for a large Muslim community residing under it. Muslim theologians do not accept the full legitimacy of any state. They therefore leave the Indian Muslims in grave danger of being in sin if they accept such legitimacy. It may be that, that is not a question actually agitating the minds of the Muslims in India today. But that was a question which in a different form influenced the communal question in India during the freedom struggle and continues to be an unstated but lurking problem even today.

Moreover, in the last few centuries, the world order has become far too complex to be served adequately by simple separation of religion and politics. History has shown that centralised states are as tyrannical as centralised religions. Existential sociologists are concerned about the existence of tyranny even in the so-called free societies. The tyranny is gross as well as subtle. In totalitarian countries it is gross, where people are shot down or imprisoned or sent to concentration camps. In free societies it is subtle inasmuch as the goal of their educational and conditioning systems is to train people, in the name of efficiency, to give standardised responses to standardised situations, or, in other words, to standardise human beings themselves.

Sensitive individuals are then doomed to nonfulfilment as individuals, if they conform, and to a sense of guilt, if they don't. That situation poses a threat to the very objective of government and of education, viz., social order.

It is time that the Islamic world, along with all others, wakes up to the ever-increasing complexities of the modern world. Old cultures cannot be expected to cope with these complexities.

> B.P. Patankar, 155, Hanuman Nagar, Nagpur-440 009.

Bumiller, Elisabeth, May You be the Mother of a Hundred Sons, Penguin Books, 1991, Pp. 289+17, Paperback Rs 95/-.

Elisabeth Bumiller, a journalist, accompanied her journalist husband to India. She did not intend to fall into the usual pattern of a woman reporting about women's problems but was soon caught up in all sorts of stories about Indian women. She finally decided that Indian women were her window on India. She travelled through all the states, met all kinds of women, from a poor one who drank water to quench her hunger, to rich wives, actresses, painters, poets, politicians, etc. She has in this book given her impressions about various aspects of Indian womanhood.

This is not a scholarly book. But in not being so it avoids being a sanitised, feelingless report. It is a sensitively, honestly written book. The primary material of the book is the author's field-work, which she then evaluates on the basis of the perceptions of various people or recorded reports and findings. Let us take the two most poignant chapters of the book: 'A bride-burning and a Sati' and 'No More Little Girls -Female infanticide among the poor of Tamil Nadu and sex-selective abortion among the rich of Bombay'. After investigating a case of bride-burning the author frankly admits that she could not determine whether that case was of a one-sided cruelty against the bride. Similarly in the case of Sati, i.e., the self-immolation of Roop Kanwar on the pyre of her husband, she could not determine whether Roop Kanwar, in a state of mental shock, herself

succumbed to the age-old tradition of Sati or whether she was 'pushed'. 'If I were forced to decide', says the author, 'I would theorise that Roop Kanwar was pushed. Certainly she was worth much more to Deorala (village) dead than alive. Again, my decision is based on instinct, not evidence' (emphasis added) (p. 74). The italicized portion shows the author's honesty. That honesty adds weight to her observation that in the case of bride burning as well as Sati, 'the larger tragedy for both women was of course their profound powerlessness to control any aspect of their lives What freedom did an Indian woman have to decide anything in her life?' (p. 74). The author's juxtapositioning of the female infanticide among the poor and the sex-selective abortion among the rich is a measure of her keen perceptivity. She does agree that there is a world of difference between doing away with a born child and doing away with an unborn child. But she also recognises the difficulty of pronouncing a moral judgement when three issues are interlinked: (i) a woman's right to abortion, (ii) her right to information about her foetus, and (iii) an abortion being a costly affair for a poor woman, apart from the high risk to her own life in Indian conditions. Whatever moral judgement may be made, what sticks out is the sense of catastrophe felt in all strata of Indian society at the advent of a baby-girl.

Then comes the author's study of the Indian Women's Movement. She tells us that Indian feminist leaders have come to the realisation that their effort is meaningless unless it attempts to change the lives of the 80 per cent of Indian women whose most basic concerns - access to clean water, animal fodder and cooking fuel remain alien to their own privileged world. This statement, read along with the description of the drudgery of the rural woman's life, should be an eye-opener to those urban feminists who sometimes quarrel as to why a child should bear the father's name rather than the mother's. The author has given us a very reassuring picture of the work being done by eminent social workers among working women.

In the chapter on 'Mrs Gandhi and her legacy for Indian women in politics', the author has

briefly discussed the role of Indira Gandhi as a woman. She has also given an account of her interview with Prime Minister Rajiv Gandhi regarding the Shah Bano case. Rajiv Gandhi made two important points with which the author agrees. One is that the question involves the cultural values of different communities. A man with western education is influenced by Christian values, which, in the case of marriage, are very close to Hindu values inasmuch as marriage is looked upon as a sacrament and upon marriage a woman belongs to the husband's family. The Muslim marriage is a dissolvable contract so that on the dissolution of that contract the woman falls back on her parents' family. The second point was that since Muslims were granted their personal law at the time of Independence, that guarantee could not be withdrawn except by consensus. The author adds her own opinion: 'It did not seem right to me that a 'secular' Hindu majority should impose its will on the personal law granted to a religious minority.... Although I felt that change in their law was desperately needed, the change had to come from Muslims themselves' (p. 169). The author has given an account of her interviews with many women in politics - Vijavalakshmi Pandit, Margaret Alva, Vijayraje Scindia, Gayatridevi, etc. She wonders whether there has been any woman in Indian politics who had succeeded without relationship to a powerful man. The author interviewed several actresses and was struck by the inconsistency in their personal lives and the old-fashioned roles they played. She met

revolutionaries, painters and poets in Calcutta and wondered whether all these women couldn't 'do' something for relieving the misery of women instead of merely writing or painting in anger. She herself has no answer and says that when she returns to Calcutta she would feel as guilt-ridden as before. About family-planning the author has brought out the dilemma before the government: on one hand the urgency of the population problem and on the other hand the all-pervading illiteracy, lack of motivation and lack of the resources necessary for proper medical care. She has graphically described how the programme works under these conditions. She has also dwelt on the excesses committed during 1975-77 and the permanent set-back caused to the programme by those excesses.

In the end the author tells us how her study of Indian womanhood helped to bring out the woman in her and how she has now a better understanding of a woman's life.

The main quality of the book that strikes the reader is that it is an utterly honest and sensitively written book, where the emphasis is on understanding rather than on judging. The Washington Post has described it as 'the most stimulating book on India for a long time'. That compliment is well-deserved.

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ANNOTATED INDEX OF BOOKS AND ARTICLES IN INDIA

EDITOR'S NOTE

These abstracts are prepared by the author of each book/article sent to us voluntarily in response to our invitation through the *Economic and Political Weekly*. These cover publications after 1st January 1986. Only abstracts of books/articles so received are published. The index therefore is not exhaustive and complete.

The limit of 250 words and 100 words for abstracts of books and articles, respectively, is strictly enforced. Only a minimum amount of copy editing is done in order to bring the abstracts within the prescribed limits. The readers should approach the author, *not* this Journal, for any clarification.

BOOKS

1993

Thimmaiah, G., Power Politics and Social Justice: Backward Castes in Karnataka, Bangalore.

The issue of reservations for the socially and economically deprived in India has been fiercely debated throughout the country, particularly since 1990. This question has been the subject of numerous legal battles and has lead to widespread protests and even riots. At the same time, despite the existence of constitutional provisions reserving jobs and educational opportunities for those belonging to specific castes and tribes, these people still suffer from alarming backwardness and abject poverty. This calls into question the very efficacy of the polity of reservation as presently enunciated, since it seems not only to have failed to achieve its objectives but to have led to tensions in the Indian social fabric.

This topical study is a significant contribution to the continuing debate on the reservations. Providing a detailed analysis of the backward castes movement in Karnataka, it shows how this movement has become a paw in the hands of power-brokers, vested interests and pressure groups.

The author analyses the distortions which have emerged in the process of the formulation and implementation of the reservation policy in Karnataka mainly because of the manipulative tactics of caste groups out to serve their own interests. In conclusion he presents an alternative approach based on objective criteria and checks and balances to ensure that the benefits of reservations reach only those most deserving of them.

ARTICLES

1991

Jandhyala, B.G. Tilak: 'Economic Growth and Life Expectancy'. International Journal of Development Planning Literature, Vol. 6, Nos. 3-4, July-October 1991.

This paper presents an analysis of the relationship between life expectancy and economic growth, the latter measure by GNP per capita with the help of international data spread over about twenty years. A cross-section analysis of the type discussed here may have certain limitations. Nevertheless, it makes clear that a substantial proportion of variations in life expectancy can be explained with the help of variations in GNP per capita. This proportion may be as high as 60 per cent. More importantly, classifying 132 developing countries of the world into three categories, viz., low income countries, lower middle income countries and upper middle income countries, the relationship which is found to be varying for each set of countries has been analyzed.

1992

Jandhyala, B.G. Tilak: 'Investment in Research and Development in India', *Asian Economies* South Korea, No. 82, September 1992.

This paper analyses the importance accorded to research and development in India during the post-Independence period; describes the role of research and development in socio-economic development by quickly surveying the available research evidence on this aspect; discusses the trends in investment on research in India during the plan era, and a few related features of financing research and development in India. In comparison with other countries, the investments made in research and development in India are very small. Government is the major funding agency for research and development activities: the role of the private sector is very limited. Within government, it is the central government that shares a major responsibility. Basic research is the least invested sector of research and development, while applied research and experimental development research receive fairly large and equal shares in the total investment in research and development. Lastly, the state govemments invest very small amounts in research and development, and these investments are not related to their ability to invest.

Jandhyala, B.G. Tilak: 'The Capitation Fee Colleges: Some Issues', Journal of Higher Education, Vol. 16, No. 1, Autumn 1992. Also appeared in University News, Vol. 30, No. 51, December 21, 1992.

This paper presents a reflection on the phenomenon of capitation fee colleges in India, in the specific context of the Supreme Court judgement (July 1992). The illusory benefits of the capitation fee colleges are contrasted with the veracious harmful effects and concludes that there is no justification for capitation fee colleges at all. Taking cue from the judgement, it is also argued that a proper differential fee system in higher education would be highly advantageous, generating more resources and at the same time being equitable.

1993

Jandhyala, B.G. Tilak: 'Privatization of Higher Education', in Morsy, Z. and P.G. Altbach (Eds.), 1993; Higher Education in International Perspective: Towards the 21st Century, Advent Books, New York, and UNESCO, Paris. Reprinted from Prospects, 1992; also reprinted in Journal of Higher Education, Vol. 16, No. 2, Spring 1993.

Privatization of higher education is not a phenomenon of recent origin. Almost all the educational systems in the non-Communist world are characterized by privatization of various degrees and forms. But this has been assuming importance in the context of growing financial squeezes of public budgets for education. The paper analyses the trends in privatization in higher education. It examines critically with the help of available empirical evidence the strengths and weaknesses of the arguments being made in favour of and against privatization, and in the process refutes some of the myths regarding privatization. Privatization is classified into various forms, and privatization of the type that involves public provision of higher education with reasonable levels of private finances is favoured.

Jandhyala, B.G. Tilak: 'Education and Agricultural Productivity in Asia: A Review', *Indian Journal of Agricultural Economics*, Vol. 48, No. 2, April-June 1993.

Agricultural productivity is traditionally explained with the help of factors such as land quantity and quality of land - inputs such as seeds, fertilizers, machinery, weather conditions/irrigation facilities, etc. But these factors are found to have explained only a fraction of the variance. Later research has shown that agricultural productivity is considerably influenced by not only physical capital, but also human capital - the educational levels of the labour force employed in agriculture. Education is also found to be influencing significantly various agricultural practices such as use of HYV seeds, modern fertilizers, machinery, etc., besides utilization of credit and other facilities. This paper presents a review of research on various aspects relating to the role of education in rural development in general, and in farm efficiency in particular, in the Asian countries.

Jandhyala, B.G. Tilak: 'Financing Higher Education in India: Principles, Practice and Policy Issues', *Higher Education*, Vol. 26, No. 1, July 1993.

The paper presents a critical analysis of the trends in financing of higher education in India during the post-independence period; and discusses the various alternatives available to augment additional resources for higher education, including various forms of privatisation. Arguing in favour of moderate form of privatisation, the author evaluates proposals referring to student fees, student loans, graduate tax, and privatization in general.

Purohit, Mahesh C.: 'Indian Sales Taxes: Approach Towards State VAT', APTRIC Bulletin of Asia Pacific Tax Investment Research Centre, Singapore, August 1993.

The existing structure of sales taxes in India consists of (a) the States' general sales tax (GST) and (b) the Central sales tax (CST). The GST is

levied by all the States, mainly at the first point. The only States having multi-point (turn-over) tax on a few commodities are Kamataka and Kerala. There are considerable variations in tax rates. Most of the States levy tax on raw-material, machinery and other inputs. The tax treatment of raw material varies from concessional treatment (between 1 and 4 per cent) to complete exemption. In addition, there are large number of exemptions on sale of finished goods produced by new/diversified industries in almost all the States. The industrial incentives include (a) exemption or concessional tax on sale of output, (b) deferment of tax, and (c) interest free sales tax loans.

The CST is collected on all inter-State transactions. It is levied, collected and retained by the State which occasions the movement of goods from its territory. A few select States collect a major part of the CST revenue. The tax is inequitous and causes loss of welfare to the consumers. If the CST is extended to consignment, it would further cause inequality among the States.

An evaluation of the existing sales tax system suggests that it is characterised by lack of uniformity, multiplicity of rates, cascading taxes and loss of revenue due to incentives. With a view to reforming the existing structure of the sales tax system, it is suggested that in the short-run the States must attempt to achieve uniformity, adopt three rate schedule, provide select exemptions, adopt mix of first-point taxation with value added tax (VAT) for select commodities and provide set-off for tax on inputs. In the medium run, the States' sales tax could be converted into State-VAT with harmonization of the CST on the pattern of the system prevailing in the European community.

The Journal will publish in each issue Annotated Bibliography of Books and Articles on Indian Economy, Polity and Society, published after January 1, 1986. Authors are requested to send their entries with full details of publication and annotation not exceeding 250 words for books and not exceeding 100 words for articles. Use separate sheet for each entry.

Currently, a large number of books are being published on Indian economic, political and social problems and developments. We give below a list of books we have received with a request for a review. For want of editorial resources, it is not possible to review all of them though many deserve a critical review. Interested readers are requested to write to the editor indicating which of the following books he would like to review or write a full review article on. We shall be glad to do the needful. Readers are also welcome to review books recently published, but not appearing in the following list. As the contributors to this Journal are aware, all contributions published here are adequately remunerated.

Dhawan, B.D. - Indian Water Resource Development for Irrigation: Issues, Critiques, Reviews, Commonwealth Publishers, New Delhi, 1993.

This volume is divided into two parts - Part I comprising the author's research findings regarding the state of Indian irrigation and Part II, his published reviews of studies/reports on water resources. The big dam issue figures in many chapters, with special reference to Narmada and Tehri projects. How vulnerable minor irrigation works are to drought is examined on the basis of a fresh set of data from the census of minor irrigation.

Giriappa, S. - The Prospects of Rural Development, Daya Publishing House, Delhi, 1993.

The study probes into the pattern of agricultural and industrial development in rural India and points out that the pattern requires more sustainable and stable approach. It discusses the progress of technological change in agriculture as well as the prospects of rural industrialisation. The former is illustrated with the evaluation of a coarse cereal crop vis-a-vis a superior crop like rice, whereas the latter with the analysis of beekeeping industry.

Kapila, Uma, (Ed.), Recent Developments in Indian Economy: With Special Reference to Structural Reforms, Parts I & II, Academic Foundation, Delhi, 1992.

These two parts together contain thirty eight contributions from eminent economists on various aspects of structural reforms introduced in the Indian economy after June 1991, such as the

constraints on growth and productivity, the need for changing the development strategy, the New Industrial Policy, trade policy, Five Year Export - Import Policy (1992-1997), balance of payments, devaluation, reforms in the financial and the banking systems, monetary policy, interest rates, tax reforms, economic policies for 1991-92 and 1992-93, public finance, savings, prices and public distribution, output and employment effects of the recent changes in policy, poverty in 1980s, employment policy for 1990s, Eighth Five Year Plan, 1991 Census, urbanisation, etc. The volumes, in addition, provide relevant extracts and summaries from official documents and reports, e.g., those of Chelliah and Narsimham.

Kurien, V., Tushaar Shah and Daniel Bromley, Agricultural and Rural Development in the 1990s and Beyond: Redesigning the Chemistry Between State and Institutions of Development, Institute of Rural Management, Anand, 1993.

This paper surveys in brief India's agricultural policy and planning in the post-Independence era. It compares and contrasts the classical tenets of state intervention with the role of modern Indian state as well as that of institutions of development in agriculture. The defects of development planning, both as pointed out by the World Bank and others, discerned by the faculty members of the Institute of Rural Management, Anand, are charted out. Suggestions for the removal of these defects have been made, with emphasis on the state switching from direct action to institution building. Ponkshe, Satyawrat, The Management of Intellectual Property: Patents, Designs, Trade Marks & Copyright, A. Bhate & Ponkshe Publication, Pune, 1991.

The book aims at explaining in detail the prescribed law, the institutions involved and the procedures to be followed in the protection of intellectual property - the creations of human intelligence. In other words it expounds how inventions are patented, industrial designs are registered, Trade Marks are assigned and transmitted and copyrights are not allowed to be infringed so that human beings are encouraged to cherish their originality. Both, national as well as international visages are included.

Purohit, Mahesh C., Principles and Practices of Value Added Tax: Lessons for Developing Countries, Gayatri Publications, Delhi, 1993.

This study evaluates Value Added Tax (VAT), elaborates its rationale and its popularity as a fiscal measure. The economic effects of VAT, its rate structure, base and coverage, taxation of services and harmonisation of tax rates are some of the aspects analysed in depth. General features of VAT administration, including Management Information System (MIS) are spelt out. A case study of the French VAT system adds to the utility of the book.

Reserve Bank of India, Report of the Working Group on Financial Companies, Reserve Bank of India, Bombay, 1992.

This report furnishes an overview of the nonbanking financial sector, primarily, the corporate sector - the non-banking financial companies (NBFCs), perhaps for the first time after the liberalization and diversification of the financial system in the recent years. The existing statutory provisions for their regulation are discussed and measures, statutory or otherwise, for improving their performance are recommended. Appendices to the report include a statement on the salient

features of the directions issued by the Reserve Bank of India and the National Housing Bank to NBFCs.

Reserve Bank of India, Annual Report, 1992-93, Reserve Bank of India, Bombay, 1993.

The report, divided into two parts, reviews the macro-economic developments of the accounting year 1992-93 in the first part and assesses the working and operations of the Reserve Bank of India (RBI) in the second. Policy developments, production trends of agriculture and industry, government finances, monetary and price trends, capital market developments and developments in the external sector are appraised in the first part. Also the prospects for various development domains are outlined in brief, with an occasional note of caution. Performance and problems of the banking sector, deposit acceptance and deposit insurance are some of the contents of the second part.

Vaidyanathan, A., Fertilisers in Indian Agriculture, Institute of Social and Economic Change, Bangalore, 1993.

This is the first L.S. Venkataramanan Memorial Lecture delivered by the author. Alarmed by the rapid growth in the use of chemical fertilisers, the author draws attention to their shortcomings, such as their manufacture depending on imports, their excessive use resulting in environmental hazards, etc. The role of organic manure as an alternative, particularly of a balanced combination of both, and the question of subsidies are also, dealt with.

Vibhute, K.I., (Ed.), Dr. Ambedkar and Empowerment: Constitutional Vicissitudes, University of Poona, 1993.

This anthology recaptures Dr. Ambedkar's contribution and approach to 1) constitutionalism in India, 2) social justice, and 3) the federal principle. Some fresh insights are provided into their historical, political, legal and sociological facets in the present context. The introduction outlines and evaluates the contents.

CORRIGENDUM

RAVALLION AND SUBBARAO ON FGT INDEX OF POVERTY: COMMENTS

P.K. Chaubey

Foster, Greer and Thorbecke [1984] have proposed a generalised index of poverty. Ravallion and Subbarao [1992] have written it out as

$$P = \sum_{y < z} [(z - y)z]^{\alpha}/n$$
 (1)

where y is the consumption of ith person (estimated by the consumption per capita of that person's household), z is poverty line, n is population size and α is non-negative parameter. The fact is that the index should have been written as

$$P = \sum_{y < z} [(z - y)^{\alpha}/z]/n$$
⁽²⁾

Well, this may be a slip or a printing mistake.

Ravallion and Subbarao [1992, p. 76] have further suggested that head-count index is obtained when α is put equal to 1. This is far from the truth. The head-count index is obtained when $\alpha = 0$.

Ravallion and Subbarao [1992, p. 57] emphasise that the head-count index, the poverty-gap index and the FGT index for 2 are all members of the class of measures proposed by Foster, Greer and Thorbecke [1984]. Instead of making use of the widespread practice that considers these three measures as alternatives, they 'prefer to interpret them as measures of three different things: the head-count index is a measure of the *incidence* of poverty, the poverty-gap index is a measure of the *depth* of poverty, while the FGT measures the *severity* of poverty', for which Ravallion [1992] has been quoted.

We can see that specification of α as 0, 1 and 2 yields

 $\mathbf{P} = \mathbf{H} \tag{3}$

(5)

 $Pp = H.I \tag{4}$

P = H[I + (1 - I)C]

where Head count index, poverty-gap index and coefficient of variation within the poverty group. It is clear that the above claim of Ravallion and Subbarao [1992] is not correct. Poverty-gap index is not at all a member of FGT class of poverty measures,

We can further see that the measure P includes P and a little more, in the sense that it is distribution-sensitive which P is not. Similarly, P includes P and is a little more, in the sense it considers intensity or depth along with intensity. Thus, we infer that the three measures do not measure three different aspects as claimed by Ravallion and Subbarao.

Finally, in the literature on measurement of poverty, the word used for depth is intensity. The dictionaries do not so distinguish severity from intensity that the former can be taken to do something with distribution.

NOTES

Ravallion [1992] is missing in the REFERENCES.
 See Foster, Greer and Thorbecke [1984] or Chaubey [1993].

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^{*} Reference Vol. V, No. 1, p. 201.

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