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devoted to
the Study of
Indian
Economy,
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**JOURNAL
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Vol.I	July-December 1989	No. 2
Development of Institutional Finance for Agriculture in India	V.M.Dandekar F.K.Wadia	167
Prospects of Replacement Level Fertility in India	Mahinder Chaudhry	212
Institutional Credit for Agriculture in India	N.Rath	239
India's Balance of Payments - 1948-49 to 1984-85: A Survey	Y.U.K. Sarma	268
Rate of Inflation and Different Sections of the Population: Rural and Urban India	L.R. Jain	303
Inter-Temporal and Inter-Fractile - Group Movements in Real Levels of Living for Rural and Urban Population of India: 1970-71 to 1983	L.R. Jain S.D. Tendulkar	313
Revival of Kamani Tubes Ltd. - A Case Study	P.S. Palande	335
Review Article: Do's and Don'ts in Constitutional Amendments	S.V. Kogekar	358
Book Review: Expenditure Strategy for Maharashtra: A View from Within	A.S. Nadkarni	366
Annotated Index of Books and Articles		370

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All footnotes and references should be at the end, first footnotes, then references. In the text, footnotes should be numbered consecutively by superscripts following the punctuation. Reference citations in the text should be enclosed in square brackets, as follows: [Author 1965, p. 9]. References listed at the end should be arranged alphabetically by author and should include the following information: for articles - author, year of publication, title, name of journal (underlined), volume and issue number; and for books - author, year of publication, title (underlined), and publisher, in the following format. We convert underlining into italics.

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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DEVELOPMENT OF INSTITUTIONAL FINANCE FOR AGRICULTURE IN INDIA

V.M.Dandekar and F.K.Wadia

The beginning of institutional finance for agriculture in India goes back to 1793 when the system of taccavi loans was introduced. Subsequent important landmarks are the Land Improvement Loans Act, 1883, the Co-operative Credit Societies Act, 1904, the report of the Rural Banking Enquiry Committee, 1950, the report of the Committee of Direction of the All-India Rural Credit Survey, 1954, which advocated state participation in cooperation at all levels, establishment of the State Bank of India with major state participation in 1955, nationalisation of fourteen largest commercial banks in 1969, establishment of 48 Regional Rural Banks in 1976-77, and of the National Bank of Agriculture and Rural Development in 1982. By 1985, 40 per cent of the rural credit was provided by these several institutions. The rest 60 per cent was still supplied by the moneylender. The small and marginal cultivator is dependent on the moneylender to a much greater extent. Moreover, overdues have been mounting and are now threatening the flow of credit. The situation demands a new and fresh thinking.

Introduction

The purpose of this paper is to review the development of institutional finance for agriculture in India. Only official sources of information have been used.

A cultivator is in almost perpetual need of credit both for production and consumption. Traditionally, his needs were met by the landlord-trader-moneylender complex involving usurious interest rates and other exploitative practices. Official cognizance of his needs goes back to 1793, when the system of *taccavi* loans was introduced providing loans at low rates of interest for agricultural improvements, mainly for the digging of wells. During the rule of Lord Mayo (1869-1872), the Land Improvement Act, 1871 was passed. It was amended in 1876 and repealed in 1883 when a more comprehensive piece of legislation was enacted, viz., the Land Improvement Loans Act, 1883, 'to consolidate and amend the law relating to loans of money by the Government for agricultural improvements'. The purposes for which loans were to be granted for improvements were specified to include construction of wells, tanks and other works; preparation of land for irrigation, drainage and reclamation; permanent improvement of land for agricultural purposes and renewal or reconstruction of any of these works. Loans were to be

granted on the security of land. Where the amount of loan did not exceed three-fourths of the value of the applicants' transferable interest in the land after improvements had been made, no collateral security was required; otherwise further security was required. The rules in most States provided for an interest at the rate of 6-1/4 per cent per annum. Loans were to be repayable in instalments which could be extended over a period of thirty-five years depending upon the durability of the work or the purpose for which the loan was advanced. The Agriculturists' Loans Act was passed in August 1884 to provide for the advance of loans to the owners and occupiers of arable land for the relief of distress, the purchase of seed or cattle or any other purpose not specified in the Land Improvement Loans Act, 1883 but connected with agricultural objects.

Government finance continued to be channelled under the provisions of the Acts of 1883 and 1884. Some special regulations for advancing loans for specific purposes like natural calamities, pumping sets, agricultural machinery, etc., were also passed by a number of States/Provinces. However, defects in the working of the Acts continued to be commented upon. In 1903, the Irrigation Commission pointed to a number of defects, such as high rate of interest, rigidity of collection, the onerous terms regarding periods of repayment, delays in distribution and conditions

relating to securities required, etc. The Punjab Land Revenue Committee, 1938 was of the opinion that the unpopularity of Government loans was due to the petty exactions of subordinate revenue staff, delay in obtaining money, the necessity of repaying on a fixed date, the failure of the revenue officers to take any interest in the grant of loans, and little account being taken of harvest conditions and the borrowers' ability to repay when an instalment was due. Commenting on these findings, the Agricultural Finance Sub-Committee of the Policy Committee on Agriculture, Forestry and Fisheries, 1945, stated 'It is clear, therefore, that the difficulties which have resulted in the comparative failure of State loans so far, have been present almost since the inception of the system and that if the alternative agency is to work successfully some other lines than those of the present *Taccavi* work will have to be contemplated' [Department of Education, etc., 1945, Pp.32-33].

Co-operative Finance

The co-operative movement was started in India as a defensive mechanism against the usurious money lender. Co-operative finance gained recognition with the passage of the Co-operative Credit Societies Act, 1904. The main objects of the Act, which was limited to primary co-operative credit societies only, were (i) to provide for the constitution and control of co-operative credit societies by an enactment specially adapted to their organisation and aims, (ii) to confer special statutory privileges and concessions upon them with a view to encouraging their formation and assisting their operation and (iii) to ensure that they were co-operative in name as well as in spirit. The Co-operative Societies Act of 1912 was made applicable to all types of societies, credit and non-credit. The real stimulus to the co-operative movement came following the recommendations of the MacLagen Committee in 1915. That Committee had recommended the setting up of a three-tier organisation comprising primary agricultural credit societies at the village or base level, central banks at the district level and provincial banks at the apex or provincial level. Accordingly, changes in the co-operative credit structure were initiated by the Government of

India [Reserve Bank of India, 1915, p.5]. Co-operation became a provincial transferred subject with the passage of the Government of India Act, 1919. The movement expanded rapidly in some states, but lagged behind in others. There was a setback in the progress of the movement in the 1930s, as a result of the Depression. The rise in agricultural prices that took place with the outbreak of the Second World War, eased a difficult situation for the movement.

Two Committees set up by GOI in 1945 had commented on the working of the cooperative credit institutions. In its Report in July 1945 the Agricultural Finance Sub-Committee had noted the weakness of the apex institution of the three-tier provincial structure. The Committee made recommendations for the relief of rural indebtedness, development of private institutional credit (commercial banks), regulation of money-lending and the role of co-operative agencies in financing agriculture. It also recommended the setting up of an Agricultural Credit Corporation in each Province. Earlier in January 1945, the Co-operative Planning Committee was appointed to draw up a co-operative plan for the country. In its Report, submitted in November 1945, this Committee did not agree to the setting up of Agricultural Credit Corporations as much time would be lost in the preparation of the scheme, enactment of the legislation, and setting up of the requisite organisation. Instead the existing three-tier co-operative institutions should be suitably strengthened and provided with the necessary share capital and finance.

The co-operative credit agencies thus included the primary co-operative credit society at the village level, which was the basic unit in the short-term credit structure. The primary societies were usually federated into banking unions or central co-operative banks and these again into the State/Provincial co-operative bank which functioned as the apex institution for the whole State. The long-term credit needs of the agriculturists were supplied by the land mortgage banks. At the top of these layers was the Reserve Bank of India (RBI) which could provide financial accommodation to the co-operative movement for seasonal agricultural operations and the marketing of crops, as well as for non-agricultural

purposes through the State co-operative banks. The Reserve Bank functioned as a lender of the last resort to the Provincial/State co-operative banks also and its loans to the co-operative banks carried a concessional rate of interest, 2 per cent lower than the normal rate to other commercial banks. A number of fiscal and other privileges were also granted to the co-operative institutions. These included exemption from income tax, stamp duty, and registration fee; prior claim after the Government on the agricultural produce for the recovery of loans; exemption of shares or interest of members from attachment; and exemption of the society's loans from the operations of debt relief enactments.

Independence and After

Thus, at the time of Independence, finance was being advanced to agriculturists by the Government, departmentally in the form of loans and grants, and through the co-operative credit agencies. In 1948-49, there were 112 thousand primary agricultural credit societies with a membership of about 4.4 million. Loans advanced in that year by these societies amounted to Rs.14.04 crore. Loans and grants given under the Land Improvement Loans Act, 1883 and the Agriculturists Loans Act, 1884 totalled to about Rs. 8.5 crore. These advances to the cultivators formed only a very small percentage of the total needs of Indian agriculturists which were estimated at the time to be between Rs. 500 crore and Rs. 800 crore, the bulk of which continued to be met by the private money-lender. This was corroborated by the findings of the All-India Rural Credit Survey of the Reserve Banks of India, (RCS) in 1951-52, which found that professional and agriculturist money-lenders together supplied about 70 per cent of the total borrowings, while the Government agencies, the co-operative movement and the commercial banks together supplied only 7.3 per cent of the total credit requirements [Reserve Bank of India, 1954, Vol. II, p.167].

The co-operative credit movement was very unevenly developed over the various States. Nearly 63 per cent of the loans were distributed in only two States - Bombay and Madras - where

the movement had made progress due to the special attention paid to its development by the State Governments. The rates of interest on co-operative loans in most states were high. Another unsatisfactory feature of the movement was its failure to mobilise rural savings in any large measure. Again, while professional management of credit co-operatives was considered necessary, it was not emphasised.

There were five central and 283 primary land mortgage banks in 1948-49 with advances totalling about Rs.2 crore. The bulk of the loans was given for redemption of old debts. Again, as in the case of co-operative credit societies, barring Madras and to some extent Bombay and Mysore, land mortgage banks had not made much progress in the country. Also, the banks did not touch the main agricultural population. They catered to the rich and big agriculturists, some of whom were absentee landowners renting out lands [Reserve Bank of India, 1954, Vol. II, p.225].

The dominant position of the money-lender was due to two basic facts: the weak financial position of most of the borrowers, and their requirements of credit in small amounts for urgent but unpredictable needs, to which the money-lender had completely adapted. The co-operatives and the State supplied credit for specific productive purposes, whereas the requirements of the borrowers were largely for family purposes. The RCS had reported that, in 1951-52, 46.9 per cent of the borrowings by cultivators and 69.9 per cent by non-cultivators was for family purposes. Borrowing for expenditure on the farm constituted 42.1 per cent of the total borrowings by cultivators and 7.1 per cent by non-cultivators [Reserve Bank of India, 1956, Vol. I, p.265].

In November 1949, GOI appointed the Rural Banking Enquiry Committee to consider, among other terms of reference, the measures that could be immediately adopted for the extension of banking facilities in rural areas. The Committee submitted its report in May 1950. It expressed the view that no universally applicable pattern or machinery could be laid down for all regions; adequate machinery should be developed in conformity with local circumstances, traditions and ideas. The Committee felt that 'the assumption generally made that the State would be able

to raise from somewhere vast amounts of capital to be put at the disposal of such machinery' was unrealistic. If the problem of rural credit was to be tackled properly, 'the machinery to be established for the purpose must keep in view the necessity for tapping rural savings in order to obtain the funds necessary for its operations'. The Committee favoured a co-operative credit structure and said: 'In any scheme for the setting up of a sound and efficient system of agricultural finance, sufficient emphasis must be laid on the building of a sound structure of primary institutions - whether co-operative credit societies or multipurpose societies, on the basis of limited liability or unlimited liability, as the case may be. The weakness of the co-operative structure seem to lie mainly in these institutions where it comes directly into contact with the rural people rather than in the superstructure, and more thought and effort should be devoted to their development. No other alternative machinery of a suitable type appear to be available at the primary level and the generally favoured plan now is the establishment of strong multipurpose societies able to employ competent paid staff, for each group of contiguous villages' [Ministry of Finance, 1950, Pp.49-50]. Regarding long-term credit, the Committee said that the land mortgage banks were the most appropriate agencies for the purpose.

First Five Year Plan 1951-56

The First Five Year Plan emphasised the importance of credit facilities to support the targets of agricultural production. For this purpose, while all the existing agencies, money-lenders, commercial banks, co-operatives and the State agencies had to be utilised, it was necessary to build up and expand the system of Government or co-operative credit so that the implementation could proceed according to schedule. The target should be to bring 50 per cent of the villages and 30 per cent of the rural population within the ambit of primary societies within ten years. The provision of short-term accommodation by the Reserve Bank to the co-operative societies through the state apex institutions and further through the district banks had increased short-term advances substantially between 1946-47 and 1951-52. But

the bulk of the facilities had been availed of mostly by the developed apex banks of the two States of Madras and Bombay. Absence of adequately trained staff and capital were the chief handicaps. The Planning Commission provided Rs. 10 lakh to subsidise a part of the expenditure on training of staff. As for capital, it was suggested that the State Governments should subscribe a part of the capital of the apex banks and be represented on their boards of management. The State Governments could also, if necessary, guarantee repayment of advances from the Reserve Bank to the apex banks.

According to the First Plan, the essential characteristics of short-term finance should be cheapness, elasticity, and promptness. The concessional rate at which the Reserve Bank granted loans helped to reduce the interest rate charged to members. However, the characteristics of promptness and elasticity were far from met because of the rigidity of procedures associated with the whole mechanism of co-operative credit.

Greater emphasis on medium term loans had to be placed and adequate accommodation provided for the purpose. While endorsing the amendment to the Reserve Bank of India Act empowering the Bank to make medium term advances upto a limit of Rs. 5 crore, it was recommended that, as an interim arrangement, an additional provision of Rs. 5 crore should be made to supplement the resources of co-operative banks or other credit agencies. Taking into account this additional provision, the accommodation likely to be available from the Reserve Bank, and the funds found within the co-operative movement, the target for medium term finance, Government and co-operative, at the end of 1955-56 was placed at Rs. 25 crore per annum.

The Plan recommended that the function of long term loans could be best discharged by the Land Mortgage Banks which possessed long-term funds raised by shares, debentures, and fixed deposits. The two main problems were lack of trained personnel and the inability of the borrower to offer land as security. Also a major part of the advances made hitherto by the Land Mortgage Banks were for repayment of old debts. There was also apprehension that land mortgage banks as an instrument of long-term credit would languish

due to its limited ability to raise funds through floating of debentures. A provision of Rs. 5 crore was therefore made to be spread over the last three years of the First Plan, to supplement the long-term resources of the co-operative movement.

It was further suggested that : (i) The loans should be linked to the programme of increased agricultural production; (ii) The loans should reach, by preference, areas and classes not served at present by the co-operative credit system; (iii) In planning the distribution of credit among such areas and classes, forms of organisation should be devised so as to fit in with the co-operative type of organisation. (iv) Where credit is disbursed in areas already served by the co-operatives, that agency should be utilised as far as possible; (v) The Government may purchase part of the debentures issued by Land Mortgage Banks; (vi) To implement these recommendations, a detailed plan should be chalked out by the Government of India in consultation with the Reserve Bank and other organisations concerned. It was emphasised that these recommendations were only 'a first step to a comprehensive and integrated policy of agricultural credit to be evolved as early as possible on the basis of the factual material expected to be furnished by the Rural Credit Survey' [Planning Commission, 1953, Pp.234-249].

In December 1953, the Reserve Bank of India Act, 1934 was amended to enable the Reserve Bank to advance medium term loans for periods exceeding 15 months but not exceeding five years on the guarantee of the State Governments, subject to two conditions, namely, that the limit of such loans for each State Co-operative Bank should not exceed its own funds and that the total for all State Co-operative Banks should not exceed Rs. 5 crore. These limits were removed by a further amendment of the Act in 1955.

The progress of the co-operative credit movement during the First Plan period was mixed. The target of covering at least 50 per cent of the villages in the country with agricultural credit societies was achieved by 1955-56, when of the 4.81 lakh villages, 55.10 per cent, were so covered. However, 'coverage' of villages in some States was only nominal and did not always mean that the societies were functioning effectively.

The number of agricultural credit societies increased from 1.08 lakh in 1951-52 to 1.60 lakh in 1955-56 (with a membership of 7.8 million) their owned capital rose from Rs. 17.67 crore to Rs. 29.25 crore and working capital from Rs. 45.22 crore to Rs. 79.10 crore. Over 50 per cent of the working capital constituted borrowings from sources other than the deposits of members, which formed barely 8 per cent of the working capital in 1955-56. Fresh advances increased from Rs. 24.21 crore in 1951-52 to Rs. 49.62 crore by 1955-56 as against the First Plan target of Rs. 100 crore to be loaned as short-term credit, loans outstanding increased from Rs. 33.66 crore to Rs. 59.84 crore during the same period and the overdues from Rs. 8.52 crore to Rs. 14.96 crore. The medium term loans advanced amounted to Rs. 15 crore in 1955-56 as against the First Plan target of Rs. 25 crore. The bulk of loans (over 70 per cent) were advanced for undertaking improvements in agricultural production. Nearly 70 per cent of the loans were taken for a period of one year, 19 per cent for one to three years, while the rest were taken for periods exceeding three years.

The number of central Land Mortgage Banks increased from 6 in 1951-52 to 9 in 1955-56 while the primary Land Mortgage Banks increased from 289 to 316 during the same period. Fresh advances increased from Rs. 2.51 crore to Rs. 2.83 crore by central Land Mortgage Banks and from Rs. 1.30 crore in 1951-52 to Rs. 1.74 crore in 1955-56 by primary Land Mortgage Banks. Outstanding loans increased from Rs. 8.05 crore to Rs. 13.08 crore and overdues from Rs. 6.96 crore to Rs. 10.51 crore. The percentage of overdues to outstandings rose from 0.4 per cent to 1.9 per cent in central Land Mortgage Banks and from 1.4 per cent to 1.8 per cent in primary Land Mortgage Banks [Reserve Bank of India, 1958, Pp 16-44].

Report of the Committee of Direction - All India Rural Credit Survey, 1954

In the meanwhile, the RBI appointed a Committee of Direction to direct an all-India Rural Credit Survey. The survey was conducted during November 1951 to July 1952. It showed that,

during that year, the private credit agencies taken together (excluding commercial banks) supplied 93 per cent of the total amount borrowed by cultivators. The combined contribution of Government and the co-operatives was about 6 per

cent of the total, while that of commercial banks was less than one per cent. The estimated percentages of borrowings by cultivators from the different agencies are reproduced in Table 1 [Reserve Bank of India, 1954, Vol. II, p.167].

TABLE 1. BORROWINGS BY CULTIVATORS FROM DIFFERENT AGENCIES, 1951-52

Credit Agency	Per cent
Government	3.3
Cooperatives	3.1
Commercial Banks	0.9
Relatives	14.2
Landlords	1.5
Traders and Commission Agents	5.5
Agriculturist Moneylenders	24.9
Professional Moneylenders	44.8
Others	1.8
Total	100.0

Source: *All India Rural Credit Survey-Report of the Committee of Direction, Vol.II, General Report*, 1954 Reserve Bank of India, Bombay.

Of the total borrowings by cultivators, roughly 50 per cent was for family expenditure, 28 per cent for capital expenditure on the farm, and 10 per cent for current farm expenditure. The rest was for non-farm business expenditure, and other purposes. The borrowings of big, large, medium and small cultivators, according to different credit agencies, showed that relatively larger proportions of the borrowings of big and large cultivators were from institutional agencies. The dependence of the medium and small cultivators on private agencies was much greater in that order.

Based on these findings, the Committee recommended an integrated scheme of reorganisation of the system of rural credit founded on three fundamental principles, viz., (a) State partnership at different levels, (b) full coordination between credit and other economic activities, and (c) administration through fully trained and efficient personnel, responsive to the needs of the rural people. Institutional development on the basis of State partnership was to extend to (i) cooperative credit, (ii) cooperative economic activity, especially processing and marketing, (iii) storage and warehousing and (iv) commercial banking as represented by the important sector of State associated banks.

The main lines of reorganisation and development recommended by the Committee as part of the integrated scheme of rural credit were as

follows:

(a) Financial, administrative and technical strengthening of state cooperative banks at the apex level; similar strengthening at the district level by either establishing branches of state cooperative banks or expansion and consolidation of central banks; the maximum possible coordination of both these categories with land mortgage banks; the organization of new central and primary land mortgage banks. At the primary base, gradually establishing larger-sized primary credit societies supplying not only agricultural credit but eventually also rural industrial credit; institution of devices for utilizing the primary credit structure for meeting to a limited extent, the consumption needs of agricultural labourers, handicraftsmen, etc., besides those of the member cultivators. (b) The progressive organization, on a cooperative basis, of marketing and processing with the needed financial administrative and technical assistance from the State, and the development of storage and warehousing through State partnered organizations. (c) The progressive organization, on a cooperative basis, of as large a sector of economic activity as possible, e.g., farming, irrigation, transport, milk supply, dairying, livestock-breeding, cottage industries, etc., with financial, administrative, and technical assistance from the State. (d) Establishing a State Bank of India, through the amalgamation of the

Imperial Bank and certain State-associated Banks with major State participation in the new and enlarged institution. (e) The organization by a Central Committee for Cooperative Training all India, regional, and State-wise, for personnel of both cooperative departments and cooperative institutions [Reserve Bank of India, 1954, Vol. II, Pp.533-534]. Besides the State Governments and the Planning Commission, the main agencies responsible for the reorganization were to be the RBI; the Ministry of Food and Agriculture of the Government of India and, associated with it, the National Cooperative Development and Warehousing Board, the all-India Warehousing Corporation and the State Warehousing Corporations; the State Bank of India; the Central Committee for Cooperative Training, and finally the Cooperative Movement itself.

The Committee proposed the institution of certain funds for the orderly financing of the reorganisation and development proposed. These were:

(1) Under the Reserve Bank of India

(a) The National Agricultural Credit (Long-term Operations) Fund: An annual contribution of not less than Rs.5 crore, to be reviewed at the end of five years. In addition an initial non-recurring contribution of Rs.5 crore. Out of these funds, the Reserve Bank was to make (i) long-term loans to State Governments for the purpose of their subscribing, directly or indirectly, to the share capital of cooperative credit institutions supplying mainly rural credit; (ii) medium-term loans to state cooperative banks and through them to central cooperative banks and societies; and (iii) long-term accommodation to land mortgage banks, by way of direct loans and by purchase of the whole or part of their special development debentures.

(b) The National Agricultural Credit (Stabilization) Fund: An annual contribution of not less than Rs.1 crore; the Fund to be utilized for granting medium-term loans to state cooperative

banks, etc., to assist the latter to tide over serious short-term credit overdues on account of famine, drought, etc.

(2) Under the Ministry of Food and Agriculture

The National Agricultural Credit (Relief and Guarantee) Fund: Rs.1 crore annually to be utilised by the Ministry for giving grants by way of relief to cooperative credit institutions, through the State Governments concerned, for writing off irrecoverable arrears arisen due to widespread or chronic famine beyond the control of the cooperative institutions. Relief from the fund was to be given conditional on the State Governments making a stipulated contribution for the same purpose from a corresponding Agricultural Credit (Relief and Guarantee) Fund maintained by them.

(3) Under the National Cooperative Development and Warehousing Board

A sum of Rs.5 crore should be granted to the Board for instituting (a) the National Cooperative Development Fund and (b) the National Warehousing Development Fund. Long term loans were to be made from the National Cooperative Development Fund to the State Governments to enable them to participate in the share capital of cooperative societies undertaking such activities as processing, marketing, milk supply, dairying, etc. Funds from the National Warehousing Board were to be utilised for the development of storage, warehousing, and distribution.

(4) Under the State Bank of India

An 'Integration and Development Fund' with an initial contribution of Rs.50 lakh and the diversion of the dividends earned by the Government and the Reserve Bank on their shares in the institution, to meet the net additional cost to the State Bank of India in the programme of branch expansion to the rural areas.

(5) Complementary funds to be provided under each State Government for the creation of the (i) State Agricultural Credit (Relief and Guarantee) Fund, (ii) State Cooperative Development Fund

and (iii) in collaboration with the Central Cooperative Banks, the Agricultural Credit (Stabilisation) Fund.

The Committee prescribed a structure of cooperative credit to be established in the country. At the apex level in each State, there was to be a State Cooperative Bank, a Central Land-Mortgage Bank, and a State Cooperative Marketing Society. At the district level, there was to be preferably a District Central Cooperative Bank or a branch of a State Cooperative Bank, a primary Land Mortgage Bank, and a District Marketing Society. As a transitional measure, where central banks or branches of apex cooperative banks were not functioning, Urban Cooperative Banks were to finance rural societies. The primary structure was to compose of large-sized primary agricultural credit societies, primary land mortgage banks, grain banks, and primary marketing societies. The Committee disapproved of the idea of Agricultural Credit Corporations being set up by State Governments and recommended that the State Bank of India should help in the financing of individual cooperative marketing and processing societies.

The Committee recommended that the issue of Government *taccavi* loans for production and land improvement purposes should be strictly limited, subject to certain exceptions of a transitional nature, to periods of widespread distress such as famine, scarcity, floods, etc. Government loans for specific purposes, at concessional rates of interest, should be advanced through cooperative institutions.

Second Five Year Plan, 1956-61

The main proposals of the RCS were accepted by the RBI and the Government. The State Bank of India was established by an Act of the Parliament in 1955. The Reserve Bank of India Act was amended again in 1955 to provide for the establishment of two funds, namely the National Agricultural (Long-term Operations) Fund and the National Agricultural Credit (Stabilization) Fund. The National Agricultural (Long-term Operations) Fund was created in February 1956 with an initial contribution of Rs. 10 crore. With an annual contribution of Rs. 5 crore, the Fund

was to have a capital of Rs. 35 crore by 1960-61. From this Fund, loans were to be advanced to the States to enable them to subscribe to the share capital of cooperative credit institutions. The RBI could also give long-term accommodation from this Fund to central Land Mortgage Banks provided that such debentures were fully guaranteed by the State Governments as to the repayment of principal and payment of interest. Medium term loans could also be made out of the Long-term Operations Fund. The National Agricultural Credit (Stabilization) Fund was provided with an initial contribution of Rs. 1 crore for the year ended June 30, 1956.

Another fund, known as the National Cooperative Development Fund was to be established by the Government of India, from which States would be able to borrow for subscribing to the share capital of non-credit cooperative institutions.

The recommendations of the RCS formed the general base of the Second Five Year Plan proposal in this area. The principal targets during the Second Plan period were the setting up of 10,400 large-sized primary credit societies; short-term credit to reach Rs. 150 crore by 1955-56; medium term credit to Rs. 50 crore and long-term credit to Rs. 25 crore. Membership of cooperative credit societies was proposed to be raised from the then less than 6 million to about 15 million.

In its scheme for reorganisation of rural credit the RCS had recommended the formation of large-sized credit societies meeting both the credit and non-credit needs of the agriculturists. The general pattern of organisation contemplated in the Second Plan was to have a membership of about 500, the liability of each member being limited to five times the face value of the capital subscribed by him. The society would have a minimum share capital of about Rs. 15,000 and would serve a group of villages providing, wherever possible, a total annual business of about Rs. 1.5 lakh. A further recommendation in the Plan was that the rural credit societies, whether already existing or established afresh were to be affiliated to the primary marketing society serving a mandi area. Crop loans for agricultural operations upto approved limits were to be given by the credit societies and linked to

the marketing of the crop by the primary marketing societies. Members of credit societies could be persuaded to agree in advance to market their produce through the primary marketing societies.

The Second Plan had not provided financial assistance for revitalising and strengthening small credit societies. A Conference of State Ministers for Cooperation held in July 1956 at Mussoorie called for such a provision. Hence in January 1957, Government indicated that the programmes of cooperative development for 1957-58 should include schemes for strengthening and revitalising existing small societies and for establishing new ones. The Government of India would share the cost of any temporary subsidies towards working expenses given to small-sized credit societies. The Central assistance was to be for a period of three years only. In September 1957, the Government of India indicated that they considered the organisation of new small sized societies important and these should, therefore, form part of the cooperation programme in the Second Five Year Plan. The Government of India recommended a subsidy between Rs. 120 and Rs. 150 per year for each society for a period of three years which would be shared equally between the Central and the State Governments. The subsidy was to be given to such small societies as were taken up for revitalization and as would become economic units at the end of about three years [Ministry of Community Development and Cooperation, 1960, p.61].

By 1960-61 there were 212,129 primary agricultural credit societies with a membership of over 170 lakh as compared to 159,939 societies with about 78 lakh members in 1955-56. Loans advanced by primary agricultural credit societies reached Rs. 202.75 crore in 1960-61 as against Rs. 49.62 crore in 1955-56. Of the loans given during 1960-61, Rs. 182.82 crore were short-term, while Rs. 19.93 crore were for medium-term. The performance in respect of short-term loans had exceeded the target of Rs. 150 crore to be achieved by 1960-61, while in respect of medium-term loans the advances were less than the target of Rs. 50 crore.

The number of central Land Mortgage Banks

doubled from 9 in 1955-56 to 17 by 1960-61. Their individual membership rose from 0.91 lakh to 1.86 lakh, their working capital from Rs. 18.52 crore to Rs. 47.60 crore, while debentures increased from Rs. 14.94 crore to Rs. 36.53 crore. Their advances increased from Rs. 2.83 crore in 1955-56 to Rs. 11.62 crore in 1960-61. The long term loans outstanding stood at Rs. 36.61 crore in 1960-61 which exceeded the Second Plan target of Rs. 25.00 crore. The number of primary Land Mortgage Banks increased from 302 in 1955-56 to 463 in 1960-61.

However, there was reportedly widespread diversion of loans. In a study published in November 1965, the Programme Evaluation Organisation (PEO) of the Planning Commission had examined the utilisation of cooperative loans - short-term and medium-term - by cultivators during the period 1958-59 to 1960-61. The study was based on a survey of 1,170 respondents covering a sample of 25 central banks selected from different States. There was widespread diversion of both short-term and medium-term cooperative loans due to economic exigencies and inadmissibility of certain purposes. In some States, institutional deficiencies such as late disbursement of loans was also responsible. As a result, a significant proportion of the loans went to meet non-productive needs like consumption, other household needs, and repayment of old debts [PEO, 1965, Pp.184-185].

In the meanwhile, the recommendations of the Planning Commission, following those of the RCS, for the formation of large-sized cooperative societies during the Second Five Year Plan had come up for criticism. The critics recognized the material advantages of the large societies, but had serious doubts about their developing real cooperative spirit and concern for the poor. A Conference on Community Development meeting at Mount Abu in May 1958 recommended that a detailed study should be made both of the large-sized and small-sized cooperative societies so as to bring out the financial position regarding the extent of coverage of families, extent of promotion of thrift and extent of credit granted in the villages to the weaker section [PEO, 1959, p.(i)].

Resolution of the National Development Council, November, 1958

However, the NDC, at its meeting on November 8 and 9, 1958 took a more decisive position. It resolved that cooperatives should be organized on the basis of the village community as the primary unit and cooperation should be developed as a peoples' movement. Each village cooperative should draw up a comprehensive programme for increased agricultural production in the village and link it with grant of credit. The cooperative movement should be so developed as to bring within its fold all rural families before the end of the Third Five Year Plan. Cooperative credit should be made available on a liberal scale and on terms suitable to all farmers. Cooperative marketing should be linked with credit and arrangements should be made to collect the surplus agricultural produce from farmers through village cooperatives and marketing societies at assured prices. *Taccavi* loans should be channelled through cooperatives. This would induce villagers to join cooperatives. An essential objective of the cooperative movement should be the inculcation of the habit of thrift and savings. In the national savings movement, cooperatives should function as primary agencies in the rural areas [Ministry of Community Development and Cooperation, 1959, Pp.47-50].

Working Group on Cooperative Policy, January, 1959.

To consider the administrative and organizational arrangements needed to implement the NDC Resolution, the Ministry of Food and Agriculture constituted a Working Group in November 1958. The Working Group submitted its report in January 1959. It recommended two patterns of organisation: one for general adoption and the other for adoption in special areas; e.g., backward areas and areas in which cooperative societies had been chronically stagnant. Under the first pattern, the village community was to be the basis for primary cooperatives which would provide various services including credit. Besides, separate cooperatives for special groups and economic activities could also be organised.

In the second pattern, the village societies were to provide services other than credit, while for the supply of credit, a few village societies were to be brought together into compact credit unions. To bring all rural families into the cooperative fold by the end of the Third Plan, as the NDC desired, the Working Group estimated that 20 million rural families would have to be made members of cooperatives by the end of the Second Plan. This would require credit of Rs. 400 crore in the Second Plan. In fact, the credit target in the Second Plan was only Rs. 200 crore. The question of the rate of interest was a complicated one and the Group recommended that it should be examined by the State Governments so that a clear policy might be laid down.

Following the recommendations of the Conference on Community Development in 1958, the Programme Evaluation Organisation of the Planning Commission had conducted a study of the working of large and small sized cooperative societies. Its findings submitted in April 1959 showed that the large societies did not have a better record than the smaller ones. The small cultivators constituted a smaller proportion of their membership, right in land remained the most important consideration, and discrimination in favour of landowners against tenants persisted. Only in a few cases was the credit limit related to the crop produced and even there little attention was paid to the cost of cultivation or the production requirements of the borrower. In both the large and small sized societies, a smaller percentage of the small cultivators than of the big farmers could secure loans [PEO, 1959, Pp.22-24].

In May 1959, the Government of India advised the State Governments on the future policy in respect of cooperative development. The salient features of the policy were: (i) organization of village cooperatives with the village community as the primary unit and, where necessary, grouping of villages to cover a population of about 1000; (ii) no further organization of large-sized credit societies; (iii) a target of 20 million members for village cooperatives at the end of the Second Five Year Plan period; (iv) the village cooperative to be a service society providing, besides credit, agricultural implements, etc., and

assisting in the formulation and implementation of plans for agricultural production; (v) drawing up of a large-scale programme of reorganization and revitalization of existing societies and provision of managerial subsidies at Rs. 900 per society spread over not more than five years; (vi) effective linkage of credit with marketing; (vii) strengthening of staff of cooperative departments and suitable arrangements for their training; and (viii) simplification of cooperative law and procedures.

Report of the Committee on Cooperative Credit, May 1960

The entire question of agricultural cooperative credit came up for consideration at a Conference of State Ministers in charge of Cooperation held at Mysore in July 1959. On its recommendation, the Committee on Cooperative Credit was appointed in September 1959. In its report submitted in May 1960, the Committee pointed out that there was generally no organised agricultural production plan for each village or family as envisaged in the Plans. What existed in each State was a plan drawn up under various heads such as minor irrigation, land development, manures, improved seeds, etc. A dynamic programme of agricultural credit and distribution was needed to enable farmers to take full advantage of these plans and facilities available under them. Among other things, the Committee recommended that the Government policy at the village level should be to route the supply of all credit - cooperative credit, loans for community development programmes, and *taccavi* loans - through only one institutional agency, namely the cooperatives. The arrangements for linking credit with marketing should be strengthened throughout the country, so as to give benefit to farmers of organized marketing and help in the recovery of loans out of sale proceeds of the produce. To meet the cyclical shortfalls in agricultural production, the Committee recommended the constitution and strengthening of the Agricultural Credit Stabilization Fund at various levels of the cooperative credit structure. With the cooperatives undertaking to finance agriculturists on a much bigger scale, the State Governments should set up

Relief and Guarantee Funds, provisions for which should be made in the States' Third Five Year Plan [Ministry of Community Development and Cooperation, 1960, Pp.199-214].

In October 1960, the Ministry of Community Development and Cooperation communicated to the State Governments the following policy decisions:

(i) Cooperatives should be organized on the basis of the village community as the primary unit. Where villages were too small, the number of villages to be covered by a society could be increased in the interest of viability (subject to a maximum limit of population of 3,000 within a radius of 3 or 4 miles from the headquarter village).

(ii) The broad test of viability should be the ability on the part of a cooperative society to meet the requisite expenses without depending upon financial assistance from government except for a limited period.

(iii) The State may participate in the share capital of primary agricultural credit societies on the following conditions: (a) 60 per cent of members of the society and the central bank to which it is affiliated desire it. (b) The amount to be contributed should not be more than the share capital contributed by members of the society, the maximum being ordinarily Rs. 5,000 and in special cases Rs. 10,000. (c) State participation should as a rule be indirect, *i.e.*, through apex and central banks; (d) The central bank which holds shares in the primary society may nominate one-third of the members of the board of directors subject to a maximum of three.

(iv) The funds required by the State Governments for participation in the share capital of primary agricultural credit societies, other than large-sized societies, would be available from the Long-term Operations Fund of the Reserve Bank.

Thus, during the Second Plan period the policy regarding cooperative development was being formulated. While the Plan envisaged the strengthening and setting up of large sized credit societies, by July 1956, the Conference of State Ministers called for schemes for strengthening and revitalising existing small credit societies and for establishing new ones too. By 1958, the formation of large-sized cooperative societies came

in for further criticism. In November 1958, the NDC resolved that cooperatives should be organised on the basis of the village community as the primary unit. In May 1959, the State Governments were advised to organize village cooperatives with the village community as the primary unit and no further organisation of large sized credit societies. Such village cooperatives were also to act as service societies. But in October 1960, the States were advised that where the villages were too small, the number of villages to be covered by a society could be increased in the interest of viability. Because of these shifts in policy, the district cooperative officials were

always in two minds regarding the organisation or reorganisation of societies and often they left the things as they were.

All-India Rural Debt and Investment Survey, 1961-62

In 1962, the RBI undertook a resurvey called the All-India Rural Debt and Investment Survey, 1961-62, to assess changes since the RCS 1951-52. It showed that, over the ten years, borrowings from the cooperatives had increased from 3.1 to 15.5 per cent but that private money lenders still predominated as will be seen from Table 2.

TABLE 2. BORROWINGS BY CULTIVATORS FROM DIFFERENT AGENCIES, 1951-52 AND 1961-62

Credit Agency	Percentage of Borrowings	
	1951-52	1961-62
Government	3.3	2.6
Cooperatives	3.1	15.5
Relatives	14.2	8.8
Landlords	1.5	0.6
Agriculturist Moneylenders	24.9	36.0
Professional Moneylenders	44.8	13.2
Traders and Commission Agents	5.5	8.8
Commercial Banks	0.9	0.6
Others	1.8	13.9
Total	100.0	100.0

Sources: 1. *All India Rural Credit Survey-Report of the Committee of Direction, Vol II, General Report, 1954*, Reserve Bank of India, 2. *All-India Rural Debt and Investment Survey, 1961-62*, Reserve Bank of India, Bombay.

There was little change in the purposes of borrowing and household expenditure continued to be the major purpose accounting for almost half of the total.

TABLE 3. PURPOSES OF BORROWING BY CULTIVATORS/NON-CULTIVATORS

Purpose of Borrowing	(Per cent)			
	Cultivators		Non-Cultivators	
	1951-52	1961-62	1951-52	1961-62
Capital Expenditure on Farm	31.5	22.1	6.0	5.9
Current Expenditure on Farm	10.6	13.5	1.1	1.3
Non-farm Business Expenditure	4.5	6.7	18.5	36.9
Family Expenditure	46.9	46.6	69.9	49.2
Other Expenditure	6.0	7.5	4.5	5.0
More than One Purpose	0.5	3.6	0.1	1.7
Total	100.0	100.0	100.0	100.0

Sources: 1. *All India Rural Credit Survey-Report of the Committee of Direction, Vol II, General Report, 1954*, Reserve Bank of India, 2. *All-India Rural Debt and Investment Survey, 1961-62*, Reserve Bank of India, Bombay.

Third Five Year Plan, 1960-61 - 1965-66

The Third Five Year Plan envisaged that the membership of primary cooperative societies would increase from 17 million in 1960-61 to 37 million by 1965-66, covering about 60 per cent of the agricultural population. The number of societies was expected to increase from 210,000 to 230,000 so as to serve all the villages in the country. It was estimated that the total amount of short and medium term credit would increase from Rs. 200 crore in 1960-61 to about Rs. 530 crore by 1965-66. Long-term credit (loans outstanding) were expected to rise from Rs. 34 crore to about Rs. 150 crore.

Unfortunately, of about 160,000 primary societies existing at the end of the First Plan, a large proportion were functioning in a dormant or in a poor state. During the Second Plan about 42,000 societies were taken up for revitalisation. The Third Plan provided for the revitalisation of about 52,000 more primary societies.

The Plan visualised a large increase in the internal resources of the cooperative movement at various levels. Thus, the share capital of the primary cooperatives (other than State contribution) was expected to increase from about Rs. 42 crore in 1959-60 to Rs. 85 crore in 1965-66, in central cooperative banks from about Rs. 23 crore to about Rs. 62 crore and in apex banks from about Rs. 9 crore to about Rs. 33 crore. It was also estimated that between 1959-60 and 1965-66, deposits of primary cooperative societies would increase from about Rs. 12 crore to about Rs. 42 crore, of central banks from about Rs. 95 crore to about Rs. 212 crore and of apex banks from Rs. 60 crore to Rs. 142 crore. The number of primary land mortgage banks were expected to increase from 408 in 1959-60 to 672 by 1965-66, the central land mortgage banks having already been set up in almost all the States in the country.

The RBI had played a major role in the building up of the cooperative movement during the first two Plans through its financial supervision, arrangements for training, loans to States for participation in the share capital of cooperative banks, and advances to cooperative banks, its loans outstanding having risen from about Rs. 14

crore in 1955-56 to about Rs. 85 crore in 1959-60. It was expected to play an even larger role in Third Plan [Planning Commission, 1962, Pp.201-206].

Committee on Takavi Loans and Cooperative Credit, 1962

In the light of the NDC Resolution in November 1958 that *takavi* loans and other facilities should be made available through cooperatives, the Government of India appointed a Committee on *Takavi* Loans and Cooperative Credit in July 1961 to (a) examine the existing arrangements in different states for the supply of *takavi* loans ; (b) suggest measures - organisational, procedural and administrative - to route *takavi* loans through cooperatives; (c) examine the institutional structure of cooperatives and to suggest changes, if any, to facilitate supply of *takavi* loans through cooperatives; and (d) examine whether any guarantee of subsidy to cooperative institutions for undertaking the issue and recovery of *takavi* loans was necessary. The Committee submitted its report on August 31, 1962 [Ministry of Community Development and Cooperation, 1962, p.18].

The Committee recommended that in those States where the short-term and medium-term credit structure of the cooperatives was sufficiently developed, the State Government should discontinue issuing short and medium-term *takavi* loans and entrust the work exclusively to the cooperatives. In the States where cooperatives had lagged behind, such measures should be taken only in cooperatively developed districts or areas. In those States where the land mortgage banking structure had gained considerable strength the Government should discontinue issuing of long-term *takavi* loans and entrust the work exclusively to the land mortgage banks. Government funds should be routed through the State Cooperative Banks, preferably in the form of medium term loans. The rate of interest should be the same as that charged by the Reserve Bank of India on the medium-term advances made by it to the State Cooperative Banks.

Informal Group on Institutional Arrangements for Agricultural Credit, RBI, December 1964

Much progress had not occurred in the cooperative sector in some parts of the country despite the efforts made during the first two Five Year Plan periods. In certain areas cooperative credit had ceased to expand and even begun to show signs of contraction and, in others, progress was still slow. Hence, in May 1964, the RBI appointed an Informal Group on Institutional Arrangements for Agricultural Credit [Reserve Bank of India, 1964, Pp.1-2]. The Group submitted its report in December 1964. The Group found wide variations among the States. The States with successful cooperative performance (Category A) included Maharashtra, Gujarat, and Madras, although Maharashtra faced the problem of unsatisfactory repayment, Gujarat of halting coverage, Madras of unsatisfactory resource position and operation of loan policies. The performance was most unsatisfactory (Category C) in the eastern region comprising Assam, Bihar, Orissa, West Bengal, Manipur and Tripura and in Rajasthan. There were long-standing overdues with a large number of dormant societies, ineffective central banks, shortage of personnel to man the cooperative structure, and lack of non-official cooperative leadership. The performance in the remaining States (Category B) was found to be not unsatisfactory although in some States the loan policies had as yet to be oriented to production needs; the cooperative banks needed to make all-out efforts to raise resources commensurate with the growing requirements of credit; the State Governments had to take action to support cooperatives in various directions; there was inadequacy in the machinery for supervision; the recovery position was unsatisfactory; and there was need for all-round improvement in some areas.

The Group felt that there was no alternative to the cooperative agency for providing institutional agricultural credit, that the pattern of organisation it should follow was the three-tier structure, and that the framework of agreed policies in this sphere, if faithfully implemented could help ensure adequate credit facilities for agricultural production. Major gaps related to the link with marketing, the smooth flow of credit, and the

reorientation of policies and procedures of cooperative long-term credit institutions for expansion of the volume of their operations and assigning to them a specific role in the State programmes for agricultural development.

The lines of remedial action recommended by the Group included revitalisation of the cooperative credit structure from the primary level onwards; liquidation of all dormant societies which were beyond redemption; provision of credit to non-defaulting cultivators of such dormant societies through the central or apex banks or their branches; amalgamation of non-viable central banks; building up of stabilisation funds to the required levels; statutory provisions for creating a charge on the land of the defaulting cultivators; coercive processes for recoveries of outstanding loans; reorientation of loan policies; and mobilisation of deposit resources on a larger scale. Supplementary arrangements for provision of agricultural credit during the transitional period, either through the Food Corporation of India, by *taccavi* loans or through commercial banks was also suggested. The Group also recommended the setting up of Agricultural Credit Corporations in the States of the eastern region and Rajasthan as an interim measure.

The RBI conducted a survey in 12 selected districts in the country during 1963-64 to 1965-66, on the role of cooperative credit in increasing farm production (Report published in June 1974). The survey showed that most of the member-cultivators of cooperative societies were in a comparatively better economic position as judged by the size of cultivated holdings, owned area, irrigation facilities, and bigger cash receipts. Consequently, member-cultivators were more creditworthy and could borrow more than the non-members. However, the main sources which financed capital expenditure in agriculture of members and non-members both were their own funds and borrowings from private credit agencies. In fact, in eight of the selected districts, borrowings from credit agencies other than cooperatives accounted for larger financing of capital expenditure of members than advances from cooperatives. In financing the current farm expenditure of members, which was found to be higher than that of non-members in all the selected

districts, the role of cooperatives was only a shade better. Thus, barring a few exceptions, cooperative credit did not make any distinct impact on farm business of members as compared to that of non-members. The share of cooperative credit in the total credit was small to moderate in most districts and a considerable part of it was diverted to unproductive purposes. Cooperative credit was not timely, adequate and effective in increasing farm production [Reserve Bank of India, 1974(a),

Pp.73-74].

Progress of Cooperative Credit during the Three Plan Periods, (1951-52 - 1965-66)

The All India Rural Credit Review Committee, appointed by the RBI in 1966, submitted its report in July 1969 wherein it made an assessment of the progress of cooperative credit during the three Plan periods. It is summarised in Table 4.

TABLE 4. PROGRESS OF COOPERATIVE CREDIT, 1951-52 - 1965-66

Particulars	Unit	1951-52	1960-61	1965-66
I. Agricultural Credit Societies				
Number	lakh	1.08	2.12	1.92
Membership	lakh	48.00	170.00	261.00
Share Capital	Rs. crore	9.00	58.00	115.00
Deposits	Rs. crore	4.00	15.00	34.00
Short & Medium-term Loans Advanced	Rs. crore	24.00	203.00	342.00
Loans Outstanding	Rs. crore	34.00	218.00	427.00
Overdues	Rs. crore	9.00	44.00	125.00
Overdues to Outstandings	Per cent	26.47	20.18	29.27
II. Central Cooperative Banks				
Number	-	509.00	390.00	346.00
Share Capital	Rs. crore	5.00	39.00	76.00
Deposits	Rs. crore	38.00	112.00	237.00
Loans Advanced	Rs. crore	106.00	354.00	545.00
Loans Outstanding	Rs. crore	36.00	220.00	438.00
Overdues	Rs. crore	5.00	27.00	87.00
Overdues to Outstandings	Per cent	13.88	12.27	19.86
III. State Cooperative Banks				
Number	-	16.00	21.00	22.00
Share Capital	Rs. crore	2.00	18.00	29.00
Deposits	Rs. crore	21.00	72.00	147.00
Loans Advanced	Rs. crore	55.00	258.00	408.00
Loans Outstanding	Rs. crore	20.00	167.00	307.00
Overdues	Rs. crore	3.00	7.00	9.00
Overdues to Outstandings	Per cent	15.00	4.19	2.93
IV. Central Land Development Banks				
Number	-	6.00	17.00	18.00
Number of Primary Land Development Banks	-	289.00	463.00	673.00
Loans Advanced	Rs. crore	3.00	12.00	56.00
Loans Outstanding	Rs. crore	8.00	36.00	163.00
Overdues	Rs. crore	0.01	1.00	3.00
Overdues to Outstandings	Per cent	0.38	2.78	1.84

Source: Report of the All-India Rural Credit Review Committee, 1969, Reserve Bank of India, Bombay. Figures for 1965-66 updated.

There was an increase in the number of primary agricultural credit societies from 1.08 lakh in 1951-52 to 2.12 lakh in 1960-61. Subsequent reorganization including amalgamation to form viable societies brought the number down to 1.92 lakh in 1965-66. The membership increased from 48 lakh in 1951-52 to 261 lakh by 1965-66 but did not reach the Plan target of 370 lakh. The loans advanced increased from Rs. 24 crore in 1951-52 to Rs. 342 crore by 1965-66 but again did not

reach the Plan target of Rs. 530 crore. Moreover, the overdues had tended to increase; the proportion of overdues to outstanding, which was 26.47 per cent in 1951-52, had come down to 20.18 per cent in 1960-61, rose steeply to 29.27 per cent in 1965-66.

As a result of rationalizing the structure of Central Cooperative Banks so as to have only one Central Bank in each revenue district, their total number was brought down from 509 in 1951-52

to 346 in 1965-66. The overdues position improved slightly up to 1960-61 but deteriorated thereafter. Trends in State Cooperative Banks were similar.

The Central Land Development Banks (earlier called Land Mortgage Banks) were established in States where they did not exist, and many new primary land development banks were also established. The total loans advanced by the Central Land Development Banks rose from Rs. 2.5 crore in 1951-52 to Rs. 12 crore in 1960-61 and thereafter to Rs. 56 crore in 1965-66, although it fell much short of the Third Plan target of Rs. 150 crore [Reserve Bank of India, 1969, Pp.138-142].

The Agricultural Refinance Corporation, later called the Agricultural Refinance and Development Corporation (ARDC), proposed in the Third Plan, was established in July 1963 with an authorised share capital of Rs. 25 crore and a paid-up share capital of Rs. 5 crore, a major portion of which (*i.e.* Rs. 2.97 crore) was taken up by the RBI. Scheduled Commercial Banks were also made its share-holders. The Corporation was set up primarily as a refinancing agency providing medium-term and long-term finance to State Cooperative Banks, Central Land Development Banks, and Scheduled Commercial Banks for financing reclamation and preparation of land, soil conservation, mechanised farming and development of animal husbandry, dairy farming, pisciculture, poultry-farming, etc.

A policy decision was taken in June 1964 that State Governments should discontinue issue of

production *taccavi* direct to individuals and to accept the cooperatives as the normal agency for provision of such credit. State Governments were requested to work out a phased programme for implementing the policy.

Annual Plans Period, 1966-67 to 1968-69

Between the Third and the Fourth Five Year Plan, there was a period of three years 1966-67 to 1968-69 when only annual plans were made. With the introduction of the high-yielding varieties beginning with the kharif season of 1966, the demand for credit for the purchase of seeds, fertilisers, etc., was expected to rise. However, because of drought conditions during 1965-66 and 1966-67, the Central Cooperative Banks and primary agricultural credit societies in several States remained in a state of stagnation. The position of overdues and operational efficiency in a few central banks deteriorated so much that they could no longer serve as effective channels for the flow of credit from higher financial agencies. For the first time, in 1965-66, the RBI was called upon to sanction medium-term credit limits (conversion) to some of the State Cooperative Banks by drawing on its National Agricultural Credit (Stabilisation) Fund to help the cooperative credit societies to convert overdue short-term loans into medium-term loans in areas affected by the drought.

The progress of the cooperative credit advances in the three years was as follows (Table 5):

TABLE 5. ADVANCES BY COOPERATIVES, 1965-66 AND 1968-69

Institutions	Year	Loans Advanced	Loans Outstanding	Overdues	Overdues to Outstandings
		(Rs Crore)			(%)
Primary Agricultural Credit Societies	1965-66	342	427	125	29.27
	1968-69	503	619	214	34.57
Central Cooperative Banks	1965-66	545	438	87	19.86
	1968-69	823	641	173	26.99
State Cooperative Banks	1965-66	408	307	9	2.93
	1968-69	667	459	23	5.01
Central Land Development Banks	1965-66	56	163	3	1.84
	1968-69	144	395	4	1.01

Source: *Statistical Statements Relating to the Cooperative Movement in India*, Reserve Bank of India, Bombay. (relevant years)

In the meanwhile, the Administrative Reforms Commission had appointed a Working Group on Cooperation. In its report submitted in June 1968, the Group recommended the establishment of a National Bank for Agricultural and Cooperatives by a statute of the Parliament to perform, among other things, the functions being performed by the Agricultural Credit Department of the RBI vis-a-vis the cooperative institutions.

Report of the All-India Rural Credit Review Committee, 1969

As mentioned earlier, the RBI had appointed the All-India Rural Credit Review Committee in July 1966. The Committee submitted its Report in July 1969. Referring to the marked increase in the cooperative credit between 1951-52 and 1967-68, the Committee pointed to the lag in dispersal of credit in the cooperatively backward States of Assam, Bihar, Orissa, West Bengal, Rajasthan and Jammu and Kashmir. There were weaknesses in a number of banks and societies, in other parts of the country too, of low deposits, high overdues and, general lack of business-like management. The Integrated Scheme of Rural Credit recommended by the Committee of Direction of the RCS in 1951-52, with State participation at every level of the cooperative structure, had also not been pursued or implemented vigorously in all the States. Corrective action in the cooperative credit structure was necessary for the reorganisation of the non-viable primary credit societies into economically viable ones; rehabilitation of weak central cooperative banks; administrative and policy measures for checking overdues; direct financing of cultivators by central banks and of societies by apex banks in areas where they were weak or dormant; streamlining of the lending policies and procedures of cooperative institutions; and setting up of Agricultural Credit Corporations in cooperatively backward States.

The Committee emphasised that credit must be made more easily accessible to the small farmers by granting to them loans equal to the full entitlement of the crop-wise scales of finance; and by preferential treatment *vis-a-vis* large farmers in the rates of interest charged, contribution to the share capital of the cooperatives, dispersal of loans in kind and at appropriate times, etc.

Special pilot programmes called the Small Farmers Development Agencies were recommended, one in each State, to identify the problems of small but potentially viable farmers and

help them with inputs, services and credit. The Government of India would provide the necessary funds.

With the likely increase in demand for long-term credit, the Committee recommended that the Land Development Banks should obtain specific details of the land improvement schemes for which credit was sought. As far as possible a 'project' approach should be adopted. Regional differences in soil conditions, ground water resources, etc., should also be gone into. In conjunction with the Agricultural Credit Department of the RBI, the ARDC should function as the coordinator, adviser, and financier of the long-term credit structure. Financial resources to the tune of Rs. 50 crore from the National Agricultural Credit (Long-term Operations) Fund and Rs. 140 crore from the Fourth Plan should be placed at the disposal of the ARDC during the Fourth Plan period.

With the advent of the new technology in agriculture, the Committee estimated that the demand for credit would increase, by the end of the Fourth Plan, to Rs. 2,000 per annum of short-term credit, and Rs. 500 crore and Rs. 1,500 crore of medium-term and long-term credit, respectively. As the cooperative credit structure would not be able to meet the entire demand, the Committee recommended an active and positive role for commercial banks in the field of agricultural credit. The direct financing by the commercial banks should be confined, in the first instance, to cultivators of certain categories, such as those engaged in raising high yielding varieties of foodgrains or other remunerative crops, hybrid seed producers, and those covered by special development projects. Production credit to cultivators could be dispensed by the banks in collaboration with agencies or firms engaged in the processing of agricultural commodities or the production/distribution of inputs like fertilisers. The commercial banks could also collaborate with State Electricity Boards and firms engaged in the sale of agricultural machinery.

Taccavi loans could be provided in the short run to assist current agricultural needs in those areas where the establishment/reactivation of the cooperatives or the induction of commercial banks was likely to take time. However, this should be a temporary and limited arrangement.

The Committee recommended the creation, within the RBI, of an Agricultural Credit Board to ensure more effectively the formulation, review and modification of the Bank's policies in

the sphere of rural credit.

Most of the Committee's recommendations were accepted by the Government and included in the Fourth Five Year Plan. In July 1969, the largest fourteen commercial banks were nationalised and their lending policies and procedures were oriented to meet the requirements of the priority sectors of the economy. Agriculture, particularly the small farmer, was one of the priority sectors.

The predominant role played by the cooperative movement in the supply of institutional credit thus lasted from 1951-52 to 1968-69. Loans advanced by primary agricultural credit societies increased from Rs. 24 crore in 1951-52 to over Rs. 500 crore by 1968-69. However, the weaknesses in the movement continued, despite all the efforts to reorganize and strengthen the cooperative credit institutions. With the advent of the new technology in agriculture calling for timely supply of credit and inputs, the nationalisation of commercial banks and the recommendations of the All-India Rural Credit Review Committee for the setting up of small farmers agencies, there was a shift in emphasis from cooperatives only to a multi-agency approach.

Fourth Five Year Plan, 1969-74

The Fourth Plan noted the significant increase in institutional rural credit. Over 30 per cent of the borrowings by cultivators were from institutional sources. Accepting the All-India Rural Credit Review Committee's estimates of requirements of rural credit, the Plan envisaged that cooperative credit would expand to Rs. 750 crore for short and medium-term credit and Rs. 700 crore for long-term credit during the Fourth Plan period. This would require rectification of some aspects of the working of the cooperative credit institutions, such as: (a) acceleration of the pace of reorganisation of the cooperative short and medium-term credit structure so as to place it on a more viable footing; (b) rehabilitation and reorganisation of weak district cooperative banks which were acting as bottlenecks in the flow of adequate cooperative credit; (c) systematic efforts towards reduction of overdues; (d) substantial increase in deposits at various levels; and (e) liberalisation of loan policies.

Referring to the recommendations of the All-India Rural Credit Review Committee to orient the policies and procedures of credit cooperatives and Land Development Banks in favour of small

cultivators, the Plan suggested that (i) the needs of small cultivators should be met on a priority basis by primary credit societies; (ii) the larger cultivators could contribute a relatively higher proportion of their borrowings towards the share capital of the societies; (iii) for an effective implementation of the crop-loan system, the credit limit statements of small farmers should be handled separately from the rest; (iv) liberalisation of loaning policies of Land Development Banks in respect of valuation of landed property offered as security, issue of joint loans for groups of small cultivators, operational and economic viability of the proposed investment, etc.; and (v) encouraging bigger cultivators with early repaying capacity to avail of medium-term loans, so that a larger volume of long-term credit could be made available to small farmers.

As regards long-term credit, the Plan recommended a review of the lending policies and procedures of Land Development Banks. The primary agricultural credit societies could be utilised on a pilot basis to act as agents of central Land Development Banks for scrutiny of applications, disbursement of credit, and supervision and recovery of loan instalments of small farmers.

In July 1969, fourteen leading commercial banks were nationalised and, among other things, were directed to provide credit for agriculture on a priority basis. It was suggested that each district in the country should be allotted to one bank called the 'lead' bank which would survey the resources and potential for banking development in that district, offer advice to small borrowers, particularly cultivators, assist other primary lending agencies, and maintain liaison with Government and quasi-government agencies. By the end of the Fourth Plan, direct lending to farmers by the banks was expected to increase to Rs. 400 crore. For each district, a credit plan would be prepared and integrated with other development activities. Within this credit plan, the cooperative sector and the commercial banks would have to work in close collaboration [Planning Commission, 1970, Pp.139-142 and 217-221].

Following the recommendations of the All-India Rural Credit Review Committee, 1969, the Plan envisaged the setting up of Small Farmers' Development Agency (SFDA) in 45 selected districts in the country to assist small holders with holdings of two hectares or less. The SFDA was to identify the problems of the small farmers in its area, prepare appropriate programmes, help to ensure availability of inputs, services and credit,

and evaluate the progress from time to time. In the Plan, direct financial support of Rs. 115 crore was provided for the SFDA. In the 45 SFDA projects, the short-term credit needs were estimated to be of the order of Rs. 90 crore per annum and the long and medium-term credit needs approximately Rs. 170 crore during the Plan period. The Plan also recommended 40 projects for the provision of supplementary occupations and other employment opportunities for sub-marginal farmers, agricultural and landless labourers and allowed an annual short-term credit of about Rs. 10 crore; medium and long-term credit was Rs. 30 crore during the Plan period. Thus the total institutional support expected in the long run for the two sets of projects was of the

order of Rs. 300 crore, comprising short-term credit of Rs. 100 crore per annum and medium and long-term credit of Rs. 200 crore for the total duration of the projects.

Progress of Agricultural Finance During the Fourth Plan, 1969-74

As against the Fourth Plan target of dispensing Rs. 750 crore of short and medium term loans and Rs. 700 crore of long term loans, the cooperative credit institutions issued Rs. 760 crore of short and medium term loans, and loans outstanding with central Land Development Banks amounted to Rs. 914 crore by the end of 1973-74 (Table 6):

TABLE 6. ADVANCES BY COOPERATIVES, 1968-69 AND 1973-74

Institutions	Year	Number	Loans Advanced	Loans Outstanding	Overdues	Overdues to Outstandings
			(Rs Crore)			(%)
Primary Agricultural Credit Societies	1968-69	1.68 lakh	503	619	214	34.57
	1973-74	1.54 lakh	763	1055	443	41.99
Central Cooperative Banks	1968-69	341	823	641	173	26.99
	1973-74	341	1249	1163	376	32.33
State Cooperative Banks	1968-69	25	667	459	23	5.01
	1973-74	26	1204	706	63	8.92
Central Land Develop- ment Banks	1968-69	19	144	395	4	1.01
	1973-74	19	147	914	42	4.60

Source: *Statistical Statements Relating to the Cooperative Movement in India*, Reserve Bank of India, Bombay. (relevant years)

The proposals to accelerate the pace of reorganising the primary credit societies so that there would be about 1.20 lakh viable societies by the end of the Fourth Plan did not materialise. The overdue position of both the primary societies and the central cooperative banks got aggravated in the same period. However, the small cultivators got more attention; by 1973-74, nearly 25 per cent of the loans disbursed were to cultivators holding not more than 2 hectares.

With the directions given to the nationalised banks to pay greater attention to agricultural credit, the Fourth Plan's recommendation for setting up Agricultural Credit Corporations in cooperatively backward States was not implemented. Instead, in 1970, the RBI formulated a scheme under which in areas where the central cooperative banks were weak, the commercial

banks were to finance primary agricultural credit societies as a transitional measure. They would advance short and medium-term credit only through the primary credit societies while they could provide long-term credit directly. In order to pay more specific attention to small farmers, separate credit limit statements were to be prepared for members cultivating less than 1.2 hectares. For the purpose of the scheme, each branch of a commercial bank was to adopt 10 societies within a radius of 10 to 15 miles.

Expert Group on State Enactments having bearing on Commercial Banks lending to Agriculture, 1970.

With the responsibility of supplying agricultural credit, it was necessary to extend to com-

mercial banks certain rights and privileges in regard to security, recovery of loans, etc., available to the cooperatives. To examine the question, the RBI appointed in September 1969 an 'Expert Group on State Enactments having a bearing on Commercial Banks lending to Agriculture'. The Group, in its Report submitted in December 1970, stated that while the interests of the institutional credit agencies financing agriculture should be safeguarded vis-a-vis a private agency, all institutional agencies should be placed on an equal footing. The general principle of priority as between two institutional credit agencies in regard to loans based on common security should be adumbrated in the Transfer of Property Act, 1882. Thus, while the cooperatives could continue to enjoy the facility of first charge/mortgage vis-a-vis a private credit agency say, the money lender, their right of priority interest, vis-a-vis other institutional agencies such as commercial banks would be with reference to the point of time of creation of such charge/mortgage. However, even among institutional credit agencies, the one lending term loans for development purposes would have priority over the other lending for production credit. For instance, where crop loans were granted by a commercial bank and term loans for development purposes were granted subsequently by another institutional agency, say, a land development bank, against the same landed security, priority would accrue to the land development bank.

To facilitate financing of credit societies by commercial banks under the scheme referred to above, the Group recommended the making of statutory provisions for (i) enabling the societies to borrow from the commercial banks, (ii) settlement of disputes through the Registrar of Cooperative Societies, (iii) the right of the commercial banks to inspect borrowing societies and to proceed against defaulting members of indebted societies directly, in case the society failed to take action, etc. The intention was to place a commercial bank financing a society more or less on the same position/status as of a central cooperative bank.

In December 1970, the RBI issued a circular letter to the commercial banks spelling out guidelines for the financing of agriculture. The

banks were advised to adopt an "area approach" for lending for agriculture without any overlapping of efforts and resources by two or more banks. Short-term loans for crop-raising should be based on rational scales of financing taking into account input requirements and off-farm income and resources available to the cultivator. For medium-term loans, the norms should relate to the income generating potential of the proposed investment rather than to the size of the holding. The scheme was initially introduced in 49 districts in 5 States. It was extended to 71 districts of 8 States by the end of June 1974.

Report of the All-India Debt and Investment Survey, 1971-72 - Financing of the Primary Agricultural Credit Societies by Commercial Banks

In November 1972, the Steering Committee of the All-India Debt and Investment Survey (1971-72), RBI, made an assessment of the working of the scheme of bank financing of primary credit societies in the five States in which the scheme was initially introduced. It was found that although the commercial banks did provide the necessary finance to the primary agricultural credit societies transferred to them, they did not pay much attention to the revitalisation of the societies and professionalisation of their management.

During the Fourth Plan period (1969-74), the commercial bank finance to the agricultural sector increased rapidly. The total agricultural advances by the nationalised banks increased from Rs. 162.33 crore at the end of the June 1969 to Rs. 585.68 crore by the end of June 1974 as against the Fourth Plan target of only Rs. 400 crore. The progress over the period may be seen from Table 7.

With the cooperative credit structure not being able to provide the requisite facilities, and the commercial banking structure still not established in the rural areas, a number of committees/teams, during the Fourth Plan period, went into the problems of rural credit and made recommendations.

TABLE 7. DIRECT AND INDIRECT FINANCE BY THE NATIONALISED BANKS TO AGRICULTURE, 1969-74

On the last Friday of June	Direct Finance to Farmers		Indirect Finance to Farmers		Total	
	No. of Accounts (lakh)	Amount Advanced (Rs Crore)	No. of Accounts (lakh)	Amount Advanced (Rs Crore)	No. of Accounts (lakh)	Amount Advanced (Rs Crore)
1969	1.60	40.22	0.05	122.11	1.65	162.33
1970	6.12	160.38	0.19	141.26	6.31	301.64
1971	7.93	206.37	0.24	134.59	8.17	340.96
1972	9.27	231.89	1.44	156.58	10.71	388.47
1973	12.46	297.84	1.93	170.85	14.39	468.69
1974	16.30	391.58	2.54	194.10	18.84	585.68

Note: Indirect financing included (i) finance for distribution of fertilisers and other inputs (ii) loans to State Electricity Boards for energisation of wells, etc., and (iii) other types.

Source: Ministry of Finance, Department of Economic Affairs, Banking Division, GOI, New Delhi.

In December 1972, a Study Team on Overdues of Cooperative Credit Institutions was constituted by the RBI. The Team found that defaults were by and large wilful and there was hardly any distinction between small and big farmers in this respect. The defective lending policies pursued by the cooperatives, the apathy of the managements in taking quick action against recalcitrant members, and the lack of support from the state governments were the underlying causes. The deficiencies in lending policies especially inadequate and untimely credit or over-financing or lack of supervision over the end-use of credit, inadequate application of fertilisers, fixation of unrealistic due dates and, what was worse, financing of defaulters had encouraged defaults and led to the piling up of overdues. The overdues in the cooperatives had increased from Rs. 214 crore in 1968-69 to Rs. 443 crore by 1973-74 [Reserve Bank of India, 1974, Pp.224-225].

The Team suggested several measures including automatic disqualification of managing committees/boards of directors, denial of fresh credit and voting rights to defaulters as well as their sureties, amendment of Cooperative Societies Acts of various states, the Registrar to issue orders on his own motion for the recovery of loans as arrears of land revenue and the setting up of State Farming Corporations for the purchase of lands of defaulters at the time of auction. A programme of rehabilitation by way of relief in respect of defaults under short and medium term agricultural loans by non-wilful defaulters, especially those who belonged to the low income category, was also recommended.

The Study Team reiterated the need to create viable credit units at the primary level with potential business of at least Rs. 2 lakh per society and recommended that weak and dormant units should be denied fresh credit and allowed a slow and natural extinction. The area of adjoining societies could be extended to cover the areas of the dormant and weak societies for meeting the credit requirements of non-defaulters and new members from the area.

In the meanwhile, in December 1971, the National Commission on Agriculture (NCA) submitted an interim report on the credit needs and services for small and marginal farmers and agricultural labourers. It recommended the institution of an integrated agricultural credit service, i.e. provision of credit along with inputs and services covering not only the complete range of farm produce upto the marketing stage, but also ancillary farm occupations, such as those of rural artisans and craftsmen which provide services to the farmers; a single agency providing short, medium and long-term credit as also inputs and services. It would have three constituents: (i) Farmers' Service Societies - one for each tehsil/block or any other viable unit of convenient size, with as many branches as were required in the area; (ii) a Union of these Societies at the district level, and functional district organisations for specific commodities; and (iii) Lead Bank in the district assuming leadership in the matter of organising integrated agricultural credit service [Ministry of Agriculture, 1971, Pp.1-2, 23-25].

The Farmers' Service Society (FSS) in each tehsil/block was to be registered as a primary

cooperative society meeting the development needs of the small and marginal farmers, agricultural labourers, and village artisans selected for assistance under SFDA and MFAL projects, either directly or by special arrangements with other agencies. All facilities by way of funds, concessional rates of interest, managerial subsidy, etc., available to the cooperatives were to be given to the FSS. The society was to have branches or depots to cater to the needs of its members at circle or equivalent levels to serve population groups of 10,000 to 12,000. The Lead Bank in the district was to assume leadership providing suitable linkages between the agricultural credit service and the institutions like land development banks, State agro-industries cooperations, etc. Government accepted the recommendations of the NCA and agreed to set up about 40-50 such societies in major States on a pilot basis. An 'Implementation Committee' was constituted in the Department of Agriculture, to coordinate, review, and guide the pilot scheme.

Banking Commission, January 1972

In February 1969 the Banking Commission was set up to examine and recommend on all important aspects, except industrial relations, of the working of the banking and credit institutions in India. The Commission submitted its report on January 31, 1972. The Commission found that the primary agricultural credit societies, by and large, were not designed or equipped to mobilise rural savings by attracting deposits. There were other serious problems: (i) growing overdues; (ii) inability of members to provide the prescribed security because of lack of up-to-date land records or inalienable rights in land or inability to produce sureties; (iii) ineligibility of certain purposes for loans, (iv) inadequacy of credit limits prescribed and (v) onerous conditions prescribed such as share capital contribution at 10 to 20 per cent of loans outstanding and compulsory thrift deposits. It was unlikely that the target of reorganization of one lakh primary agricultural credit societies by 1970-71 and to make them into viable units, would be achieved. This was because of (i) unwillingness of some societies to amalgamate, (ii) administrative delays, (iii) absence of legal

provision to enforce amalgamation, and (iv) reluctance on the part of the States to enforce compulsory amalgamation. The performance of Central Cooperative Banks and State Cooperative Banks had not been very satisfactory either, mainly because of large overdues [Ministry of Finance, 1972, Pp.155-156].

To remedy the situation, the Commission recommended setting up 'rural banks', which would be essentially 'cooperative' in character but would provide services of a much wider range than that offered by primary agricultural credit societies. Apart from mobilising local savings and meeting the entire credit needs of all medium and small cultivators, a rural bank could in the long run, take up the task of implementing programmes of supervised credit, providing ancillary banking services, setting up and maintaining godowns, supplying inputs and agricultural equipments, providing assistance in marketing and generally helping in the overall development of the villages in its area. The rural bank would be the primary banking institution to serve a compact group of villages covering a population of 5,000 to 20,000, and in sparsely populated areas all the villages comprised by a development block. Suitable institutional link-ups between the rural banks and the central/apex cooperative banks where the cooperative structure was strong and with commercial banks in cooperatively weak areas was recommended.

Because several measures had already been taken for increasing the involvement of commercial banks in rural areas through their financing of primary cooperative societies and establishment of farmers' service societies, Government decided to await the results and not set up immediately rural banks recommended by the Commission.

Working Group for Appropriate Institutional Structure in Rural Areas, 1973

In 1973, the Government of India constituted a high-level Working Group to recommend the most appropriate institutional structure for catering to the needs of rural areas. The Group came to the conclusion that only viable, professionally managed, multipurpose cooperative

societies organised on the lines of the farmers' service societies recommended by the NCA either financed by cooperative banks or commercial banks, would fulfil the requirements of rural areas. It was realised that farmers' service societies could not be set up all over the country in view of the complex organisational problems that arose from amalgamation of a large number of existing societies and the consequential requirements of high-level managerial competence. Hence, the Group recommended that the aim should be to reorganise the multipurpose societies and take them ultimately to the level of the farmers' service societies. The Group also came to the conclusion that it would not be possible for the rural branches of commercial banks, at their present level of operational costs and organizational constraints, to provide package of services to the farmers and other population without effective link up with viable and well managed local institutions.

Committee on Cooperative Land Development Banks, December 1974

A Committee on Cooperative Land Development Banks, set up by the RBI submitted its report in December 1974. Tracing the working of Land Development Banks since 1954, the Committee concluded that, while their achievements were praiseworthy, various problems still remained to be tackled. First, even in States where Land Development Banks were relatively strong, it was necessary to diversify their activities in order to reach a larger number of tenants and small farmers and cater to their several long-term credit requirements. Second, in the cooperatively less advanced States, the land development banking structure was very weak. Third, although a great deal of progress was made in regard to improvement of appraisal techniques and systems of lending, the Land Development Banks had yet to be actively involved in the preparation of agricultural development schemes even in cooperatively well developed States. Fourth, a common weakness in almost all Land Development Banks was the prevalence of overdues which were mounting due to operational

weaknesses, apathy of management, lack of sufficient care and interest taken by the boards of directors and the attitude of the State Governments in not creating a climate favourable to recovery of loans. Fifth, although the staffing pattern in most of the banks had improved over the years, there was need for introduction of proper management techniques and procedures [Reserve Bank of India, 1974(c), p.300].

The Committee recommended (a) continuance of both the federal and unitary structure for land development banking according to its suitability; (b) arrangements for provision of long-term agricultural credit in smaller States through State Cooperative Banks; (c) improvement in the working of the land development banking structure in the cooperatively weak States; (d) for the primary Land Development Banks or branches of central Land Development Banks to function as viable units, a minimum loan business of Rs. 35 lakh to be achieved by the end of three years; (e) coordination between short-term and long-term credit structures and routing of loans through primary credit societies, experimenting with the Farmers' Service Societies for the purpose; (f) improvement of the resources position of the land development banks and measures to mobilise rural savings; (g) production oriented lending system and follow-up measures for the purpose; (h) legal, administrative, and other measures to improve the recovery position; and (i) management and coordination, including training of staff in the preparation and implementation of schemes of agricultural development.

Working Group on Cooperation (Fifth Five Year Plan), December 1972

A Working Group on Cooperation, set up in the Ministry of Agriculture to formulate proposals for the Fifth Five Year Plan, submitted its report in December 1972. It proposed targets for cooperative credit at Rs. 1,200 crore for short-term, Rs. 350 crore for medium-term, and Rs. 1,100 crore for long-term loans. To reduce the regional imbalances in the development of cooperative credit, the short-term loans should increase by the end of the Fifth Plan by about 10 per cent per annum for the cooperatively progressive (Group

A) States, by 15 per cent per annum for Group B States, and by 20 per cent per annum for Group C or the cooperatively most backward States. As the resources available to the cooperative credit institutions in the backward States were inadequate to permit a 20 per cent level of growth, special assistance in the form of loans amounting to Rs. 15 crore from the Central and State Governments may be given to these institutions during the Plan period.

To achieve these targets, a substantial increase in the membership of primary cooperative credit societies from 30 million in 1969-70 to 51 million by 1978-79 was recommended. Expeditious reorganisation and revitalisation of the primary credit societies was necessary. After reorganisation, the 1,60,780 societies in existence in June 1971 would probably be reduced to only about of 1,14,600 primary credit societies. Societies with a potential business of Rs. 2 lakh and an actual business of not less than Rs. 1 lakh may be considered potentially viable and efforts should be concentrated on increasing its business. The Working Group also recommended the appointment of a cadre of paid secretaries for the primary societies, and the constitution of a cadre authority and a cadre fund.

The Working Group recommended the amendment of section 46(b)(ii) of the RBI Act so that the RBI could provide loans from the National Agricultural Credit Stabilisation Fund through the State Cooperative Banks to the Central Cooperative Banks in areas affected by natural calamities, irrespective of their dues to the RBI. As regards the credit stabilisation funds at the State level, the Working Group recommended Central assistance of the order of Rs. 15 crore to meet the shortfalls in the funds in the different States. In areas affected by natural calamities, *taccavi* funds could also be used to augment the financial resources of the Central Cooperative Banks temporarily.

The scheme for rehabilitation of selected weak Central Cooperative Banks implemented since 1972-73 should continue during the Fifth Plan and a provision of Rs.5 crore be made for the purpose. As regards the functioning of commercial banks in the rural areas, the Group felt that the infrastructure of the cooperatives could be utilised by

them for disbursement of their resources. The commercial bank could contribute to the share capital of the cooperative banks and primary societies and also participate in their management.

Fifth Five Year Plan, 1974-79

According to the Draft Fifth Five Year Plan, the annual requirements of short-term credit would be around Rs. 3,000 crore by 1978-79. Hence, in 1978-79, the short-term credit advanced by cooperatives and commercial banks should amount to about Rs. 1,700 crore, while medium and long term credit during the Fifth Plan period should be about Rs. 2,400 crore. Short-term advances by primary agricultural credit societies were to be Rs. 1,300 crore by 1978-79; and medium and long-term advances Rs. 325 crore and Rs. 1,500 crore, respectively during the Plan period. Out of the Rs. 1,300 crore of short-term credit, loans to small and marginal farmers, agricultural labourers, tenants and share croppers should be Rs. 520 crore. Central Cooperative Banks should ensure that at least 20 per cent of their borrowings from apex banks were covered by outstanding loans to societies of small farmers and weaker sections.

To achieve these targets, the resources of the cooperative credit institutions should be augmented by larger deposit mobilisation, allocation of additional share capital from grower members, and increased government support for strengthening the share capital base of these institutions. The most crucial but the weakest link in the cooperative credit structure continued to be the primary agricultural credit society. Concerted efforts were to be made in the Fifth Plan for strengthening the primary societies and reducing their number to 1.15 lakh by 1978-79. Overdues constituted the most formidable problem. The Plan recommended that agricultural extension agencies should make repayment of cooperative loans an integral part of the package of practices recommended to the farmers. At the institutional level, linking of credit with marketing was emphasised. Coercive action against wilful defaulters could be considered and the State Governments were expected to give active

assistance to cooperative societies in this regard. As regards overdues of cooperative long-term credit, the concerned State Governments and the Land Development Banks should make special efforts to make recoveries. To improve the quality of loan appraisal, technical cells should be established in the Land Development Banks.

To increase the flow of institutional credit to small/marginal farmers, tenants and sharecroppers, the share capital required to be held by them was reduced and further they were allowed to pay the reduced amount in convenient instalments. Other concessions suggested in the Plan included the grant of loans on the basis of indication of survey number of the land proposed to be cultivated; production of solvent surety/sureties of one or two members who were owners of land or registered tenants; or provision of collateral tangible security in the form of gold or silver ornaments. Where this was not possible, loans in kind (*i.e.* in the form of fertilisers, improved seeds, and other inputs) could be provided upto a limit of Rs. 500, provided a member of the primary credit society concerned would stand surety. Concessional finance provided by the RBI was also to be made available to non-agriculturists and agricultural labourers who were members of primary credit societies for purchase of milch cattle and poultry farming activities. Provision should be made by law that at least 50 per cent of the members of the managing committees of societies should be from the category of small farmers, marginal farmers, tenants, agricultural labourers, and share croppers.

As regards long-term credit, the Plan recommended that the loaning policies of the Land Development Banks should be liberalised in respect of valuation of landed property offered as security and through issue of joint loans to small cultivators. Bigger cultivators who could repay loans in shorter periods could be encouraged to avail themselves of medium term credit for investment. Policies and procedures were to be so designed as not to inhibit the flow of credit to the small farmers, especially in the cooperatively weaker States.

The commercial banks were expected to provide, by the end of the Fifth Plan, a sum of Rs. 400 crore as short term loans and about Rs. 575

crore as long term loans. Their activities in the States and areas where commercial bank finance for agriculture was weak had to be expanded, and the needs of small and marginal farmers looked after.

During the Fifth Plan period, the ARDC was to provide refinance of over Rs. 600 crore. To reduce the regional imbalances, deliberate efforts were to be made to accelerate the rate of investment in the weaker States. Cent per cent refinancing was to continue in respect of viable schemes of agricultural development initiated by the SFDA and 90 per cent for others. Further, the Farmers Service Societies were to be introduced in areas where programmes for small and marginal farmers were undertaken [Planning Commission, 1976, Part II, Pp.76-82].

Report of the Working Group on Rural Banks, July 1975

To speed up the flow of institutional credit to the weaker sections of the rural community, Government felt that it was necessary to establish 'new institutions on the basis of attitudinal and operational ethos entirely different from those obtaining in the public sector banks'. In pursuance, a Working Group on Rural Banks was appointed to examine in depth, the setting up of new rural banks as subsidiaries of public sector banks to cater to the credit needs of the rural people. The Group submitted its report on July 30, 1975.

The Group identified the various weaknesses of the cooperative credit agencies and the commercial banks, and opined that the existing institutions were unable to fill the regional and functional gap in the rural credit institutional system within a reasonable time even with such adaptation, reorganisation, and restructuring as may be considered; and further that no single pattern, be it commercial banks or cooperative credit, could be expected to meet all the emerging requirements in all areas. A degree of adaptation and improvisation was called for and the range of institutional alternatives widened. A new type of institution was necessary which combined the local feel and familiarity with rural problems which cooperatives possessed and the degree of

business organisation, ability to mobilise deposits, access to central money markets and modernised outlook which the commercial banks had. The role of the new institution, called the Regional Rural Bank (RRB) was however to supplement and not supplant the other institutional agencies in the field.

According to the Group, instead of immediately making these RRBs a pattern for reorganisation of existing rural credit institutions in the country as a whole, a few such banks could be set up in areas where the existing credit structure had not made much impact. The location for the new banks should be so chosen as to avoid overlapping with credit institutions which were working satisfactorily, and over-financing of the same borrowers. Initially five such banks should be set up in selected areas to serve as pilot institutions so as to provide guidelines in respect of the size of operations, coverage, viability, etc., for future development.

Government accepted these recommendations and the Regional Rural Banks Ordinance of 1975 was promulgated on September 26, 1975. It was subsequently replaced by the Regional Rural Banks Act of 1976 dated February 9, 1976. As against 5 Regional Rural Banks recommended by the Group, the Government of India targetted to set up 50 such banks by 1977. Actually, 48 RRBs were set up by that time.

The Regional Rural Banks, though basically Scheduled Commercial Banks, differed in certain respects from the existing commercial banks, the main points of difference being (a) their area of operation was limited to a particular region comprising one or more districts in any State; (b) they were to grant loans and advances particularly to small and marginal farmers and agricultural labourers and to rural artisans, small entrepreneurs and persons of small means engaged in trade and other productive activities in their areas of operation; (c) the lending rate of the banks was not to be higher than the prevailing lending rates of cooperative societies; and (d) the salary structure of their employees was to be determined by the Government, having regard to the salary

structure of the employees of the State Government and local authorities of comparable level and status in the area of their operation.

Report of the National Commission on Agriculture, January 1976

The NCA submitted its final report in January 1976. The NCA pointed out that the cooperative credit had been flowing mainly to large cultivators because (a) land ownership was the dominating criterion for admission of new members and extending credit; (b) cooperative leadership and management were mainly in the hands of bigger farmers; and (c) lack of technical expertise and operational efficiency inhibited the application of the principle of lending relating it to possible increase in income so as to have a larger coverage of small farmers. Further, the rise in the overdues from year to year had affected the credit-worthiness of the cooperative system and its ability to extend further credit to the farmers. The same was true of the lending by the public sector banks. No serious attempt had been made either by the commercial banks or the cooperatives to understand the special credit needs of the small farmers, let alone the marginal farmers or agricultural labourers, and develop the ability to attend to their needs. In fact, on grounds of equity and optimum use of manpower and land, weightage should be given to their needs on preferential terms, both in regard to interest charged and quantum of advances. For this purpose, a comprehensive ground-level organisation was needed which would facilitate the conversion of credit into inputs and services as well as the realisation of fair price for the produce, and would operate fully on commercial basis covering all the needs of the farmers [Ministry of Agriculture and Irrigation, 1976 Pp. 568-570]. The Farmers Service Societies provided the desired organization but, while regional adaptations were made, it was necessary to ensure that distortion of objectives did not take place and that the individual banks were not loaded with the heavy strain of organisational work for new FSS.

The NCA worked out the credit requirements for crop production in 1985 taking the norms of Rs. 600 per hectare for irrigated areas and Rs. 450

per hectare for unirrigated areas for short-term loans. For medium and long-term loans the yardsticks used were: (a) Rs. 1,350 per hectare for preparation of land covered under major and medium irrigation (8 million hectares); (b) Rs. 200 per hectare for improvement in 5 million hectares already developed under major and medium irrigation; (c) Rs. 200 per hectare for improvement in areas covered by minor irrigation (1 million hectares); (d) Rs. 1,000 per hectare for groundwater development over 9 million hectares; and (e) Rs. 500 per hectare for land development in unirrigated areas covering 98 million hectares for programmes of levelling soil conservation, water-harvesting, ponds, etc. Assumptions for requirements of credit for milk production, piggery, poultry, sheep and fisheries were also made. Based on these considerations, the NCA estimated that the credit requirements of agriculture in 1985 would be Rs. 16,550 crore, including Rs. 400 crore for farm machinery and implements. This was on the assumption that the credit needs - short, medium and long-term - of all the farmers - big, small and marginal - will be covered. On a more realistic assumption that medium and long-term credit needs of the small and marginal farmers will be met in full in irrigated areas and to the extent of 50 per cent in unirrigated areas, the estimate of credit requirements comes down to Rs. 9,433 crore. During the period 1975 to 1985, the cooperative societies should strive to almost double their short, medium and long-term credit and the banking system should work towards increasing their agricultural loans from Rs. 1,450 crore in 1978-79 to Rs. 4,050 crore in 1984-85. The credit policy should be designed to provide an integrated agricultural credit service, to facilitate the adoption of new technology, to extend its scope to cover all aspects of rural development including production, marketing, transport and processing, and to provide linkages between finances and services for current inputs as well as investment in land improvement, minor irrigation and farm equipment.

Report of the Review Committee on Regional Rural Banks, February, 1978

In June 1977, the RBI appointed a Committee to examine the working of the RRBs set up a year earlier, particularly (i) to evaluate their performance in the light of the objectives for which they were set up; (ii) to indicate their precise role in the rural credit structure; and (iii) to make recommendations with regard to the scope, methods, and procedures of their functioning and other matter germane to the enquiry. The Committee thought that the performance of the banks, considering the limited time, was good judged both by quantitative and qualitative tests such as branch expansion, lending operations and mobilisation of deposits and that their credit-deposit ratios were distinctly superior to those of the rural branches of commercial banks. The financial results of some of the RRBs showed that they had the potential and capability to attain financial viability and become profitable at levels of business of about Rs. 3 crore to be reached within three to four years. They had succeeded to a great extent in taking banking to hitherto unbanked/under-banked centres in remote rural areas and also in imparting rural orientation and local touch to their operations. The overall recovery position was good. Only in the matter of coverage of the weaker sections, there was much leeway to be covered. The RRBs with some modification in their organisation and functions could become a very useful component in the totality of the rural credit structure [Reserve Bank of India, 1978(a), Pp.67-68].

The Committee recommended that, with proper orientation and strengthening, the reorganised Primary Agricultural Credit Societies (PACS) and Farmers' Service Societies (FSS) should form the base of the rural credit structure. The RRBs could function at the intermediate level. They should fill the gap where the cooperative credit structure was weak at both the intermediate level (District Central Cooperative Banks - DCCB) and the retail level (PACS and FSS), by routing their credit through the FSS and PACS. In the first place the RRB system should be extended to such areas where the DCCBs were not able to adequately serve the PACS within their jurisdiction. Where the DCCBs were fairly strong, the RRBs and DCCBs could co-exist without overlapping and clash of interest. The

type of financing done by the two systems was not wholly identical. Leaving aside the question of long-term finance, the cooperatives had an edge over the commercial banks in the matter of crop loans and the latter had succeeded more in the field of medium term loans. The cooperatives confined their agricultural lending mostly to seasonal finance. Diversification of agriculture through horticulture, animal husbandry, forestry, etc., would increase the demand for credit which the cooperatives alone would not be able to meet. The requirements of non-agricultural finance would expand considerably and the RRBs with the support of the commercial banks would be in a better position to meet their needs.

As regards their relationship with commercial banks, the Committee recommended that where the RRBs were established, there should be a definite understanding that all commercial banks - not only the banks sponsoring the RRBs - would hand over, in a phased manner, such of their rural credit business to the RRB, as would fall within its jurisdiction or which it could effectively handle. The reasons for preferring the system of RRBs in place of the commercial banks' rural branch net-work were those of comparative

simplicity, lower cost of operation, local involvement through appropriate staffing pattern and participation in the share capital, etc. Additionally, the business operations of the RRBs, even during its infant stage, had been more varied and more in tune with the social purpose compared to the business of the rural branches of the commercial banks [Reserve Bank of India, 1978(a), Pp.71-74].

Government accepted the recommendations of the Review Committee that the RRBs would be an integral part of the rural credit institutional structure and decided that an RRB could be sponsored either by a commercial bank or by a State Cooperative Bank singly or jointly with a commercial bank. In addition to the 48 RRBs covering 86 districts, already set up, 14 more RRBs were proposed to cover 15 other districts where the existing institutional credit structure was inadequate. The RBI constituted a Steering Committee to frame and review policies and monitor progress of the RRBs.

The Fifth Five Year Plan was terminated a year earlier, in 1978. The progress made in the cooperative credit sector during the Plan period is summarised in Table 8:

TABLE 8. ADVANCES BY COOPERATIVES, 1973-74 AND 1977-78

Institution	Year	Number	Loans Advanced	Loans Outstanding	Overdues	Overdues to Outstandings
			(Rs Crore)			(%)
Primary Agricultural Credit Societies	1973-74	1.54 lakh	763	1055	443	41.99
	1977-78	1.16 lakh	1282	1798	809	44.99
Central Cooperative Banks	1973-74	341	1249	1163	376	32.33
	1977-78	338	2116	2115	754	35.65
State Cooperative Banks	1973-74	26	1204	706	63	8.92
	1977-78	26	2023	1338	96	7.17
Central Land Develop- ment Banks	1973-74	19	147	914	42	4.60
	1977-78	19	239	1305	127	9.73

Source: *Statistical Statements Relating to the Cooperative Movement in India*, Reserve Bank of India, Bombay. (relevant years)

The short-term loans by PACS very nearly reached, in 1977-78, the targets for 1978-79 in the Fifth Plan; as against the Fifth Plan target of Rs. 1,300 crore, the PACS had advanced Rs. 1,282 crore by 1977-78. The number of PACS had declined from 1.54 lakh to 1.16 lakh during the same period covering 91.6 per cent of the villages; however the reorganisation of the societies into viable units expected to be completed by 1966-67

was still continuing; at the end of June 1978, there were 8,994 dormant societies.

Compared to the Fifth Plan target of 40 per cent of the short-term credit to go to small and marginal farmers and weaker sections, nearly 39.5 per cent, in 1977-78, went to farmers with holdings of less than 2 hectares, tenant cultivators, agricultural labourers and others. But, the overdues continued to increase.

As at the end of June 1978, the scheme of financing PACS by commercial banks was in operation in 121 districts of 12 States. At the end of June 1978, 18 public sector banks and 2 private sector banks had set up 213 FSS in 13 States and

the Union Territory of Delhi. Advances by public sector banks to the agricultural sector increased from Rs. 705.57 crore at the end of December 1974 to Rs. 2,009.52 crore by the end of December 1978 as shown in Table 9:

TABLE 9. DIRECT AND INDIRECT FINANCE BY NATIONALISED BANKS TO AGRICULTURE, 1974-79
(Rs crore)

On the last Friday of December	Direct Finance	Indirect Finance	Total Advances
1974	478.32	227.25	705.57
1975	658.49	278.41	936.90
1976	915.98	313.25	1,229.23
1977	1,150.82	368.65	1,519.47
1978	1,525.42	484.10	2,009.52

Source: Ministry of Finance, Department of Economic Affairs, Banking Division, GOI, New Delhi.

The number of RRBs remained at 48 at the end of June 1978, although their branches increased. Their advances aggregated Rs. 52.27 crore upto March 1978 of which Rs. 48.39 crore were to small/marginal farmers, landless labourers, and rural artisans.

With the multiple institutional agencies operating in the field of rural credit - cooperatives, RRBs and Commercial Banks - a number of problems arose during the Fifth Plan period. These included uncoordinated credit disbursal, diversion to unproductive purposes, inability of the credit agencies to formulate agricultural programmes on the basis of an area approach, overlapping and duplication of banking facilities, lagging recovery, and numerous problems arising out of different systems, procedures, security norms, service charges, interest rates, etc. In 1977-78, the RBI appointed a number of groups and committees to examine the problems. The Working Group on Multi-Agency Approach in Agricultural Finance in its Report in April 1978 recommended that (a) the respective roles of the three agencies should be clearly defined, (b) the rural areas should be covered by a net-work of viable cooperative credit institutions, (c) there should be area demarcation for short-term loans among different credit agencies, (d) uniform pattern of interest rates should be adopted for all the financial agencies, and (e) the field organisations of commercial banks should be strengthened to meet the needs of the integrated rural development programmes [Reserve Bank of India, 1978(b)].

In the same month, another Expert Group recommended effective dovetailing of agricultural credit schemes of commercial banks with development efforts and also with credit schemes for other supportive activities [Reserve Bank of India, 1978(c)]. The Committee on Public Sector Banks on the other hand, suggested that commercial banks should not spread their branches below the block level and that for deposit banking or for providing general banking services, the PACS, FSS, and RRBs would be the appropriate agencies providing a more pervasive credit structure, reducing costs, and better services to the rural population. The Committee further recommended that RRBs should be the core of banking operations in the district and the responsibility of developing that area should be that of the RRBs [Reserve Bank of India, 1978(d)].

The problem of strengthening of the cooperative credit institutions also continued to beset the RBI. In July 1977, a Committee was set up to guide the RBI in this regard. The Committee suggested that schemes for strengthening the cooperative credit structure in selected districts should contain specific action programmes spread over a year or two covering (a) reduction of overdues, (b) increasing the number of borrowing members of the societies and ascertaining specific reasons for a large percentage of non-borrowing members, (c) ensuring full coverage of cultivators, particularly the small and marginal farmers, by membership as well as by financial assistance, (d) ascertaining the reasons

for the wide gap between credit limits sanctioned by Central Cooperative Banks to PACS and the amounts disbursed, and (e) initiating steps for completing the programme of reorganisation and revitalisation of PACS on the basis of time-bound programmes [Reserve Bank of India, 1978(e)].

Working Group on Rural Credit and Cooperation for the Sixth Plan, 1978-83

In 1977-78, the Planning Commission set up various Working Groups to make recommendations for the Sixth Five Year Plan, 1978-83. The Working Group on Rural Credit and Cooperation recommended a long-term lending target of Rs. 2,500 crore for the Land Development Banks during 1978-83. Institutional credit requirements were assessed at Rs. 3,890 crore of short-term loans to be reached by the end of the Plan and Rs. 6,290 crore as term loans to be advanced during the Plan period. The cooperatives were to continue to be the major source of credit providing Rs. 2,500 crore of short-term credit and Rs. 3,710 crore in term loans. The commercial banks were expected to provide Rs. 2,600 crore of term loans and reach a level of Rs. 1,400 crore in short-term loans. 50 per cent of the total loans were to go to the weaker sections while in areas with concentration of small and marginal farmers and agricultural labourers, the percentage should be higher.

Draft Sixth Five Year Plan, 1978-83

The Draft Sixth Five Year Plan, 1978-83, envisaged doubling of rural credit obtained in 1977-78 in about three years. The main constraints were low recoveries, high level of overdues, and consequent ineligibility of a large number of cooperative institutions for refinancing. A major objective of the agricultural credit policy should be progressive institutionalisation, with a multi-agency approach and the earmarking of an increasingly larger share for the weaker sections. The main agency should be the cooperatives with commercial banks supplementing their efforts. As far as possible, the deposits collected by commercial banks in rural areas were to be made available for investment in

rural development. The loaning operations of the ARDC was also to be considerably expanded and diversified [Planning Commission, 1979, p.151].

Committee for Reviewing Arrangements for Financing Institutional Credit for Agriculture and Rural Development (CRAFICARD), March 1981

In March 1979, the RBI appointed a Committee to suggest improvements in the existing arrangements for institutional credit for agriculture and rural development. The Committee was expected (1) to review the structure and operations of ARDC in the light of growing need for term loans for agricultural and allied purposes; (2) to examine the need for and the feasibility of integration of the short-term and medium-term credit with long-term credit structure at national, state, district, and village levels; (3) to assess the relative merits and demerits of the three-tier and two-tier cooperative structure and suggest improvements; (4) to study consultancy services provided by the Agricultural Finance Corporation and suggest improvements; and (5) to review the role of the RBI in the field of rural credit.

The Committee submitted an interim report in November 1979 and the final report in March 1981. It noted that problems of agricultural credit had not only grown in complexity and size but had also merged with the larger tasks of rural development and recommended the setting up of a new apex bank - the National Bank for Agriculture and Rural Development (NABARD) - providing undivided attention, forceful direction, and pointed focus to the credit problems arising out of the integrated approach to rural development. The NABARD was to take over from the RBI the overseeing of the entire rural credit system including credit for rural artisans and village industries and the statutory inspection of cooperative banks and RRBs on an agency basis; the RBI could continue to retain its essential control. The NABARD was to be linked organically with the RBI by the latter contributing half of its share capital, the other half being contributed by the Government of India, and nominating three of its Central Board Directors on the board of the NABARD besides a Deputy

Governor of RBI being appointed as Chairman of NABARD. The authorised share capital of NABARD would be Rs. 500 crore and paid-up capital Rs. 100 crore. The NABARD would enjoy the term-lending facilities extended by the RBI to the ARDC. As regards short-term credit/working capital loans, the RBI would fix aggregate credit limits in favour of the NABARD.

Some of the other recommendations made by the Committee were: (a) efficient credit delivery system at ground level for effective implementation of the concept of integrated approach to rural development. The three tier short-term cooperative structure could remain as the general pattern for bigger States; the two-tier structure may be continued in smaller States and Union Territories. There was need for the rehabilitation of weak Central Cooperative Banks. If rehabilitation was not possible, the State Cooperative Banks could sponsor RRBs instead. (b) No dogmatic approach to force the integration of the two wings of the cooperative credit movement. A beginning could be made at the primary level, through PACS acting as agents of LDBs in the matter of dispensing long term credit. The Cooperative Societies Acts of the States could be amended for the purpose. (c) Speedy reorganisation of PACS and their conversion into truly multipurpose service institutions. (d) The PACS should have two categories of members - one exclusively reserved for the weaker sections, distinguished by the lower rate of share capital prescribed for them, and the other earmarked for those contributing at the usual rate. (e) The existing long-term cooperative credit structure be continued. The Land Development Banks should diversify their lending for agricultural purposes and extend their involvement in lending for non-land based purposes. (f) The State Government should introduce a system of regular checks to detect refusal of loans to the weaker section.

The Committee underlined the need for better spread of commercial banks branches in rural and semi-urban areas and recommended that the scheme of the commercial banks adopting certain PACS need not be further extended; instead, the cooperatives should be permitted to seek credit facilities from commercial banks.

The Committee recognised that the RRBs was

the suitable institution to take banking to the rural areas and ensure more effective supervision over the end-use of loans. It recommended that (a) preference should be given to RRBs in regard to licensing of branches in the rural areas; (b) the RBI should facilitate the transfer of eligible business of commercial banks' rural branches to RRBs when such proposals were presented; (c) RRBs' losses in the initial years should be made good by their shareholders and the equity capital of RRBs be raised suitably; (d) RRBs should continue to confine their operations to the weaker sections; (e) emoluments of the staff of RRBs should continue to be determined with due regard to State Government scales as was being done by Government of India; (f) various facilities from sponsor banks to RRBs should continue for a period of 10 years in each case; (g) non-officials connected with agricultural development may be nominated on the Board of RRBs but politicians should not be considered for this purpose; (h) the control, regulation and promotional responsibility relating to RRBs should be transferred from the Government of India to RBI/NABARD; and (i) as RRBs served the weaker sections exclusively, facilities such as concessional refinance from RBI should be continued. The Government accepted the recommendations of the Committee for the setting up of NABARD and necessary legislation was enacted in December 1981.

There was a change in the Government in January 1980. The 1978-83 Plan was replaced after operating for two years viz., 1978-79 and 1979-80, by the Sixth Five Year Plan, 1980-85.

Sixth Five Year Plan, 1980-85

The main objectives of the institutional credit policy laid down for the Sixth Plan, 1980-85 were to (a) secure an increase in the total volume of institutional credit for agriculture and rural development; (b) direct a larger share of the credit to the weaker sections; (c) reduce the regional imbalances in the availability of credit; (d) bring about greater coordination between different credit institutions under the multiple agency system; and (e) improve the recovery of institutional loans to ensure continuous re-cycling of credit. The availability of institutional credit to

agriculture was projected to expand from the base level of Rs. 2,550 crore in 1979-80 to Rs. 5,415 crore in the terminal year (1984-85) of the Sixth Plan. The level of credit support during the Plan period projected for the different credit agencies is given in Table 10.

TABLE 10. CREDIT SUPPORT TO AGRICULTURISTS, 1984-85

Agency	Anticipated Advances in 1979-80	Projected for 1984-85
	(Rs Crore)	
Cooperatives		
Short-term	1300	2500
Medium-term	125	240
Long-term	275	555
Commercial Banks (Including Regional Banks)		
Short-term	450	1500
Term Loans	400	620
Total	2550	5415

Source: *Sixth Five Year Plan, 1980-85*, Planning Commission, New Delhi.

Thus, the cooperatives were to continue to have the predominant role in terms of both volume and territorial coverage. However, a number of disconcerting features regarding the progress of cooperative credit were noted. The growth of cooperative credit had slowed down because of the mounting overdues which were clogging credit recycling. The write-off of debts as done by some States was setting an undesirable precedent and would hamper recovery effort in the future. There were also considerable regional disparities in the availability of credit. Again, although the cooperatives covered almost the entire country-side the membership was only 45 per cent of the total rural families. The weakest section of the rural community were still inadequately represented. While the share of the weaker sections in credit had risen to about 40 per cent of the total, this fell short of their essential production needs.

Hence, in the Sixth Plan, attention was to be directed to (a) strengthening of the primary village societies so that they were able to act effectively as multipurpose units; (b) re-examining the existing cooperative policies and procedures to ensure greater attention to the rural poor; (c) re-orientation and consolidation of the role of the apex institutions to enable them, through their constituent institutions, to effectively support a rapidly diversifying and expanding agricultural sector; and (d) development of professional manpower and

appropriate professional cadres to man managerial positions [Planning Commission, 1981, Pp.177-179].

The Plan endorsed the setting up of the NABARD which was established by an Act of Parliament (Act 61 of 1981) in July 1982 'for providing credit for the promotion of agriculture, small scale industries, cottage and village industries, handicrafts and other rural crafts and other allied economic activities in rural areas with a view to promoting integrated rural development and securing prosperity of rural areas'. NABARD took over the functions of the erstwhile Agricultural Credit Department (ACD) and Rural Planning and Credit Cell (RPCC) of the RBI and the ARDC. Its subscribed and paid-up capital is Rs. 100 crore, contributed by the Government of India and the RBI in equal proportions. It (i) serves as an apex refinancing agency for the institutions providing investment and production credit for promoting the various developmental activities in rural areas; (ii) takes measures towards institution building for improving absorptive capacity of the credit delivery system, including monitoring, formulation of rehabilitation schemes, restructuring of credit institutions, training of personnel, etc; (iii) coordinates the rural financing activities of all the institutions engaged in developmental work at the field level and maintains liaison with Government of India, State Governments, RBI and other national level institutions concerned with policy formulation; and (iv) undertakes monitoring and evaluation of

projects refinanced by it. NABARD's refinance is available to State Land Development Banks (SLDBs), State Cooperative Banks (SCBs), Scheduled Commercial Banks (CBs) and Regional Rural Banks (RRBs) [NABARD Annual Report, 1982-83, p.74].

Progress in the Sixth Plan (1980-85)

By end of March 1985, the cooperatives with a country-wide net work of 94,089 PACS constituted the dominant agency in terms of volume of

loans advanced and territorial coverage. The commercial banks had over 36,000 semi-urban and rural branches and there were 182 RRBs with 8,727 branches. The targets and achievements in the Sixth Plan are shown in Table 11.

The refinance provided by NABARD under schematic lending amounted to Rs. 1,061 crore in 1984-85. The share of SLDBs and SCBs in total refinancing was 31 per cent while commercial banks and RRBs availed of the remaining 69 per cent.

TABLE 11. LOANS ADVANCED DURING 1980-85

Programme	Target 1980-85	Achievement 1980-85
	(Rs Crore)	
Cooperatives		
Short-term Loans	2500	2334
Medium-term Loans	240	
Long-term Loans	555	662
Commercial Banks/RRBs		
Short-term Loans	1500	1110
Term Loans	620	1450
Total	5415	5556

In spite of all this expansion of institutional credit, a Committee to review the Administrative Arrangements for Rural Development (CAARD) set up by the Ministry of Agriculture, in its report submitted in December 1985, estimated that only 40 per cent of the rural credit was provided by these institutions; the money lenders still supplied the balance of sixty per cent of the rural credit. The Committee reiterated that it 'should be the goal of national planning and banking development that the institutional credit becomes the predominant part of rural and agricultural credit in the country' and that this could be accomplished by strengthening of the staffing system of the banking institutions - cooperative, RRBs and commercial; changes in the lending programme by identifying the needs of the poor, procedure of lending, utilisation of loans and recovery of loans; the structure and organisation of the banks in the rural areas and their coordination with development administration; and generally strengthening the cooperative institutions [Ministry of Agriculture, 1985, p.58].

Moreover, there was little improvement in the recovery of institutional loans. At the end of June

1985, the percentage of overdues to demand at the PACS level was around 40 per cent while at the level of LDBs it was around 42 per cent. The recovery position in the case of RRBs and commercial banks was worse at around 50 per cent. The health of agricultural credit institutions, both cooperatives and commercial banks, was in a very sad state in many parts of the country. Wilful default and overdues were mounting even in cooperatively progressive States like Gujarat and Maharashtra. By writing off agricultural loans and providing subsidies out of the State exchequer, some States had set a bad precedent. According to the Seventh Plan, if this trend was not reversed and if banks were reduced to institutions providing grants rather than recycling credit, the banking system would not be able to meet the credit needs of agriculture in future [Planning Commission, 1985, Vol.II, p.17].

Seventh Five Year Plan, 1985-90

The policy objectives in the sphere of agricultural credit in the Seventh Plan were again the same, namely, (a) to ensure a substantial increase

in the flow of credit, particularly to weaker sections; (b) to improve recovery; (c) undertake credit planning and monitoring in a coordinated manner at the National, State and District levels. Operational efficiency of the credit institutions particularly cooperatives, in terms of manpower, financial resources, and procedures, had to be

improved. PACS would be converted into multipurpose cooperatives in a phased manner so as to enable them to handle, not only credit but also other services and supplies. The targets of agricultural credit by different institutions proposed in the Seventh Plan are given in Table 12:

TABLE 12. TARGETS OF AGRICULTURAL CREDIT BY 1989-90

Agency	1989-90 (Rs crore)
Cooperatives:	
Short-term loans	5,540
Medium-term loans	500
Long-term loans	1,030
Commercial Banks/RRBs:	
Short-term loans	2,500
Term loans	3,000
Total	12,570

The Seventh Plan Mid-term Appraisal mentioned that, during the first three years of the Plan, disbursement of agricultural credit was much below the Plan targets. As against the Annual Plan targets of Rs. 3,700 crore for 1985-86, Rs. 3,960 crore for 1986-87, and Rs. 4,275 crore for 1987-88, the anticipated achievements are reported to be Rs. 3,200 crore, Rs. 3,500 crore and Rs. 3,700 crore, respectively. One reason was severe drought and floods in many parts of the country which affected the recovery of crop loans and resulted in mounting overdues ranging between 40 to 45 per cent. 'The expansion of credit as envisaged in the Seventh Plan would not be possible unless substantial improvement is brought about in the overdues position of the cooperative credit structure at various levels' [Planning Commission, 1988, p.975].

Eighth Five Year Plan, (1990-95): Perspectives and Issues

The Planning Commission circulated in early 1989 a draft of its views on planning in the Eighth Five Year Plan, 1990-95. Referring to rural credit, it mentioned that 'households which had an asset holding of less than Rs. 10,000 were getting between 67 - 90 per cent of their credit from money lenders. The banking system was helping mainly the richer households. For example, households with asset holdings above Rs. 5 lakh

secured 95 per cent of their credit from institutional sources; i.e. banking and cooperative credit systems; and households owning assets between Rs. 1 lakh and Rs. 5 lakh got three quarters of their credit from the banking system. Thus the institutional system has upto now not succeeded in providing credit support to a majority of the small agricultural producers. This in effect means that the subsidy systems on agricultural credit do not reach a majority of the producers who are small, and in fact are highly inefficient in providing support to the rural production apparatus'. Therefore, 'The balance period of the Seventh Plan and the Eighth Plan will have to be used for the conscious design of policies which can organise and activate institutional systems which provide support to the small peasant structure of the Indian agricultural economy. The present systems are both inequitable and inefficient. Special institutions for smaller peasants, greater openness in the working of rural credit cooperatives and rural development agencies, including advertisement of their allocations at the village level and organisation of poorer beneficiaries, are all the kind of steps that can be considered' [Planning Commission, 1989, Pp.17-18].

To sum up: In the four decades since the Rural Credit Survey in 1951-52, the institutional arrangements for the supply of credit to agriculture have increased greatly. There are now cooperative credit institutions, including Farmers' Service Societies, Regional Rural

Banks, Commercial Banks, NABARD, and the RBI looking after the needs of credit in the rural areas. The quantum of institutional credit through PACS alone has increased from Rs. 24 crore in 1951-52 to Rs. 3,700 crore in 1986-87. The proportion of institutional credit available to agriculturists has increased from 7 per cent of their total requirements in 1951-52 to 40 per cent in 1985-86. But, overdue with PACS have increased from 25 per cent of their outstandings in 1951-52 to 40 per cent by 1986-87. Moreover, the small farmer continues to be inadequately attended to. In 1951-52, he depended mainly on private agencies. But, even in 1988, households with an asset holding of less than Rs. 10,000 depended on private agencies for 67 - 90 per cent of their credit needs. New institutions and agencies have not helped much the small and marginal farmers and the landless labourers for whom they were primarily set up.

These problems were identified and articulated in the Rural Credit Survey in 1951-52. It was also then recognized that the persistence of these problems meant a failure of fifty years of co-operative movement in India. But there appeared no other solution. Hence, the conclusion in the famous phrase : "Cooperation has failed, but Cooperation must succeed" [Reserve Bank of India, 1954, Vol. II, p.372]. The remedy was to create "new conditions in which it can operate effectively and for the benefit of the weaker". The essence of the new conditions was state partnership at all levels. The need for a strong base was recognised. There were repeated exhortations to strengthen, to reorganize, to restructure, to revitalise the primary cooperatives. But, there was little appreciation that this could not be done by initiative from above. Instead, a weak base was vastly expanded as per plan targets and an immense governmental and semi-governmental superstructure was created. The driving principle seemed to be: 'If people cannot or will not do it, the state can and will do it'.

There has been an admirable concern for the weak and the poor. But, understandably, credit was the panacea. That sometimes it can do more harm than good was recognised but was forgotten or overlooked. The Committee of Direction of the RCS makes a perceptive observation : "'Credit'

says an old French proverb, 'supports the farmer as the hangman's rope supports the hanged.' But if credit is sometimes 'fatal', it is often indispensable to the cultivator. ... Agricultural credit is a problem when it cannot be obtained; it is also a problem when it can be had but in such a form that on the whole it does more harm than good," [Reserve Bank of India, 1954, VI. II, p.151]. Unfortunately, this perception was not pursued and liberal credit was advocated not only where it was needed but where it would be taken. In justification, the Committee said that 'a large part of the working funds which the subsistence farmer needs has the appearance of being related to his consumption rather than to his production' and then with a certain prescience noted : "Such a farmer in effect requires what is familiar to Governments in India as 'ways and means advances'". Exactly. The ways and means advances are supposed to be very short term borrowing by the Government. But the Government systematically converted them into long term debt which now amounts to over two-thirds of the national income of the country and the interest payments on which amount almost to a quarter of the annual revenues of the Government. Precisely in similar manner, overdues are mounting in agricultural credit with this difference that they are called by their proper name, namely, overdues.

Soon after the publication of the Report of the Committee of Direction, Sir Malcolm Darling [Darling, 1955], referring to the vast and rapid expansion of cooperative credit advocated by the Committee, said : "The Committee have certainly made out a strong case, on paper at least, for a large increase in the flow of credit, but I cannot forget Professor Carver's dictum that 'farmers who do not keep accurate accounts (and how many do this in India ?) and who have not a keen sense of values should avoid use of credit like the plague'. But that was written before the age of planning, and the trouble is that one plan necessitates another. Hence in large measure this particular plan." "What guarantee" he asked "is there that it (credit) will go only to the creditworthy or that the cultivator with more money to spend will be more punctual in repayment, more provident and less feckless ? The camel driver, says an Arab

proverb, has his plans, and the camel has his. So has it often been between Government and peasant in the past, and it may well be so again." Evidently, it was so. The overdues mounted and soon threatened to clog the flow of credit. Committee after committee noticed this but ended up recommending bypasses to let the credit flow round the overdues acting on the dictum: 'Credit should be given not only where it is due but also where it is overdue'.

Referring to the state participation, Sir Malcolm Darling raised the fundamental question: "How will self-help and mutual help fare with so much done for the members by Government? ... Are they not likely to wilt, or even be crushed under the weight of the proposed state structure. It is intended that Government should gradually withdraw from partnership as societies become more competent to manage their own affairs; but, as India knows, it is never easy to persuade those in authority that the time has come for withdrawal, still less easy to get employees to train others to take their place." [Darling, 1955].

Soon after, Sir Malcolm Darling was invited by GOI "to review recent developments in the field of Co-operation with reference to programmes in the Second Five Year Plan ..." We may note that Sir Malcolm Darling was a member of the Indian Civil Service. He joined the service in 1904 and, as a senior civil servant, served mostly in Punjab. He was the Commissioner of Income Tax, Punjab, etc., 1921-27; Registrar, Cooperative Societies, Punjab, 1927; President, Indian Economic Association, 1928; Chairman, Punjab Banking Enquiry Committee, 1930; Commissioner, Rawalpindi, 1934; on special duty, Finance Department, Government of India, 1934; Vice-Chancellor, University of Punjab, 1931 and 1937-38, Chairman, Punjab Land Revenue Assessment Committee, 1938; President, Aliens Interrogation Committee, 1939-40; President, Indian Society of Agricultural Economics, 1940. He was the author of (i) *Some Aspects of Co-operation in Germany and Italy*, 1922; (ii) *The Punjab Peasant in Prosperity and Debt*, 1925; (iii) *Rusticus Loquitur or the Old Light and the New in the Punjab Village*, 1930; and (iv) *Wisdom and Waste in the Punjab Village*, 1934. He submitted his report on June 17, 1957. We quote below the

first three paragraphs of his Introduction.

"The Second Five Year Plan involves the most spectacular effort ever contemplated in the field of agricultural co-operation. Briefly, the supply of credit is to be increased from Rs. 43 to 255 crores, over 2,200 marketing and processing societies, including 160 ginning and sugar factories, are to be formed, 5,500 godowns and 350 warehouses are to be built, and the number of members of societies is to be raised from 5 to 15 million. In short, Co-operation is to be 'the vital principal of all rural development'.

"I need hardly say that I am in entire sympathy with this principle. It has long been my belief that Co-operation is the only satisfactory means of securing the peasant's well-being in this complicated world. But if this faith is to be justified, nothing must be done to endanger the movement, particularly at the primary level, where it has its real being. Too much is at stake and too many millions affected. Accordingly, in considering the programme ... and its relation to the movement *as it is*, it was necessary to consider whether so much could be done in so short a time without endangering it. The field I was specially concerned with was agricultural credit and ... I came to the conclusion that the pace proposed was too fast for sound development even in the four States - Bombay, Andhra, Madras and the Punjab - where the movement is strongest; doubly so in the others I visited or was able to consider.

"Against this it is urged that India must develop at the pace of totalitarian countries, with however this difference that the stimulus must come from below, and on a co-operative basis; otherwise democracy will not survive. The difference is all important, for all democratic processes involve a slower pace than authoritarian. In the Draft Outline of the Plan it is rightly said that 'if strong primary units exist at the base, effective organisations can also be built. Yet it is proposed to add an imposing storey - for co-operative manufacturing, marketing and processing - to a structure ... nowhere very strong and in some States deplorably weak, and to do this without any systematic strengthening of its foundations. This is sooner or later to risk partial, perhaps even in some areas, total collapse. And if that happens, experience shows only too clearly that rebuilding

is extremely difficult - also very costly. Bihar and Bengal are conspicuous examples of this; indeed in every State the path of Co-operation is strewn with wreckage." [Planning Commission, 1957, Pp.1-2].

Unfortunately, his forebodings have come true. Evidently, the situation demands, not more of the same thing but, a new and fresh thinking.

ABBREVIATIONS

ACD	Agricultural Credit Department of the Reserve Bank of India
ARDC	Agricultural Refinance and Development Corporation
DCCB	District Central Cooperative Banks
FSS	Farmers' Service Society
GOI	Government of India
LDB	Land Development Banks
NABARD	National Bank for Agriculture and Rural Development
NCA	National Commission on Agriculture
NDC	National Development Council
PACS	Primary Agricultural Credit Societies
PEO	Programme Evaluation Organisation of the Planning Commission
RBI	Reserve Bank of India
RCS	Rural Credit Survey Report, 1951-52
RPCC	Rural Planning and Credit Cell of the Reserve Bank of India
RRB	Regional Rural Banks

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STATEMENT I. ADVANCES BY PRIMARY AGRICULTURAL CREDIT SOCIETIES

Year	Number of Societies (lakh)	Membership (lakh)	Loans and Advances	Loans Recovered during the year	Loans Outstanding	Loans Overdue	Percentage of Overdues to Out-standings (%)
1	2	3	4	5	6	7	8
1947-48*	0.85	35	10	8	16	4	25.00
1948-49*	1.12	44	14	11	21	5	23.80
1949-50*	1.17	48	18	13	25	5	20.00
1950-51*	1.15	51	23	18	29	6	20.69
1951-52	1.08	48	24	19	34	9	26.47
1952-53	1.12	51	26	21	38	10	26.32
1953-54	1.27	58	30	26	42	12	28.57
1954-55	1.43	66	35	29	49	15	30.61
1955-56	1.60	78	50	38	59	15	25.42
1956-57	1.62	91	67	51	77	17	22.08
1957-58	1.67	102	96	65	107	23	21.50
1958-59	1.83	119	126	96	135	27	20.00
1959-60	2.03	144	169	126	178	38	21.35
1960-61	2.12	170	203	163	218	44	20.18
1961-62	2.15	196	228	190	257	63	24.51
1962-63	2.11	217	257	211	294	77	26.19
1963-64	2.10	237	297	247	343	77	22.45
1964-65	2.01	254	316	288	371	96	25.88
1965-66	1.92	261	342	284	427	125	29.27
1966-67	1.79	267	366	278	477	160	33.54
1967-68	1.72	281	428	374	534	171	32.02
1968-69	1.68	292	503	421	619	214	34.57
1969-70	1.63	298	542	455	711	268	37.69
1970-71	1.61	304	580	505	784	322	41.07
1971-72	1.57	320	613	536	858	377	43.94
1972-73	1.55	335	776	655	979	368	37.59
1973-74	1.54	350	763	669	1,055	443	41.99
1974-75	1.53	364	904	782	1,177	503	42.74
1975-76	1.34	395	1,026	898	1,299	561	43.19
1976-77	1.23	448	1,307	966	1,599	683	42.71
1977-78	1.16	479	1,282	1,077	1,798	809	44.99
1978-79	0.96	525	1,458	1,232	2,049	927	45.24
1979-80	0.95	548	1,629	1,305	2,372	1,088	45.87
1980-81	0.94	577	1,769	1,637	2,621	1,085	41.40
1981-82	0.94	632	2,223	1,904	2,965	1,248	42.09
1982-83	0.93	640	2,441	2,179	3,233	1,417	43.83
1983-84	0.92	667	2,499	n.a.	3,497	1,574	45.01
1984-85	0.92	691	2,693	n.a.	3,980	1,630	40.95
1985-86	0.92	721	3,140	n.a.	4,323	1,806	41.78
1986-87	0.89	719	3,149	n.a.	4,636	1,996	43.05
1987-88	0.90	873	3,687	n.a.	5,262	2,132	40.52

* Inclusive of Grain Banks.

Sources: 1. *Statistical Statements Relating to the Cooperative Movement in India*, Reserve Bank of India, Bombay, various years. 2. *Statistical Statements Relating to the Cooperative Movement in India*, NABARD, Bombay, 1981-82 onwards. 3. *Important Items of Data, Credit and Non-Credit Societies*, NABARD, Bombay, 1983-84 onwards.

STATEMENT II. ADVANCES BY STATE COOPERATIVE BANKS

Year	Number of Societies	Membership	Loans and Advances	Loans Recovered during the year	Loans Outstanding	Loans Overdue	Percentage of Overdues to Outstandings
	(lakh)	(lakh)	(Rs. Crore)				(%)
1	2	3	4	5	6	7	8
1947-48	11	0.15	22	22	9	n.a.	-
1948-49	12	0.16	41	33	17	n.a.	-
1949-50	14	0.19	30	32	14	2	14.29
1950-51	15	0.21	42	38	18	2	11.11
1951-52	16	0.23	55	53	20	3	15.00
1952-53	17	0.26	40	41	20	3	15.00
1953-54	22	0.32	52	49	23	3	13.04
1954-55	24	0.36	50	49	24	4	16.67
1955-56	24	0.36	68	58	35	4	11.43
1956-57	23	0.33	123	110	50	4	8.00
1957-58	21	0.32	219	57	75	6	8.00
1958-59	22	0.32	101	74	101	6	5.94
1959-60	22	0.22	197	91	130	6	4.62
1960-61	21	0.22	258	122	167	7	4.19
1961-62	21	0.23	256	141	197	8	4.06
1962-63	21	0.16	295	148	214	8	3.74
1963-64	21	0.23	318	291	241	7	2.90
1964-65	22	0.21	402	357	283	7	2.47
1965-66	22	0.21	408	322	307	9	2.93
1966-67	25	0.21	451	262	325	17	5.23
1967-68	25	0.21	540	377	358	18	5.03
1968-69	25	0.21	667	423	459	23	5.01
1969-70	25	0.18	704	488	510	28	5.49
1970-71	26	0.19	749	383	534	36	6.74
1971-72	26	0.19	947	523	552	38	6.88
1972-73	26	0.20	1,135	675	635	42	5.95
1973-74	26	0.20	1,204	806	706	63	8.92
1974-75	26	0.19	1,382	843	920	44	4.78
1975-76	26	0.20	1,515	1,056	894	43	4.81
1976-77	26	0.23	1,898	1,138	1,088	58	5.33
1977-78	26	0.30	2,023	1,382	1,338	96	7.17
1978-79	27	0.36	2,283	1,531	1,420	127	8.94
1979-80	27	0.23	2,363	1,578	1,510	175	11.59
1980-81	27	0.25	2,870	1,844	1,836	162	8.82
1981-82	27	0.31	3,675	2,009	2,477	164	6.62
1982-83	28	0.30	4,144	2,588	2,909	180	6.19
1983-84	28	0.30	4,444	1,783	2,916	178	6.10
1984-85	28	0.31	4,417	2,137	3,150	244	7.75
1985-86	28	0.38	5,514	2,931	3,853	292	7.58
1986-87	28	0.40	7,278	2,660	4,066	366	9.00
1987-88	28	0.56	9,323	3,153	4,805	401	8.35

Sources: As in Statement I.

STATEMENT III. ADVANCES BY CENTRAL COOPERATIVE BANKS

Year	Number of Societies	Membership	Loans and Advances	Loans Recovered during the year	Loans Outstanding	Loans Overdue	Percentage of Overdues to Outstandings
	(lakh)	(lakh)	(Rs. Crore)				(%)
1	2	3	4	5	6	7	8
1947-48	469	1.67	63	61	22	n.a.	-
1948-49	484	1.83	93	86	29	n.a.	-
1949-50	498	1.90	75	76	29	3	10.34
1950-51	505	2.07	83	77	34	3	8.82
1951-52	509	2.31	106	102	36	5	13.88
1952-53	505	2.49	66	65	36	6	16.67
1953-54	499	2.48	65	62	38	7	18.42
1954-55	485	2.72	69	65	43	8	18.60
1955-56	478	2.99	80	68	54	8	14.81
1956-57	451	3.11	101	65	72	9	12.50
1957-58	418	3.23	160	79	101	12	11.88
1958-59	402	3.41	210	107	131	15	11.45
1959-60	400	3.69	297	147	176	24	13.64
1960-61	390	3.88	354	185	220	27	12.27
1961-62	387	3.99	384	208	259	41	15.83
1962-63	375	3.91	434	236	289	52	17.99
1963-64	372	3.65	529	267	340	54	15.88
1964-65	360	3.65	607	308	390	66	16.92
1965-66	346	3.61	545	322	438	87	19.86
1966-67	346	3.34	625	353	499	124	24.85
1967-68	344	3.54	727	377	549	136	24.77
1968-69	341	3.40	823	423	641	173	26.99
1969-70	340	3.12	855	497	740	215	29.05
1970-71	341	3.10	866	546	813	274	33.70
1971-72	341	3.04	1,020	638	889	319	35.88
1972-73	344	3.02	1,246	730	1,028	310	30.16
1973-74	341	3.06	1,249	759	1,163	376	32.33
1974-75	341	3.08	1,524	900	1,347	434	32.22
1975-76	344	2.98	1,722	1,066	1,428	460	32.21
1976-77	344	2.89	1,988	1,119	1,796	596	33.18
1977-78	338	2.86	2,116	1,316	2,115	754	35.65
1978-79	338	2.70	2,432	1,391	2,328	835	35.87
1979-80	337	2.76	2,695	1,341	2,617	969	37.03
1980-81	337	2.63	3,211	1,713	2,987	940	31.47
1981-82	337	2.75	4,167	2,022	3,733	1,110	29.73
1982-83	340	2.90	4,905	2,348	4,380	1,329	30.34
1983-84	349	2.84	5,110	2,294	4,707	1,567	33.29
1984-85	350	2.63	6,476	2,501	5,075	1,463	28.82
1985-86	352	2.68	7,233	2,788	5,444	1,696	31.15
1986-87	353	2.92	6,343	2,942	6,217	1,883	30.00
1987-88	351	2.82	8,515	3,486	7,915	2,044	25.82

Source: As in Statement I.

STATEMENT IV. ADVANCES BY PRIMARY LAND MORTGAGE/DEVELOPMENT BANKS

Year	Number of Banks (lakh)	Membership (lakh)	Loans and Advances	Loans Recovered during the year	Loans Outstanding	Loans Overdue	Percentage of Overdues to Outstandings (%)
1	2	3	4	5	6	7	8
1947-48	268	1.39	1	0.3	4	neg.	neg.
1948-49	272	1.51	1	0.4	4	0.4	10.00
1949-50	283	1.86	1	0.4	5	0.1	2.00
1950-51	286	2.15	1	0.5	6	0.1	1.67
1951-52	289	2.14	1	0.5	7	0.1	1.43
1952-53	288	2.45	1	0.5	8	0.1	1.25
1953-54	291	2.65	1	0.6	9	0.2	2.22
1954-55	292	2.91	1	1	9	0.2	2.22
1955-56	302	3.14	2	1	11	0.2	1.82
1956-57	326	3.34	2	1	12	0.3	2.50
1957-58	347	3.75	3	1	13	0.3	2.31
1958-59	363	4.40	3	1	15	0.4	2.67
1959-60	408	5.50	5	1	19	1	5.26
1960-61	463	6.69	7	2	25	1	4.00
1961-62	536	8.52	13	2	35	1	2.86
1962-63	571	10.51	19	3	51	1	1.96
1963-64	583	12.78	23	6	69	2	2.90
1964-65	643	14.93	31	7	93	2	2.15
1965-66	673	18.43	41	10	124	4	3.23
1966-67	707	21.57	41	11	155	6	3.87
1967-68	731	24.47	65	16	204	6	2.94
1968-69	740	28.42	104	22	286	7	2.45
1969-70	809	31.22	113	33	367	10	2.72
1970-71	865	35.37	104	38	448	18	4.02
1971-72	870	39.06	111	48	516	18	3.49
1972-73	855	38.28	102	45	447	18	4.03
1973-74	857	41.17	96	55	472	20	4.24
1974-75	872	44.19	111	55	518	25	4.83
1975-76	890	46.38	136	78	577	31	5.37
1976-77	892	51.52	191	84	667	52	7.80
1977-78	889	55.54	160	82	735	62	8.44
1978-79	890	56.06	170	103	796	91	11.43
1979-80	896	62.05	206	115	891	122	13.69
1980-81	858	65.66	234	159	986	130	13.18
1981-82	880	70.20	260	153	1,083	106	9.79
1982-83	885	75.57	264	141	1,212	141	11.63
1983-84	885	69.86	280	n.a.	1,262	176	13.95
1984-85	890	72.78	312	n.a.	1,247	141	11.31
1985-86	910	78.26	390	n.a.	1,326	152	11.46
1986-87	899	87.95	390	n.a.	1,461	196	13.41
1987-88	906	88.25	443	n.a.	1,494	231	15.46

Sources: As in Statement I.

STATEMENT V. ADVANCES BY CENTRAL LAND MORTGAGE/DEVELOPMENT BANKS

Year	Number of Banks	Membership	Loans and Advances	Loans Recovered during the year	Loans Outstanding	Loans Overdue	Percentage of Overdues to Outstandings
	(lakh)	(lakh)	(Rs. Crore)				(%)
1	2	3	4	5	6	7	8
1947-48	0.06	5	1	0.3	3	neg.	neg.
1948-49	0.07	5	1	0.3	4	0.01	0.25
1949-50	0.09	5	1	0.4	5	0.01	0.20
1950-51	0.10	5	1	0.5	6	0.01	0.17
1951-52	0.35	6	3	0.4	8	0.03	0.38
1952-53	0.37	7	2	1	9	0.31	3.44
1953-54	0.50	9	2	3	10	0.30	3.00
1954-55	0.66	9	2	1	12	1	8.33
1955-56	0.91	9	3	1	13	0.24	1.85
1956-57	1.17	12	4	2	15	1	6.66
1957-58	1.20	17	5	2	19	1	5.26
1958-59	1.40	15	6	2	23	1	4.35
1959-60	1.54	18	9	2	28	1	3.57
1960-61	1.86	17	12	3	36	1	2.78
1961-62	1.94	17	15	4	48	2	4.17
1962-63	2.34	19	25	5	68	2	2.94
1963-64	2.66	18	30	7	90	2	2.22
1964-65	3.09	18	37	10	118	2	1.69
1965-66	4.03	18	56	11	163	3	1.84
1966-67	4.67	19	59	16	207	5	2.42
1967-68	5.39	19	92	22	278	2	0.72
1968-69	6.58	19	144	27	395	4	1.01
1969-70	7.96	19	153	35	512	5	0.98
1970-71	9.12	19	168	38	638	11	1.72
1971-72	10.57	19	145	53	729	13	1.78
1972-73	18.41	19	171	49	849	41	4.83
1973-74	20.14	19	147	88	914	42	4.60
1974-75	20.89	19	184	89	993	55	5.54
1975-76	21.74	19	205	114	1,069	64	5.99
1976-77	27.18	19	249	199	1,211	94	7.76
1977-78	24.34	19	239	222	1,305	127	9.73
1978-79	25.59	19	249	277	1,392	166	11.93
1979-80	26.52	19	309	258	1,535	205	13.36
1980-81	27.71	19	363	339	1,697	243	14.32
1981-82	29.05	19	370	350	1,861	191	10.26
1982-83	30.59	19	427	369	2,049	229	11.18
1983-84	33.11	19	439	364	2,236	283	12.66
1984-85	33.11	19	461	358	2,386	268	11.23
1985-86	34.72	19	533	394	2,625	323	12.30
1986-87	n.a.	19	551	438	2,829	405	14.31
1987-88	39.14	18	1,024	488	3,084	495	16.05

Source : As in Statement I.

STATEMENT VI. SCHEDULED COMMERCIAL BANKS' DIRECT FINANCING TO AGRICULTURE

Last Friday of December	Number of Accounts (lakh)	Limits Sanctioned	Balance Outstanding
		(Rs. Crore)	
1	2	3	4
1969	5.56	171.00	116.06
1970	10.49	308.97	240.38
1971	12.32	593.76	395.46
1972	14.55	377.57	310.52
1973	19.50	499.72	422.60
1974	22.67	640.17	539.49
1975	30.96	834.21	724.88
1976	44.13	1,135.14	1,002.83
1977	52.26	1,431.28	1,260.25
1978	60.73	1,908.98	1,665.07
1979	76.03	2,568.42	2,204.58
1980	85.01	3,282.52	2,789.15
1981	99.10	4,147.96	3,586.70
1982	105.13	4,678.74	4,060.54
1983	120.67	5,604.20	4,902.82
1984	138.36	7,141.40	6,135.61
1985	154.12	8,786.66	7,611.99
1986	169.71	10,493.34	9,160.35

Source: *Report on Currency and Finance*, Reserve Bank of India, Bombay, various years.

PROSPECTS OF REPLACEMENT LEVEL FERTILITY IN INDIA

Mahinder Chaudhry

The paper traces the evolution of population policy in India and discusses the target formulations in the various five year plans. An analysis is made of the trends of the more important intermediate variables such as marriage, contraceptive use, induced abortion and postpartum infecundity. Based on this analysis and the regional variation in fertility trends, an evaluation is undertaken of the prospects of reaching the long-term population policy target of net reproductive rate of unity, at the state and national level. The paper concludes that the decline in the birth rate by the year 2001 will be much smaller than that projected by the Working Group on Population Policy of the Planning Commission.

INTRODUCTION

It is the declared policy of the Government of India to control the growth of population; it is based on the premise that there is negative relationship between the rate of economic development and population growth. In April 1952, a Population Policy Committee was appointed under the Chairmanship of the Minister of Planning, and the First Five Year Plan (1951-56) allocated Rupees 6.5 million to a programme for "family limitation and population control." In a World Bank study, India's population policy is described as the first national family planning programme in the world [World Bank, 1980, p.7]. Over the years, the national crude birth rate is estimated to have declined from 44.0 during 1951-61, to 37.2 during 1971-81, and further to 32.4 in 1986 (Table 2). In terms of absolute numbers, however, the national population increased from 361 million in 1951 to 817 million in 1988 [Population Reference Bureau, 1988].

The objective of this paper is to review the progress so far made and to evaluate the prospects of achieving replacement level fertility. Section I

traces the evolution of population policy in India and discusses target formulations in various five-year plans; section II presents an analytical framework of bio-sociological factors influencing fertility level; section III analyses trends in the most important 'intermediate' variables - proportions married, mean-age at marriage, widowhood and remarriages, contraceptive use and its impact, induced abortions, and postpartum infecundity, section IV investigates the regional variation (state and union territory level) in fertility level and its decline, and evaluates the prospects of reaching the long term population policy target of net reproductive rate (NRR) of one at the state and national level.

I. POPULATION POLICY EVOLUTION AND TARGETS

Prior to Independence in 1947 in India, there was no regular concerted effort, either at the official or at private levels, to control population growth, though there were some references to "over-population" here and there. The growth rate in the previous decades (-0.31 during 1911-21

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and an average of 12.8 per cent per decade during 1921-1951) did not seem abnormally high. However, in the early 1950s, the First Five Year Plan (1951-56) initiated the family planning programme with a very modest attempt to provide, through government hospitals and clinics, advice on family planning to those who sought such advice. The aim was "to achieve a reduction in the birth rate to the extent necessary to stabilize the population at a level consistent with the requirements of the national economy" [Planning Commission, 1953, p.280]. With a pronounced emphasis on the rhythm method of population control, a few family planning clinics and centres for the training of paramedical personnel were set up, mostly in the urban areas. A sum of Rupees 6.5 million was allocated in the Plan, but only one-fifth (actually Rupees 1.4 million) was spent by the end of the plan period in 1956. Contrary to the expectations of planners, not many people came to the clinics for consultation and advice.

Despite the disappointing progress, the Second Five Year Plan (1956-61) increased its financial allocation to Rupees 49.7 million. It expanded the number of family planning clinics, established family planning boards, and created facilities for voluntary sterilization. Although the number of total acceptors of family planning practices jumped fourteen-fold, the national percentage of eligible couples covered remained negligible. Again, less than half (44 per cent) of the allocated funds were spent by the end of the plan period in 1961.

During the decade of the 1950s, the approach to the problem had remained essentially clinical. In the Third Five Year Plan (1961-66), there was a shift from the clinical to the extension approach, by taking the programme to the people through an extensive network of primary health centres in rural areas and hospitals and family planning centres in urban areas. This marked the beginning of an active "information-education-communication" approach to create awareness of family planning methods and motivation for contraceptive practices. A significant progress was noticed. In terms of expenditure on the programme, nearly 92 per cent of the allocated funds of Rupees 270 million was actually spent. The number of family planning acceptors is recorded to have passed two million by 1966. In 1966, the Department of Family Planning was

created in the Ministry of Health. The family planning services were integrated with those of health, maternal and child care with the help of specially trained multi-purpose workers.

In the three year inter-plan period (1966-67 to 1968-69), a system of payment of incentives to acceptors of family planning practices (especially sterilization) was introduced by way of compensation for loss of wages and earnings and for out-of-pocket expenses. Monetary rewards were also paid to family planning workers and other officials and non-officials who procured cases for sterilization. These monetary rewards have been criticised as "bribes" to the poorer section of the society for accepting sterilization, and they have resulted in corrupt practices. A unit for the production of condoms named NIRODH, a Sanskrit word meaning prevention, was established in the public sector during this period.

Attaching the highest priority to the population problem, the Fourth Five Year Plan (1969-74) allocated a sum of Rupees 3,300 million to the family planning programme. It made its programme time-bound and target-oriented and adopted various additional measures. A cafeteria approach was introduced to make all possible methods of contraceptives available to the clientele. A postpartum programme was initiated in selected hospitals and clinics in the country. A large-scale programme described as social marketing was launched for the commercial distribution of NIRODH (condoms). The Medical Termination of Pregnancies Act, 1972 was passed making induced abortion available, free of charge, in selected hospitals and clinics recognized by the government for this purpose. During this period mass vasectomy camps for carrying out vasectomy operations were held in various States, such as Kerala and Gujarat. The mass vasectomy campaign approach helped to raise the total number of acceptors from 3.8 million in 1970-71 to 5.9 million in 1972-73, raising the percentage of eligible couples enjoying contraceptive protection from 11.6 to 15.8 per cent. Subsequently, the emphasis was shifted from mass-camps to mini-camps (20-25 cases) in order to ensure better follow-up care and greater satisfaction of the acceptors.

A drastic rise and fall in family planning acceptance was witnessed in the country during the Fifth Five Year Plan (1974-79). A National

Population Policy was announced in April 1976 "to mount a direct assault on the problem of population" [Ministry of Health and Family Planning, 1976]. It proposed an integrated package of health, family planning and nutrition; extended facilities for sterilization and the application of the Medical Termination of Pregnancies Act to rural areas; and provided for incentive schemes for individual acceptors and introduced group incentives. The legal minimum age of marriage was to be raised to 18 for girls and 21 for boys. To allay fears among States that they would suffer if their population did not keep pace with others, it was pronounced that the allocation of central resources to the States and representation in the central Parliament and State Legislatures would be decided according to the 1971 population size until the year 2001 A.D. The goal was to reduce the birth rate from 35 to 25 per thousand population over the ten years of the Fifth and the Sixth Five Year Plans. As for the highly controversial measure of compulsory sterilization, it was left to individual state governments to decide the issue. However, those States willing to pass the necessary legislation on compulsory sterilization were advised to introduce the limitation only after three children.

The policy statement's explicit reference to compulsory sterilization implied indirect support from the central government on the issue. Some selected States - Maharashtra, Punjab and Haryana - took preliminary steps to enact a law for this purpose; but it was not finally enacted, perhaps

inconsideration of the general social environment in the country. As for the immediate impact, the recorded increase in family planning acceptance was beyond the expectations of the planners: nearly five million sterilizations were performed in the seven-month period from April to October 1976, against a total of 22 million over the previous twenty years. Three States (Madhya Pradesh, Uttar Pradesh and West Bengal) noted an eighteen-fold increase in the number of sterilizations during the same eight-month period compared with the corresponding period a year earlier in 1975, and two States (Bihar and Rajasthan) recorded a nearly ten-fold increase over the same period. At the national level, the index of equivalent sterilizations (based on 1/3 the number of IUD insertions, 1/18 the number of conventional contraceptive users) jumped from 100 in 1974-75 to 528 in 1976 at the peak of the "national emergency", and fell to 76 the next year in 1977-78 when the national emergency was lifted and the new government was formed in April 1977. A gradual and slow improvement in the family planning practices is noticed in the following years when the same index reached a level of 141 in 1980-81 [Srikantan and Balasubramanian, 1983, p.209]. Various features of the national population policy have been examined in detail by other researchers [Mitra, 1977, Pp.297-306] [Rao, 1978, Pp.51-61] [Ghosh, 1978, Pp.37-50] [Srinivasan, 1982, Pp.158-188].

TABLE 1. TOTAL EXPENDITURE AND PERFORMANCE OF FAMILY WELFARE PROGRAMME, INDIA, DIFFERENT PLAN PERIODS, 1951-1990

Plan Period	Total Actual Expenditure (Rs Million)	Percentage of eligible couples protected (by the end of the plan period)
First Five Year Plan (1951-56)	1.4	n.a.
Second Five Year Plan (1956-61)	22.0	0.2
Third Five Year Plan (1961-66)	25.0	3.0
Annual Plans (1966-69)	705.0	8.7
Fourth Five Year Plan (1969-74)	2844.0	14.8
Fifth Five Year Plan (1974-78)	4090.0	22.5
Sixth Five Year Plan (1978-83)	2261.0	22.2
Sixth Five Year Plan (1980-85)	13,952.0	32.3
Seventh Five Year Plan (1985-90) Outlay	32,560.0(a)	n.a.

Note:(a) - represents funds allocated for 1985-90.

Source: 1. *Yearbook 1984-85*, Department of Family Welfare, Ministry of Health and Family Welfare, New Delhi, August, 1986, Pp. 4 and 6.

2. *The Seventh Five Year Plan 1985-90, Vol.I: Perspective, Objectives, Strategy, Macro-Dimensions and Resources*, Planning Commission, Government of India, New Delhi, October, 1985, Table 3.4(b), p.70.

The Sixth Five Year Plan (1980-85), emphasizing the voluntary nature of the programme, maintained the priority awarded to the family planning programme by allocating Rupees 10,780 million. Similarly, stressing the need for the promotion of "family planning on a voluntary basis as a people's movement," the Seventh Five Year Plan (1985-90) has tripled its allocation to Rupees 32,560 million [Planning Commission, 1985, Vol. I, p.70]. In financial terms, since the

inception of the programme in the early 1950s, Rupees 23.9 billion had been spent by 1984-85 [Department of Family Welfare, 1986, p.4], and an additional sum of Rupees 32.6 billion are allocated for the next five years. The public expenditure over the forty-year period, 1950-1990, will be of the order of Rupees 66.5 billion. (Table 1). Estimates of birth rates over the period are given in Table 2.

TABLE 2. ESTIMATED BIRTH RATES, ALL-INDIA: 1901-1986

Year/Decade	Rural	Annual Birth Rate/1000 Urban	Combined
I. Census Data:			
1901-11			49.2
1911-21			48.1
1921-31			46.4
1931-41			45.2
1941-51			39.9
1951-61			41.7
1961-71			41.9
1971-81			37.2
II. Sample Registration Scheme:			
1971	38.9	30.1	36.9
1972	38.4	30.5	36.6
1973	35.9	28.9	34.6@
1974	35.9	28.4	34.5@
1975	36.7	28.5	35.2
1976	35.8	28.4	34.4
1977	34.3	27.8	33.0
1978	34.7	27.8	33.3
1979	35.1	27.6	33.7
1980	35.1	27.8	33.7
1981	35.6	27.0	33.9
1982	35.5	27.6	33.8
1983	35.3	28.3	33.7
1984	35.3	29.4	33.9
1985	34.3	28.1	32.9
1986	34.1	27.8	32.4

Notes:@ - "Relaxed Supervision"; 1971 through 1978 SRS data excludes Bihar and West Bengal States.

Source: 1. *Yearbook 1984-85*, Table B.1, p.67 (Census data), Department of Family Welfare, Ministry of Health and Family Welfare, New Delhi, 1985. 2. *Sample Registration Bulletin*, Vol. XXI, No.2, Table 1, p.5, Registrar General of India, Ministry of Home Affairs, New Delhi, December, 1987.

As noted earlier, during the 1950s the population control efforts never gathered any national momentum. It was in the early 1960s that the Director of Family Planning announced a time-bound specific target "to reduce the birth rate in India to 25 births per 1,000 population by 1973" [Raina, 1964, Pp.1-5]. In view of a slower than expected decline in the birth rate during the 1960s, the Fourth Five Year Plan (1969-74) set

a revised target of a crude birth rate of 32 per 1,000 population by the end of the plan period in 1974-75. Once again, the planners were compelled to scale down their expectations of reduction in fertility levels, and the Fifth Five Year Plan (1974-79) specified its demographic goal of reducing the birth rate to 30 per 1,000 by 1978-79 (Table 3).

TABLE 3. DEMOGRAPHIC TARGETS SET OVER DIFFERENT PLAN PERIODS, INDIA, 1951-1990

Date and Agency	Present level		Target	
	Date	Birth Rate (BR)	Birth Rate (BR)	Date
1. 1950s; Planning Commission	1941-51	39.9	no specific target	
2. 1962; Dept. of Family Planning (B.L. Raina)	1961	41.7	25	by 1973
3. 1968; Annual Plans	1966	39.0	23	by 1978-79
4. 1969; Fourth FY Plan (1969-74)	1969	39.0	25	in 10-12 years (1979-81)
5. 1974; Fifth FY Plan (1974-79)	1974	35.0	30	by 1979
6. April, 1976: National Population Policy I	1976	35.0	25	by 1984
7. April, 1977: National Population Policy II	1977	35.0	30	by 1978-79
8. 1978; Sixth FY Plan (1978-83)	1978	35.0 (about)	25	by 1983-84
9. 1980; Sixth FY Plan (1980-85)	1978	33.0	30	by 1982-83
10. 1982; National Health Policy	1982	35.0 (around)	NRR = 1	by 1995
11. 1985; Seventh FY Plan (1985-90)	1984-85	32.6	31.0	by 1985
			27.0	by 1990
			21.0	by 2000
			29.1	by 1990

Notes: BR = Crude birth rate per 1,000 population.

NRR = Net reproductive rate (replacement of daughters by mothers).

Sources: 1. Planning Commission, Government of India, *First Five Year Plan 1951-56* (New Delhi, May, 1970), p.280.

2. B.L. Raina, "The Family Planning Programme in India", *Studies in Family Planning*, Vol. 1, No. 3 (April, 1964), p.1.

3. Planning Commission, Government of India, *Annual Plans 1968*, (New Delhi). Quoted in K. Srinivasan "Population Policy and Programme" in *Population of India*. Country Monograph Series No. 10 (New York: United Nations, 1982), p.162.

4. Planning Commission, Government of India, *The Fourth Five Year Plan, 1969-74* (New Delhi, 1969), p.391. 5. Planning Commission, Government of India, *The Fifth Five Year Plan, 1974-79* (New Delhi, March, 1974). 6. Minister of Health and Family Planning (Dr. Karan Singh), Government of India, "National Population Policy: A Statement of the Government of India", *Population and Development Review*, Vol. 2, No. 2 (June, 1976), Pp.309-312. 7. Quoted in K. Srinivasan; see source no. 3. 8. Planning Commission, Government of India, *Sixth Five Year Plan, 1978-83*, (New Delhi, March, 1978), p.235.

9. Planning Commission, Government of India, *Sixth Five Year Plan, 1980-85* (New Delhi, March, 1981), p.374. 10. Ministry of Health and Family Welfare, Government of India, *Statement on National Health Policy* (New Delhi, 1982), p.16.

11. Planning Commission, Government of India, *Seventh Five Year Plan, 1985-90, Vol. II: Sectoral Programmes of Development* (New Delhi, October, 1985), p.281.

The Working Group on Population Policy of the Planning Commission recommended in its *Interim Report* a long-term, very specific target: "Our goal of Net Reproductive Rate of 1 by 1996 for the country as a whole, on the average, will imply a birth rate of 21 by 1996 from 33 in 1978" [Planning Commission, 1979, p.16]. After further research and investigation, the Working Group in its *Final Report* concluded: "The Group strongly recommends that the nation commit itself to achieving the long-term goal of Net Reproductive Rate of unity by the year 1996, on an average, and by the year 2001 for all the States" [Planning Commission, 1980, p.18]. The Report further specified the target in terms of

replacement fertility of 2.3 children per couple, with a corresponding birth rate of 21 and a death rate of 9 per 1,000 by the year 1996. The recommendations of the Working Group were approved by the National Development Council (Prime Minister as Chairman and the State Chief Ministers as its members) and were incorporated as the long-term demographic goal by the Sixth Five Year Plan (1980-85). The operational aspects of the targets were specified in terms of eligible couples to be protected by contraceptive practices. In order to achieve an increase in the level of contraceptive use from 24.7 per cent in 1980-81 to 36.6 per cent in 1984-85, the Plan objective was to perform 22 million steriliza-

tions, 7.9 million IUD insertions, and to promote the use of other contraceptives [Planning Commission, 1981, p.374].

The Ministry of Health and Family Welfare in its recent *Statement on National Health Policy* revised its long-term goal of attaining replacement fertility, by five years from 1996 to the year 2000 A.D. [Ministry of Health and Family Welfare, 1982, p.16]. In terms of the birth rate, its goal is to reduce it from the present level of "around" 35 in 1982 to 31 by 1985, 27.0 by 1990 and 21 by the year 2000. However, the Planning Commission in its *Approach to Seventh Five Year Plan 1985-90*, accepted the short-term goal of a birth rate of 27 per 1,000 by the end of the Plan period in 1990 [Planning Commission, 1984, p.23]. Stressing the very slow progress in fertility decline during the 1980s, the final draft of the Seventh Five Year Plan 1985-90 has drastically revised its assessment of the long-term as well as the short-term (five years) targets by stating, "In the light of progress made in the initial years of the Sixth Five Year Plan, the health policy targeted a net reproductive rate of 1 by the year 2000 A.D.; a review, however, indicates that this goal would be reached only by the period 2006-2011" [Planning Commission, 1985, Vol. II, p.281]. The short-term targets are a birth rate of 29.1 per thousand by the year 1990 (Table 3).

The objective of a long-term population policy is to achieve "efficient" replacement level of fertility. As the Net Reproductive Rate (NRR) of unity can be realized by the diverse combinations of birth and death rates, no sanctity should be attached to the official recommended target of "birth rate of 21 and a death rate of 9 per 1,000 population" by the turn of the century. If the death rate falls well below 9 per 1,000 by the turn of the century, which is quite likely, the corresponding reduction in the crude birth rate required for realizing the NRR of unity is dictated by the very nature of the NRR. In order to simplify the target value for better appreciation by the wider audiences, the influence of the mortality function can be easily eliminated by setting the goal in terms of GRR. The concept of NRR was developed to measure very small increases in the stable population models; no

country, as far as is known, has ever set its population policy goal in terms of such a technical concept. However, it may be noted that the concept of NRR implies a greater concern with the over-all welfare of the society as the population policy goal links the fertility reduction with the improvement in the expectancy of life. In simple words, the replacement level fertility should always be interpreted in the light of the mortality conditions of a population.

The recent assessment of the prospects of reaching replacement level fertility (NRR=1) in India by the various international agencies differs significantly from that of the Planning Commission. The target year of attaining the NRR of unity by the Registrar General is the year 2001 [Registrar General, March 1984, p.5]; by the United Nations Population Division it is 2000-2005 [United Nations, 1985, p.394]; and by the World Bank it is 2010-2015 [Vu, December 1984, p.310]. Many researchers have pointed out the "over-ambitious" and "unrealistic" nature of the demographic target set from time to time by the Planning Commission [Cassen, 1978, p.141]; [Nortman, 1978, p.301]; [Chaudhary, June 1986, p.122; November 1986, p.2104; and 1987, p.45]. In contrast, Premi, evaluating the demographic situation in India, concluded; "India can anticipate a net reproduction rate of unity by the end of this century" [Premi, 1982, p.1].

II. ANALYTICAL FRAMEWORK

Demographically speaking, India with a national current birth rate of 32-33 per 1,000 population could be described in the "intermediate" stage of the demographic transition. India's population structure, like that of other developing countries, has a pronounced built-in tendency to continue to grow even after the national birth rate has reached the replacement level. This not-so-well appreciated aspect of the population growth process relates to the age composition having a large proportion of children and young adults: nearly two-fifths of the national population was recorded as under 14 years old in the recent Census of 1981. It has been estimated that, even if replacement level fertility were to have prevailed in India since 1985, the ultimate

stationary population (zero growth rate) would have been of the order of 1,349 million [World Bank, 1985, p.238]; in contrast, if the same replacement level fertility is attained twenty-five years later, in the year 2010 A.D., the ultimate stationary population will reach a level of 1,700 million, with birth and death rates of 12.4 and 12.1 respectively [World Bank, 1985, p.210].

Since fertility is a relatively dominant variable, in numerical terms, in influencing the future population growth, the behaviour of selected determinants is examined. While developing a socio-biological analytical framework for fertility transition, Davis and Blake proposed a comprehensive set of 11 intermediate variables divided into three groups: intercourse, conception and gestation. The authors argued that social, economic and cultural conditions, termed indirect determinants, affect fertility exclusively through the direct factors: Intercourse Variables; Conception Variables and Gestation Variables [Davis and Blake, 1956, Pp.211-235].

Bongaarts has formulated a quantifiable reproductive model by narrowing down the above set of 11 variables, first to eight variables [Bongaarts, 1978, Pp.105-132] and then to the following seven intermediate variables: 1. Proportion married among females; 2. Contraceptive use and effectiveness; 3. Prevalence of induced abortion; 4. Duration of postpartum infecundity; 5. Fecundity (or frequency of intercourse); 6. Spontaneous intrauterine mortality; 7. Prevalence of permanent sterility [Bongaarts, 1982, Pp.179-189].

In considering the statistical importance of these intermediate variables, and using a sample of 41 populations (23 developing countries, 3 developed countries, and 10 historical populations), Bongaarts estimates that the four variables - proportion married, level of contraceptive use, induced abortion and postpartum infecundity - "explain" 96 per cent of the variance in the observed total fertility rates (TFRs). Each of these variables may have a positive or negative influence on fertility. The sensitivity of the fertility level to variation in the different intermediate variables is determined by the stage in the fertility transition process. For example, in the early stages of demographic transition (when TFR is

over 6.0), the postpartum infecundity plays a significant role and contraception a minor role. In this stage, breastfeeding practices average about 13 months and the rate of contraceptive use is below 10 per cent. In contrast, in the last stage of demographic transition (when TFR is below 3.0) the roles of these two variables are reversed in importance as the average breastfeeding drops to less than three months and the rate of contraceptive use, on the average, jumps to around 70 per cent. India, with estimated TFR value of 4.8 in 1981, falls in the middle stage, where the fertility-inhibiting effect of the postpartum infecundity seems as important as that of the contraceptive use, as illustrated by the typical "synthetic" transition process outlined in Bongaarts' analysis. These complex and intricate relationships between intermediate variables and fertility levels have been observed to differ not only in magnitude but even in direction in different societies and at different levels of fertility in the same society. In the next section, the behaviour of these important intermediate variables in India in the recent past is reviewed and the future trends are traced.

III. VARIABLES AFFECTING FERTILITY BEHAVIOUR

In this section, we shall examine the following variables, which affect fertility level either positively or negatively in the Indian context: (1) mean age at marriage; (2) widow remarriage; (3) proportions married; (4) contraceptive use; (5) induced abortion; (6) postpartum infecundity (lactational duration; voluntary abstinence); (7) son preferences; (8) coital frequency; (9) biological factors: sterility (primary and secondary), intrauterine mortality, and menopause timing. The available evidence is reviewed to evaluate the extent of their demographic impact. The suggested trends form the basis of the projections made in the next section.

(1) *Mean Age-at-Marriage:* The later-age marriage pattern of females reduces population growth rates in two different ways: first, it shortens the period of reproductive life exposed to the possibility of pregnancy and second, it results in a relatively larger interval between

generations. Coale and Tye observe that "postponement of marriage can contribute substantially to reduction in birth rates and population growth even when completed size of family is not reduced, and that this contribution is potentially greatest in those countries which have the highest fertility and low average age of marriage". The authors have applied to India data of a hypothetical fertility age-shift based on the "later" pattern of child-bearing observed among the Singapore-Chinese women in 1956. The estimated population projections for India are influenced by a combined effect of (i) transitional loss in birth due to postponement of marriage or childbearing, and (ii) by any long-run decline in fertility caused by a shift to a "later" pattern of child-bearing. The authors estimated that the transitional effect in the first 10 years is similar to a fertility decline of 20 per cent occurring linearly in the same period (1956-66), and the long-run effect is an increase of 2.7 years in the mean length of generation, which is equivalent to 7.9 per cent lower fertility without any change in the age pattern fertility rates [Coale and Tye, 1961, Pp.631-646].

In India, every year, about 4.5 million marriages take place and about three million brides are in the age group of 15-19 years. Although many attempts have been made through social legislation to influence the teenage marriage patterns, meaningful changes in the observed mean-age at marriage for females and males have been noted only in the last two decades. The Sarda Act of 1930, amended in 1949 and again in 1956, raised the minimum age at marriage for females from 14 to 15 and then to 16 years. The recent Child Marriage Restraint Act, 1978 further raised the minimum age at marriage to 18 for females and 21 for males. Historically speaking, from 1891 to 1961, the estimated mean age at marriage (singulate mean-age calculated by Hajnal's method) increased very gradually from 12.8 to 15.5 years for females [Hajnal, 1953, Pp.111-136]. For males the increase was from 19.6 to 21.3 years [Agarwala, 1977, p.31]. During the decade of 1961-1971, the estimated mean age at marriage increased from 16.1 to 17.2 years for females, and from 21.4 to 22.2 years for the males [Goyal, 1975, Pp.337-344]. Further, the estimated mean

age at marriage for females increased from 17.8 in 1971 to 18.7 years in 1981, based on five per cent sample data [Registrar General, 1983, Pp.12-13]. A sizable portion of this change may be attributed to marriage status for females in the younger age groups of 15-19 and 20-24. During the last twenty years, 1961-81, the percentage of unmarried females in the 15-19 years age group increased from 30 per cent to 57 per cent, whereas in the latter group (20-24 years), the corresponding increase was of a much smaller order - from 8 to 16 per cent. As expected, there is a noticeable variation between the States: in the States of Punjab and Kerala, the proportion of unmarried in the youngest age group of 15-19 is (at 89 per cent), more than twice as high as in Rajasthan and Bihar (36 per cent).

As for the extent of direct and indirect influence of the rising age at marriage on the fertility level, the empirical findings vary somewhat. A recent national survey of fertility differentials revealed that "When the age at effective marriage is '21 years and over', there is marked reduction in fertility as seen from total marital fertility both in the rural and urban areas." It is estimated that the Total Marital Fertility Rate (TMFR) declines by 24.6 per cent (from 6.9 to 5.2) in the rural areas and by 23.4 per cent (from 6.4 to 4.9) in the urban areas when the effective median age at marriage rises from the 'below 18' group to the '21 and over' group. For the middle group of '18 to 20' years, the gains in fertility reduction are very modest in rural India (only 3 per cent), but in the urban areas the gains are significant, totalling 16 per cent [Registrar General, 1976, Table 32, Pp. 19-20]. In a more recent study, it is estimated that, due to changes in marital status composition alone, the birth rate declined by 14 per cent during 1961-1981 [Zachariah and Patel, 1984, p.4].

(2) *Widowhood and Remarriages*: The fertility level is directly influenced by the length of the period during which couples live in fertile union. This period of fertile union is affected by the rather high incidence of widowhood in India on account of religious and general social disapproval of widow remarriages. However, the incidence of divorces and separations is on the low side: fewer than one-half of one per cent of all females were classified in the category of

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(2) *Widowhood and Remarriages*: The fertility level is directly influenced by the length of the period during which couples live in fertile union. This period of fertile union is affected by the rather high incidence of widowhood in India on account of religious and general social disapproval of widow remarriages. However, the incidence of divorces and separations is on the low side: fewer than one-half of one per cent of all females were classified in the category of

"divorced or separated" in the 1981 Census, and for the relevant age group of females 20-44 years old the estimated rate did not approach one per cent.

The estimates of mean age at widowhood for females below the age of 45 years indicate a gradual increase during the last three decades, largely on account of improving expectancy of life at birth. During the last 30 years, between 1941-51 and 1971-81, the expectancy of life increased from 32.5 to 50.9 years for males, and from 31.7 to 50.0 years for females [Registrar General, 1984, Table 4.1, p. 23]. It is calculated that the mean age at widowhood increased from 28.8 years during 1931-41 to 34.8 years in 1961-71, and the corresponding mean duration of fertile union increased from 22.9 years during 1941-51 to 24.6 years during 1961-71 [Agarwala, 1977, p.42]. It may be noted that the length of the fertile union is determined by the mean age at entry, which may not be the mean age at the formal wedding ceremony. The age of "effective" marriage begins with the "Gauna or Vida" ceremony, as cohabitation does not always begin after the formal marriage ceremony, especially when the married couples are very young. The 1981 Census reported that, in the age group 10-14 years old, 6.6 per cent of females and 2.4 per cent of

males were married.

Although there is no religious or social ban on widow remarriages among the Muslims and Christians (11.2 per cent and 2.6 per cent, respectively, of national population in the 1981 Census), the Hindus (82.3 per cent) have always imposed restrictions. However, with the spread of "modernization" (education, urbanization and industrialization), the trend of remarriages is on the increase in the urban as well as in rural areas. Sample surveys conducted in the mid-1960s in villages in Northern and Western India indicated that more than two-thirds of all widows below the age of 30 years remarried [Agarwala, 1974, p.97]. According to the estimates made by Davis for pre-Independence India, the fertility rates would increase by 13.4 per cent for the Hindus and 7.0 per cent for the Muslims when the taboos on widow remarriage were completely eliminated [Davis, 1951, p.81].

(3) *Proportion Married*: During 1951-61, the percentage of the married females in the age group of 15-44 years increased by 2.81, but it declined by 1.85 points over the next decade. This declining trend accelerated during 1971-81 and is projected to continue further over the decade (Table 4).

TABLE 4. PERCENTAGE OF CURRENTLY MARRIED FEMALES BY AGE GROUP, INDIA, 1951-1991

Age-group	1951	1961	1966	1971	1976	1981a	1986	1991
10-14	17.3	19.2	15.0	11.6	8.7	6.6	5.1	3.7
15-19	75.0	69.6	62.2	55.4	49.2	43.5	38.7	35.8
20-24	91.9	91.8	90.5	88.8	86.8	84.4	81.7	79.6
25-29	90.7	94.2	94.7	94.9	94.8	94.3	93.5	92.2
30-34	87.3	91.4	93.0	94.0	94.7	94.8	94.5	93.6
35-39	82.9	87.0	89.5	91.4	92.6	93.2	93.1	92.4
40-44	73.9	77.7	81.3	84.2	86.4	87.8	88.5	88.6
45-49	64.3	69.7	73.9	78.1	80.5	82.9	84.5	86.0
15-44	82.9	85.8	85.0	83.9	82.4	80.5	78.4	76.3

Note: a - Excludes Assam State.

Sources: 1961, 1971 and 1981: Census data; 1966 and 1976: straight line interpolation; 1986 and 1991: projections based on the Cohort Method (10 year age-groups) by the Registrar General of India, New Delhi, 1985, (Mimeographed).

These apparently favourable changes may not appear so favourable if the changing pattern of proportion married is examined by five-year age groups. The changes in the prime child-bearing age group of 25-34 years seem the most relevant. In contrast to the decline in the age group of 15-44, the proportion of married females in the age group

of 25-34 has actually increased by 6.1 per cent over the last three decades, 1951-81. However, over the next two decades, this proportion is projected to decline, though marginally, from 94.55 to 93.00 in 1991, and to 90.25 in the year 2001. On balance, there may not be any net affect, as the rate of married couples in India remained

almost unchanged between 1971 and 1981, being 170 and 169 per thousand population, respectively. In a recent World Bank study, it is estimated that the net effect of the changes in the proportions married as a relative share of total decline in the estimated value of the TFR during 1961-81 is negative 10.4 per cent. Based on the age-specific marital fertility rates of the 1972 Survey, the decrease in the proportion of females married in the younger age-groups, 15-19 years and 20-24 years, should result in a decrease of 5.2 per cent (or 0.341 points in the value of the 1961 TFR of 6.5 points); on the compensating side, namely the increases in the proportion married at the older ages (30-34 and 35-39 years), "which is a reflection of the increase in the age at marriage dissolution, especially through widowhood," the value of the TFR should increase by 2.6 per cent (or 0.166 points) during the same period [Zachariah and Patel, 1984, Pp.14-16].

(4) *Contraceptive Use*: With the investment of

over Rupees 21 billion during the last ten years (1974-75 to 1984-85) in the family planning programme, an impressive and extensive infrastructure has been set up. As of April, 1985, there were 82,946 subcentres; 7,284 primary health centres; 3,745 subsidiary health centres; and 655 upgraded primary health centres; with specially trained staff of: 1,715 District level medical officers; 771 Key Trainers; 17,370 Medical Officers for primary health centres; 5,806 Block Extension Educators; 26,956 male and 13,931 female Health Assistants; 89,851 male and 65,035 female Health Workers. With the additional allocation of Rupees 32.6 billion in the Seventh Five Year Plan (1985-1990), a further expanded infrastructure should be able to reach, by the end of the plan period, remote areas in the vast land of over 557,000 villages (excluding Assam State) where 76.23 per cent population lived in 1981.

TABLE 5. TOTAL AND MARRIED FEMALES, 15-44 YEARS OLD, PERCENTAGE OF ELIGIBLE COUPLES PROTECTED BY FAMILY PLANNING PROGRAMME AND CUMULATIVE BIRTHS AVERTED, INDIA, 1961 TO 1984-85 AND PROJECTIONS 1986-2001

Year	Total Females (15-44) (million)	Married Females (15-44) (million)	Percentage of Married Females	Percentage of Couples Effectively Protected	Cumulative Births Averted (million)
1961	92.8	79.5	85.67	-	0.070
1970-71	-	-	-	10.6	6.823
1971	113.4	95.2	83.95	-	-
1980-81	-	-	-	22.7	49.190
1981	143.8	115.8	80.53	-	-
1984-85	-	-	-	32.3	68.246
1986	164.4a	129.2b	78.59	-	-
1991	187.6a	144.5b	77.03	-	-
2001	230.5a	169.7b	73.62	-	-

Notes: a - Projection (Medium variant); b - Extrapolation

Sources: 1. *Year Book 1984-85*, Tables E.1 and E.3, Pp.187-88, and 192, Department of Health and Family Welfare, Government of India, New Delhi, August, 1986. 2. *Population Projection for India 1981-2001*, Statement 7, p.8, Registrar General and Census Commissioner of India, New Delhi, March, 1984.

The impact of the programme may be reviewed in various ways. Of course the end product, namely, the number of total births averted, seems most meaningful. It is estimated that the cumulative total of sterilizations performed since the inception of the programme in 1956 upto 1984-85 exceeds 48.8 million (23.6 million vasectomies and 25.3 million tubectomies) and the cumulative total of births averted exceeds 68.2 million (Table 5). The index of "Equivalent" sterilizations has jumped from its base of 100 in 1974-75 to 339 in

1984-85, moving from an initial level of 6.4 in 1961 (Table 6). In 1984-85, over 45.1 million couples were estimated to be protected, compared to 10.9 million in 1970-71 [Department of Family Welfare, 1986, Table E.1, p.188].

In spite of these several indications of substantial increase in the contraceptive use between 1977-78 and 1984-85 (43.5 per cent increase in the proportion of effectively protected eligible couples), the birth rate decline in India is experiencing almost a "stall" since 1977 (Table 2).

Various plausible explanations may be offered. In the first place, the age-sex composition of the population is becoming unfavourable and this trend is expected to continue during the next two decades. Secondly, as mentioned earlier, the family planning program suffered a setback in 1977. Thirdly, the forces which have traditionally kept the over-all birth rate in India relatively "low" in earlier decades (for example, breast-feeding practices, and other cultural traits and taboos on postpartum intercourse) are, perhaps, reversing their role and are contributing to an increase in the birth rate.

TABLE 6. FAMILY PLANNING ACCEPTORS BY METHODS, ALL-INDIA, 1956 TO 1984-85
(SELECTED YEARS; FIGURES IN '000)

Year	Sterilization	IUD Insertions	Equivalent C.C. & Oral Pill Users	Total Acceptors	Equivalent Sterilization @ Numbers	Index (1974-75=100)
1956	7	-	-	7	7	0.4
1961	105	-	-	105	105	6.4
1966(March)	671	813	582	2,066	974	59.5
1970-71	1,330	476	1,963	3,769	1,598	97.6
1971-72	3,187	488	2,354	5,029	2,481	151.5
1972-73	3,122	355	2,398	5,875	3,373	205.9
1973-74	942	372	3,010	4,324	1,233	73.5
1974-75	1,354	433	2,521	4,308	1,638	100.0
1975-76	2,669	607	3,528	6,804	3,068	187.3
1976-77	8,261	581	3,692	12,534	8,663	528.9
1977-78	949	326	3,253	4,528	1,242	75.8
1978-79	1,484	552	3,469	5,505	1,865	113.9
1979-80	1,778	635	3,069	5,482	2,165	132.2
1980-81	2,053	628	3,809	6,490	2,479	151.3
1981-82	2,792	751	4,559	8,102	3,302	201.6
1982-83	3,983	1,097	5,948	11,028	4,689	286.3
1983-84	4,523	2,134	8,390	15,056	5,750	351.0
1984-85	4,082	2,562	9,812	16,456	5,553	339.0

Notes: @: Based on the following weights: sterilization = 1; IUD insertions = 1/3; equivalent = conventional contraceptive users ['NIRODH' (condom) is used by 90%] = 1/18; equivalent oral pill user = 1/9.

Source: *Year Book 1984-85*, Table D.1, p.139, Department of Family Welfare, Ministry of Health and Family Welfare, New Delhi, August, 1986.

TABLE 7. PERCENTAGE DISTRIBUTION OF POPULATION BY SEX AND AGE-GROUPS,
INDIA: SELECTED CENSUS AND MID-CENSUS YEARS, 1961-1991

Age-groups	1961	1966	1971	1976	1981	1986	1991
Persons							
0-19	49.20	49.94	50.69	50.27	49.84	48.70	46.36
20-44	34.87	33.97	33.08	33.15	33.21	33.96	35.65
45+	15.93	16.09	16.23	16.58	16.95	17.34	17.99
All-ages	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Males							
0-19	49.14	49.95	50.74	50.31	49.84	48.66	46.22
20-44	34.67	33.60	32.53	32.75	32.97	33.90	35.85
45+	16.19	16.45	16.73	16.94	17.19	17.44	17.93
All-ages	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Females							
0-19	49.26	49.94	50.62	50.23	49.84	48.74	46.51
20-44	35.08	34.33	33.60	33.52	33.46	34.02	35.44
45+	15.66	15.73	15.78	16.25	16.70	17.24	18.05
All-ages	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Sources: 1961, 1971 and 1981: Census data; 1966 and 1976: linear interpolation
1986 and 1991: *Report of the Expert Committee on Population Projections*, Table 1.3, Pp.50-51, "Medium Series", Demography Division, Registrar General of India, New Delhi, 1986.

The proportion of women in the reproductive group of 20-44 years declined by 4.22 per cent between 1961 and 1971, but this trend almost disappeared during 1971-81. And during the current decade of 1981-1991 this proportion of the reproductive age-group is projected to increase by 5.92 per cent (Table 7). This significant change in the age-composition is a reflection of a rapid decline in the mortality level in the postwar period, when the death rate is estimated to have declined from 27.4 during 1941-51 to 11.9 in 1983. Similarly, the sex-ratio (number of females per 1,000 males) which declined from 941 in 1961 to 930 in 1971, registered a reversal in the 1981 Census count, with a value of 935. Historically speaking, the estimated sex ratio has consistently declined from 972 in 1901 to a low of 946 in 1951.

Analyzing the impact of changes in age sex composition and marital status, Rao noted that "the net balance of these effects, which has till recently been favourable, is turning unfavourable and is expected to worsen over the next two decades, with the result that even if the age-specific marital fertility rates remain unchanged, the crude birth rate based on the age-specific marital fertility rates of the fifties and the changing age-cum-marital structure would increase from 40.17 in 1977-78 to 41.37 by 1982-83, that is by 1.2 over the five years" [Rao, 1978, p.59].

In a recent World Bank study of the demographic dynamics in India, it is estimated that the birth rate declined by 10 points over a twenty-year period from 1961 to 1981, from 44 to 34 per 1,000 population. Because of favourable trend in the age-sex composition during the decade of 1961-71, a 54 per cent share of the observed decline in the birth rate is attributed to favourable demographic changes during this decade. But during the next decade of 1971-81, since the demographic changes were unfavourable, 19 per cent (in the reverse direction) of the observed change in the birth rate was attributed to this age-sex composition change. The authors concluded that, "if the age-sex composition had remained unchanged, the decline in the birth rate would have been higher by 19 per cent during 1971-81...the full effect of the decline in fertility

rate is not translated into birth rate in this period" [Zachariah and Patel, 1984, p.xiii].

The second major element in the observed "stall" in the decline in the birth rate is the dramatic drop in the contraceptive rate in the country in 1977-78, when the tone of the programme was changed from "sort of compulsory under Emergency" to a completely voluntary programme. As noted above, the index of "Equivalent sterilizations" dropped from its peak of 529 in 1976-77 (with a base of 100 in 1974-75) to a low of 76 in 1977-78. It was only in 1981-82 that the index gained its previous level of a decade earlier in 1972-73. However, in recent years the programme has picked up its momentum and the index reached a level of 339 in 1984-85 (Table 6). A distinct feature observed in recent years is a significant increase in favour of spacing methods. The use of "NIRODH" is becoming more and more popular; during 1984-85 over 618 million pieces were supplied. The commercial distribution exceeded 200 million pieces in 1984-85. It may be added that "NIRODH" is distributed under three schemes: (i) free distribution scheme; (ii) Depot Holders Scheme for distribution through Village Health Guides/Multipurpose Workers: a pack of 6 pieces is sold at Rupees 0.50 per pack and the entire sale proceeds are retained by the Depot Holder; (iii) Commercial Distribution Scheme: "Nirodh" is marketed through twelve leading consumer marketing corporations (having more than 400,000 retail outlets), such as Hindustan Lever, Brooke Bond, Lipton Tea, and Tata Oils at a highly subsidized retail price of Rupees 0.25 for a wallet of three pieces. The lubricated variety is sold at Rupee one for five pieces under the brand name of "Delux NIRODH" and is reported to be popular in the international export market. The production capacity of the leading manufacturing unit was doubled recently in view of growing demand. In terms of numbers, the conventional contraceptive users are increasing at the rate of 11.3 per cent.

Oral contraceptives were introduced on a pilot project basis in 1967 and on a regular basis in 1974 at all the urban centres. During 1984-85, 16.8 million cycles of oral pills were distributed in the country, which translates to 1.3 million equivalent users of oral pills as against 0.7 million

during 1983-84; it works out to a 77 per cent increase over the previous year.

(5) *Induced Abortion: Law, Level and Trend:* It is believed that all societies have known of some ways and methods to control family size, including abortion and the use of germicides. The ancient Greeks are said to have known these methods, and the story of "green stick abortion" is not merely a gossip among "dais" (mid-wives) in the Indian countryside. The Indian Penal Code, Act XLV of 1860, made abortion punishable for both the expectant mother and the abortionist. The punishment included imprisonment up to seven years plus a fine. The law permitted abortions "performed in good faith" on extremely narrow grounds to avert a serious medical threat to the life of the pregnant mother. Given the restrictive nature of the law, the accurate number of unofficial, illegal abortions in the country is simply not known. An official investigative committee (Shantilal Shah Committee) was appointed by the Government in the mid-1960s to study the problem and make necessary suggestions for amending the law. Noting "Some guesses can be made on the magnitude of the problem, it is assumed that for every 73 live births, 25 abortions take place of which 15 are induced," the Committee estimated the number of illegal abortions to be around 3.9 million a year [Sarker, 1982, p.355]. In its "Survey of World Needs in Family Planning", the International Planned Parenthood Federation estimated, though roughly, 6.4 million illegal abortions (based on undisclosed source of 272 abortions per 1,000 live births) in India in 1970 [International Planned Parenthood Federation, 1974, p.98]. Another study for a later period placed the magnitude of illegal abortions in India in the range of four or six million [Soni, 1983, p.44]. Based on a rural sample of 1,765 pregnancies in the Ludhiana District of Punjab State, it is reported that over 10 per cent terminated in abortion, no details being given of spontaneous or induced abortions. However, the authors pointed out that "although some women of the Khanna area (study villages) induced abortion, the practice was not approved by the community" [Wyon and Gordon, 1971, p.160]. A sample survey (2,940 currently married

couples) of three districts in Tamil Nadu (Kanyakumari, Madurai and Dharamapuri) found that only seven per cent had undergone induced abortions. The abortion ratio is estimated to be 9.1 per 100 live births. The authors noted that "the present ratio appears higher than that obtained by Tietze (1983) for the same reference period (0.9 per 100 live births) for India" [Nair and Kurup, 1982, p.34]. Alarmed by the number of illegal abortions in the country, though based on a very crude estimate, the Government of India enacted the Medical Termination of Pregnancy Act of 1971. The "Objectives and Reasons" of the legislation stated that it was a measure to emancipate the women, as it would reduce maternal and infant deaths. This Act legalized abortions carried out by recognized medical practitioners on medical grounds and contraceptive failure. It was made clear that the legislation is not designed as an instrument of population policy, as perhaps was the case in Japan where an amendment to the Eugenic Protection Law liberalized induced abortion in 1984. It is estimated that, in Japan, within a very short span of ten years, the annual growth rate declined from 2.16 in 1948 to 1.06 in 1958 on account of 1.7 million abortions in one year, 1955, alone. In total contrast, the declared objective of the legislation in India was to raise the status of women and protect the health of mothers.

Although the inclusion among the allowable grounds of "failure of a contraceptive" makes abortion more or less available on demand, the actual impact on the decline in the fertility level seems minimal. Out of a total of 23.8 million births in 1983-84, only 519 thousand (or 2.2 per cent) of pregnancies are reported to have been terminated on medical and health grounds, including contraceptive failure [Department of Family Welfare, 1984-85, p.148]. It seems likely that this recorded number of abortions represents transfers from the otherwise illegal cases who now take advantage of the expanding hospital facilities in the urban and semi-urban centres. Although a gradual increase is reported in the total number of medically terminated pregnancies over the last nine years, from 279 thousand in 1976-77 to 573 thousand in 1984-85, the role of induced abortions in the future decline of the fertility level

in the country is likely to remain smaller than that of the other variables discussed.

(6) *Postpartum Infecundity*: Fecundity is defined as the capacity to reproduce, and fertility, on the other hand, measures actual reproductive performance. Postpartum (after child birth) infecundity is attributed to (i) lactational duration and intensity of breast feeding, and (ii) post-natal sexual abstinence practices.

(i) *Lactational Duration*: Breast feeding delays menstruation, inhibits ovulation, and therefore reduces the likelihood of conception during the extended period of amenorrhea which follows child-birth. In general, the longer a woman breast feeds, the longer she will remain infecund. In recent years the impact of breast feeding on contraception, and consequently on birth intervals, has received increased attention in fertility research related to developing countries [United Nations, 1985] [Smith, 1985] [Short, 1984]. In developing countries, with high birth rates, breast feeding still serves as a major mechanism for fertility control. Although it accounts for a substantial amount of child spacing, it is not a very reliable method of family planning for individual women. It is reported that after six months of child-birth, about 20 to 50 per cent of breast feeding women menstruate and need contraception just as much as if they were not breast feeding. A quantitative estimation of the fertility-reducing effect of lactational infecundity is obtained by comparing average birth-interval lengths in the presence and absence of lactation.

An increasing amount of evidence shows that the incidence and duration of breast feeding are declining in many developing countries. In addition to resulting in higher fertility rates, this trend adversely affects infant and maternal health. The world Fertility Survey findings show that the percentage of children breast-fed initially is very high (85-95%) and mean duration of breast feeding is also generally high: for South-Asian countries it ranges from 20 months (Pakistan, 1975 data) to 31 months (Bangladesh, 1975-76 data). Therefore, any attempt to gain a proper perspective of the importance of various intermediate determinants in the process of demographic transition in India cannot ignore the analysis of changing lactational patterns.

Some of the decline in the duration of breast feeding is due to the process of modernization, and some is due to other factors which reveal that there is insufficient appreciation of the importance of breast feeding for the child's health. The vigorous commercial promotion of milk formulae and supplemental foods for infants by many multinational and national corporations in developing countries is well known. In addition, there seems to be a general lack of strong medical support for breast feeding in developing as well as developed nations. Based on a rural sample in West Bengal State, a study conducted at the All-India Institute of Hygiene and Public Health, Calcutta, estimated that the duration of lactation is 28 months and that of amenorrhea is 18 months [Rao and Mathen, 1970, p.88]. Similarly, in a rural sample in the Ludhiana District of the Punjab state, "Breast feeding evidently suppressed menstruation for a median of ten months past the time otherwise expected" [Wyon and Gordon, 1971, p.158]. Emphasizing the importance of breast feeding patterns and age at marriage as contributing factors in the observed fertility decline in India during 1972-78, Bulatao estimated that the reduced breast feeding cut by half the impact of the increased use of contraception [Bulatao, 1984, p.38]. The estimated decline in the value of TFR of 0.50 during 1972-78 is attributed to an increase in the rate of contraceptive use (114 per cent); to the rising age at marriage (41 per cent); to all other factors including abortions (3 per cent); and to changes in the breast feeding practices (negative 58 per cent). Similarly, an investigation for the Philippines in the early 1970s indicated that the number of births would have been 20 to 25 per cent higher if women had not breastfed their infants, and further claimed that this contraceptive impact was comparable to that achieved by the national family planning programme [Buchanan, 1975, p.J50]. For Bangladesh it is estimated that if the current mean duration of amenorrhea on account of reduced breast feeding fell from 19 months to 10 months, the required level of contraceptive use to maintain the current fertility level would jump from 9 to 32 per cent.

(ii) *Postpartum Abstinence*: The taboo on postpartum intercourse is believed to have been,

at one time, virtually universal in traditional societies and it was also a means of child spacing as well as of protecting the health of the child and the mother. It was enforced by a variety of measures, including religious invocation, physical separation of the spouses and by a sort of subtle public ridicule. As expected, with the process of modernization the postpartum taboos are being gradually eroded. Discussing the cultural patterns in relation to family planning in India, Chandrasekaran noted that "When, as in India, the wife customarily goes to her parents' home to bear each of her first two or three children and stays there for a few months after the confinement, the taboo is enforced with ease. Thus the fact that 80 per cent of Indian villagers in one study reported postpartum abstinence of six months or more indicates a significant loss of fertility in relation to Family Planning in India" [Chandrasekaran, 1952, p.7].

(7) *Son Preference*: Preference for a male child, particularly in rural India, is deeply entrenched in the religious, cultural, social, and economic roots. For example, according to the Hindu traditions, the son performs the *Sradha* rites upon the death of the father, and thereafter yearly, which saves the father from going to hell; in the absence of a son, the daughter may not perform the rites of this ceremony, but a daughter's son may do so. In a patrilineal society, sons are highly desired for carrying on the family's name and transmission of property, particularly landed property; as providers of emotional comfort and economic security in the parents' old age; and as the chief source of reliable labour in farming and other family-based occupations. In an all-India 1970 survey of 25,000 couples with wives in the reproductive age groups, 15-44 years, 86 per cent of wives and 91 per cent of husbands replied "yes" to the question: "Do you believe one must have a son?" [Sarma and Jain, 1974, p.83]. In the age group of 30-39 years, the women surveyed indicated a mean of 2.4 sons (living plus additional desired number of sons). The observed mean value declines with the level of mother's education, 2.2 for the secondary level, and 1.5 for the college level. However, the authors note that "There are indirect evidences to suggest that not only sons are desired but a fair representation of

daughters too is desired... Among those who consider an even number of children as ideal, a majority of them want to have an equal number of children of both sexes, relative preference for sons here is nominal". In order to evaluate the effect of the number of sons already born on the pattern of family growth, the authors further examined the relationship between parity progression ratios or the conditional probability of having another child and the sex composition of the children. It is concluded that, "With one exception, those who have all sons or all daughters are equally likely to have another child indicating that both groups equally want to have a child of another sex... These results indicate that couples in India prefer to have children of both sexes" [Sarma and Jain, 1974, Pp.86-89]. In other words, the survey results do not support clearly the hypothesis that the number of sons already born has any significant impact on the family size of India.

Repetto tested an hypothesis that in developing countries with strong son preference, limitation of family size is constrained by the strong desire to ensure the survival of one or more sons. The question studied was whether the desire for a minimum number of sons directly affects fertility behaviour. The analysis is based on fairly large-size sample surveys: two in northern India (rural Delhi, sample size 1,800, surveyed during 1958-61, and a survey of three villages in Uttar Pradesh during 1961-63 with a sample size of 500); one in Lucknow city surveyed in 1968 with a completed sample of 1,423; one in rural and urban Bangladesh surveyed during 1961-62 with a sample of 2,500 couples; and one in Morocco surveyed during 1966-67. The author concluded: "The evidence presented in this paper provides no support whatever for the idea that in countries with strong son preference, the limitation of fertility is constrained by the strong desire to ensure the survival of one or more sons" [Repetto, 1972, Pp.70-76]. Further, it is noted that families with a high proportion of daughters tend, other things being equal, to have smaller families, and families with a high proportion of sons, again other things being equal, tend to have higher fertility. Faulting Repetto's conclusion on the grounds that these

sampled societies, by and large, were non-contracepting populations in the 1950s and early 1960s, Jain observed that "His study does not disprove the hypotheses that preference for sons is a factor in inhibiting the practice of contraception" [Jain, 1975, p.157].

In an earlier study based on the 1951-61 intercensal data, centered on 1956, and the survey findings of *The Khanna Study* in the Punjab state, May and Heer designed a computer simulation model to study the impact on desired family size of survivorship of sons. The authors concluded that, "If every pair of parents were to practice perfectly effective family planning when son survivorship has been assured, the maximum reduction in the model intrinsic rate of increase of India is 24 per cent" [May and Heer, 1968, Pp.199-210]. It is estimated that the average number of children born is reduced from 7.0 to 5.1, a reduction of 27 per cent, under the following conditions; (i) couples made use of perfect means of birth control; (ii) parents are assumed to bear children until they can be 95 per cent certain that they will have at least one son surviving to the father's 65th birthday; (iii) all women are biologically capable of having the same number of children; and (iv) the control and experimental runs of the simulation model are made with 'married, never-widowed, female, stable population.' One commentator described these assumptions as "stringent and unrealistic" [Jain, 1975, p.157]. For the contemporary demographic scene in India (where over the last three decades fertility levels have declined) the assumption made in the model does indeed seem unrealistic: the estimated value of the TFR of 7.00 in 1950-55 has fallen to 4.5 in 1980-85; the expectancy of life at birth has advanced from 38.7 years in 1950-55 to 54.5 years in 1980-85; and the percentage of eligible couples effectively protected by various methods of family planning has jumped from 4.1 per cent in 1966-67 to 32.3 per cent during 1984-85.

The general computer-simulation model [Heer and Smith, 1968, Pp.104-121], which provided the framework for the above results with Indian data, was further revised to ascertain the sensitivity of the model to a more realistic set of assumptions concerning biological fecundity;

and to compare the models assuming that parents want to be highly certain (95 per cent) of at least one surviving son with models which assume that parents want to be highly certain of at least two surviving children, regardless of their sex. The authors concluded that "At high levels of mortality, the rates of natural increase are quite similar. When mortality is at intermediate to medium-low levels, the two-surviving-children model shows a lower rate of natural increase than the surviving-son model" [Heer and Smith, 1969, Pp.141-149]. In view of the fact that the prevailing mortality rate in India is in the range of the intermediate level (crude death rate of 12 per 1,000 population and the life expectancy at birth of 55 years in 1987), the rate of natural increase in population should experience a further rise, no matter how small, if these computer simulation findings hold true for the future trends.

Analyzing the causes of the transition from natural (absence of deliberate parity related efforts to limit births) to controlled fertility in India by comparing couples who have ever used contraception with those who have remained under natural fertility conditions, Jejeebhoy has examined the extent to which the proportion of sons that a couple already has influences its fertility regulation behaviour. The data base is the 1970 all-India family planning survey conducted by the Operations Research Group, Baroda and commissioned by the Ministry of Health, with a sample size of 27,000 couples with wives of reproductive ages. The inquiry focuses on the experience of one cohort, the oldest women, aged 35-44 years, who are considered to be at the end of their reproductive period. It is found that, in India in 1970, a large majority (76 per cent) of married women in this age group were under natural fertility conditions, ranging from a high of 88 per cent in Uttar Pradesh to a low of 60 per cent in Punjab. The author concludes: "It appears then that neither a lower desired family size nor a higher proportion of surviving sons has played a significant role in the shift from natural to controlled fertility among both early transitional (Uttar Pradesh, Madhya Pradesh, Rajasthan, etc.,) and more advanced (Maharashtra, Tamil Nadu, Kerala, etc.,) states, except Punjab" [Jejeebhoy, 1984, Pp.191-198].

A recent study claims that if there were no son preference at all, then the rate of contraceptive use, on the average, would increase by fewer than 3.7 percentage points. This conclusion is based on an examination of relevant demographic data on the sex composition of children from a wide variety of 27 developed and developing economies. It is argued that sex preference does not have as much influence on a nation's fertility levels as had previously been thought. By sheer biological chance, most couples achieve their minimum desired number of sons and daughters early in the child-bearing years. Therefore, only a small proportion of couples find themselves faced with a decision to have another child just because they have not yet had a male child. In the case of India, it is estimated that, if couples did not care about the sex of their children: (i) the number of women practicing contraception would increase by 3.7 percentage points; (ii) the number of women who would want to stop childbearing at their present number of children would increase by 8.9 per cent; and (iii) the average mother would want 0.2 less additional children [Arnold, 1987, p.1].

The above discussion of various findings of the effect of son preference on the fertility level suggests that the analysis based on the 1950s data revealed a significant potential of reducing annual population growth rate. In contrast, the investigations based on the more recent data of the 1970s underlined the insignificant effect on the fertility level. If we accept Arnold's latest estimates that the complete absence of son-preference would result in the reduction of 0.2 children on the average per woman, then the estimated decline in the current fertility level would be about 4.5 per cent. If the process of complete elimination of son-preference in India takes another 20-25 years, then the expected decline in the birth rate in any given one year is very marginal indeed. This view is further supported by the findings of a survey conducted in the rural areas of south Gujarat State and the urban areas of Baroda city during 1979-80. The sample was 2,922 rural and 3,220 urban women in the age group 15-49 years old who were living with their husbands at the time of the interview and who had previously had at least two live births. The study shows that the sex of previous children at various parities has a

significant effect on the subsequent fertility, and the son preference has a noticeable effect because the average family size has decreased and the contraceptive use has increased. While evaluating the impact of sex preference on the fertility of couples who have completed their fertility, the author concludes that "the results indicate that the reduction would not be more than 13 per cent in the absence of sex preference" [Das, 1987, p.528]. Thus complete elimination of son preference in India, not a likely event in the near future, would modestly reduce the overall fertility level at the national level during the next decade or so.

(8) *Coital Frequency*: The required statistical information about coital frequency across societies is extremely limited and unreliable. Therefore, any demographic effects are difficult to verify. However, from the available general information three broad statements are made: (i) a systematic reduction in frequency of intercourse with age is observed; (ii) fertility level is affected by the frequency of intercourse; and, (iii) the pattern of frequency also affects fertility level. There is consensus among physiologists that an average coital frequency of two-three times per week is optimal for reproduction.

Although no national data are available for India, some micro level studies are available based on the surveys conducted in the rural areas of West Bengal, and in the urban areas of Bombay and Delhi. Most comprehensive of these is the analysis by Nag of the data collected during 1960-61 by Uma Guha, an anthropologist, who lived for over a year in one of the seven villages covered by the study [Nag, 1967, Pp.160-163]. A total sample of 811 ever-married women was collected. The data collected on coitus frequency related to the last normal week, excluding the restricted days related to menstruation or any other occasion for prolonged voluntary or involuntary abstinence. The data are grouped separately for (i) Hindus; (ii) the Sheikh Muslims; and (iii) the Non-Sheikh Muslims, by ages. It may be noted that the Sheikh Muslims belong to a higher economic class than either the Hindus or the Non-Sheikh Muslims. The observed frequency is higher for the Muslims than for the Hindus, and higher for the Non-Sheikh Muslims than for the Sheikh Muslims. Also, highest frequencies are

observed for the age-groups 20-24 and 25-29. While comparing the survey findings with the corresponding data collected by Kinsey (Institute of Sex Research at Indiana University), during 1938 and 1950; [Kinsey et al., 1953, p.394], Nag noted that, "It is clear from the table that contrary to the usual expectation, the mean coital frequency of the American whites is higher (for age group 20-24 years 3.0 per week against 1.9 for the Hindus, 2.4 for the Sheikh Muslims, and 2.6 for the Non-Sheikh Muslims, for example) than that of any Indian group" [Nag, 1972, Pp.231-237].

A survey of the family planning clinics of Metropolitan Delhi (sample size 5,912) collected data on the frequency of coitus. The data was classified by months rather than by weeks and by duration of marriage rather than by age-groups. The estimated mean coital frequency per month varies from 6.95 to 3.30, corresponding to the range of marriage duration of women from below two years to 25 years and above [Agarwala, 1960, p.21]. A survey of a Bombay urban sample during the mid-1950s revealed that a better-fed group of women experienced a higher rate of average frequency of coitus and higher completed fertility level [Kamat and Kamat, 1959, Pp.114-121].

Nag (1972) lists various factors which appear to contribute towards observed lower frequency of coitus in India. Included are: (i) anxiety of men about loss of physical strength through loss of semen; the prevailing belief is that it takes forty days and forty drops of blood to make one drop of semen and the reservoir capacity in the head is twenty 'tolas', (equal to 6.8 ounces); (ii) the traditional values regarding moderation in sexual behaviour; the scriptures stress the role of celibacy in life; (iii) lack of privacy for sexual relations; (iv) abstinence on ritual occasions (customary prohibition of sexual relations on the eighth day of the half-moon, the day of new moon, the day of full moon, and so on, with the threat of dire consequences, such as violators going to hell after death); and (iv) other taboos. In conclusion the author remarks: "The role of Indian women in sexual relationship is very passive. Whatever the scriptural view may be, the common feeling in contemporary India is that the sexual pleasure is mainly for men. Women are expected to give

the pleasure to men, whether they like it or not. This particular orientation toward sex, which becomes ingrained in boys and girls, is likely to generate some inhibitions regarding sex among women and results perhaps in comparatively less frequent intercourse" [Nag, 1972, p.237].

The above discussion of the available evidence, though admittedly limited, broadly indicates that the process of modernization will result in relaxing any depressing effect of sexual abstinence on the national fertility level. It is difficult to predict in statistical terms the impact of this variable on the calculus of fertility changes.

(9) *Other Biological Factors:* A few other biological factors affect the likelihood of conception and birth, such as: (i) sterility; (ii) spontaneous intra-uterine mortality; and (iii) the timing of the end of the reproductive period. In statistical terms, compared to the demographic effect of the practices of breast feeding and postpartum abstinence, these factors individually as well as collectively do not have any significant impact in any one given year, but over a span of two-three decades their collective importance cannot be ignored in the analysis.

(i) *Sterility:* Sterility or infecundity is defined as the physiological incapacity to produce a live birth. The general causes of sterility are: (i) abnormalities of the reproductive system; (ii) a high incidence of irregular and anovulatory cycles; (iii) a high rate of intra-uterine mortality; and (iv) a high prevalence of specific diseases, primarily gonorrhea and genital tuberculosis. It is helpful to note that sterility is different from childlessness; the latter may be voluntary, mainly in urban-industrial societies. Thus, all sterile women are childless, but all childless women are not necessarily sterile. Also, the distinction is made between primary sterility (never having been able to have children) and secondary sterility, which arises after the birth of one or two children.

According to the 1981 Census, 6.10 per cent of ever-married women (age 50 years or over) had not given birth to a child, with a fairly wide range at the State level - Orissa, 10.70 per cent and Karnataka, only 1.38 per cent. This ratio does not seem to have changed much over the last two or three decades. In the National Sample Survey,

second round during 1955 with a sample size of 6,064 couples, the incidence of sterility among the couples married after 1930 was estimated to be 7.5 per cent. The sterility in this Survey was defined as the proportion of the childless couples to the total couples with a marriage duration of at least twenty-two years [Das Gupta et al., 1956, p.45]. In *The Khanna Study* (data collected during 1956-58), a married couple without a live birth within seven years was considered primarily sterile, but a married couple with one or two pregnancies but none thereafter was considered secondarily sterile. In a total sample of 1,043 wives whose first husband was alive, 22 had never had a child. The authors stated that the proportion of sterile would increase less than another two per cent "even if all 46 separated and divorced wives (on grounds of childlessness) in the present data were sterile" [Wyon and Gordon, 1971, p.164]. In other words, the prevalence of sterility is estimated, on the outside, at 6.24 per cent in the rural Punjab. Earlier, in the 1921 Census, information was collected on sterility in the Punjab state from 166,149 families. A couple was considered sterile with 30 or more years of married life but having given birth to no children. The estimated rate of sterility was 6 per 100 marriages, with a significant variation by two broad occupational groups: "traders (high income)," 4.7 per cent; and "Menials (low-income)," 7.7 per cent. A decade later, in the 1931 Census, the estimated rate of sterility was almost unchanged at 6 per 100 marriages [Agarwala, 1973, Pp.135-136].

After evaluating the pertinent literature on this topic, Gray has noted that "It is generally considered that in healthy populations such as the Hutterites (a Protestant sect in middle North America and Canada that has an effective proscription of the practice of birth control), the prevalence of primary sterility is around 3 per cent" [Gray, 1983, p.147]. In contrast, the Indian rate of 6-7 per cent sterility is about twice as high. With the on-going process of modernization in the country, it seems reasonable to expect that the depressing effect of sterility ratio on the fertility level will be relaxed somewhat. Therefore, we should expect the crude birth rate, other things being equal, to register an increase with the declining sterility level.

(ii) **Spontaneous Intrauterine Mortality:** This factor measures both spontaneous abortions (a foetal death before twenty-eight weeks of gestation) and stillbirth (death after the twenty-eighth week), but excludes embryonic deaths before the first missed menses. The overall risk of an intrauterine death after the fourth gestational week is about 20 per cent. It is generally observed that the intrauterine mortality rates vary substantially with mother's age, lowest in the early twenties, rising slowly to the mid-thirties and increasing sharply thereafter. In addition, teenagers are reported to have higher rates than women in their twenties. As the biological causes presumably operate relatively independently from social, economic, and health factors (except for a few specific diseases), relatively little variation is expected between developed and developing countries in early foetal mortality that constitutes the bulk of all intrauterine mortality. However, a recent study notes that "The incidence of stillbirth appears to be somewhat higher in less developed countries, but it constitutes a small proportion of intrauterine mortality" [United Nations, 1973, p.122].

Again, no national or state data are available. Two studies, one from south India and the other from north India, provide some indications of the extent of spontaneous intrauterine mortality. Hypothesizing that malnutrition is a major cause of the high rate of intrauterine mortality, Gopalan and Naidu surveyed two different groups (both considered undernourished and poor) of the population in south India. They found intrauterine mortality rates of 16-19 per cent in one group and 30.0 per cent in the other group [Gopalan and Naidu, 1972, Pp.1077-79]. In *The Khanna Study* in the Punjab State, information was gathered on 1,765 pregnancies during 1957-59, of which 56 ended in still-births (3.17 per cent) and 184 in spontaneous abortion (10.42 per cent). The overall pregnancy wastage rate is 13.60 per cent. The authors of the survey remarked that "the still birth ratio clearly exceeds the 10 to 20 per 1,000 pregnancies (1 or 2 per cent), characteristic of Western countries. By contrast, the spontaneous abortion rate is less than the estimate of 200 and higher (20 per cent or higher)" [Wyon and Gordon, 1971, p.160]. A survey conducted in the

urban area of the Lahore Cantonment in Pakistan in 1964 (sample size of 1,447 pregnant women, 14-49 years old) estimated a total foetal loss rate of 176.21 per 1,000 conceptions, or 17.6 per cent (at risk at the sixth gestational week) [Awan, 1974, Table III, p.527]. Another investigation of pregnancy wastage in Bangladesh produced the same results. In order to define some of the biological factors relating to fertility performance, a group of 209 married, fecund women 10-49 years old in rural Bangladesh were studied prospectively for twenty-four months from 1969 to 1971. The sample was drawn from a larger study of 112,000 women that had been followed with a daily house-to-house vital registration program since 1966. The foetal wastage rate of 14.87 per 100 conceptions was estimated, with 62 per cent of the foetal losses occurring during the second month of gestation [Chen et. al., 1974, Table 10, p.293]. While commenting on the high rate of pregnancy wastage, Jain said that "... this type of wastage is quite high, primarily because of the poor nutritional status of mothers...birth interval of 32 months observed in India is due mainly to the increased length of postpartum amenorrhea, higher incidence of pregnancy wastage, and a longer ovulatory exposure period" [Jain, 1975, p.119].

In contrast to the level of 12-15 per cent observed in the retrospective studies in developed countries, the prevailing level in India may be much higher [Leridon, 1977, p.76]. With the improvement in the health services and general nutritional level of mothers, it seems reasonable to predict that this variable by itself will contribute to raising the birth rate, other things being equal.

(iii) Potential Reproductive Years of Women: Menopause signals the definite end of the potential reproductive years for women. In the developed countries the mean age at menopause ranges from about 47 to 50 years, and in the developing countries the estimates range from 43.7 to 50.7 years. The quality of information for the developing countries is considered questionable. Therefore the actual differences may be of a smaller range. Practically no data are available for India, except those provided by *The Khanna Study*. Menopause was recognized when a woman 30 years old or older had not menstruated

for 12 months, had not become pregnant during that time, or when a woman 40 years old or older had not resumed menstruation within 25 months after delivery. According to this survey, 50 per cent of wives reached menopause at age 44.0 years (excluding those widowed or separated from their husbands). In a retrospective survey of data of 235 women in the age group 30 to 50 years who had reached menopause by 1956 and had reported age at last menstruation, the estimated average at menopause was 42.6 years. The corresponding comparable results from retrospective studies on Western women are about 48 years as an average at menopause [Wyon and Gordon, 1971, p.163]. Thus the suggested difference of 4 to 6 years in the potential reproductive period is difficult to justify on a biological basis. Perhaps the actual difference, if there is any, is smaller. In any case, the demographic impact is likely to be very insignificant in the Indian context. The age-specific fertility rate for the age group 45-49 years is estimated to be marginal. In 1978, as a share of cumulative fertility level, it was estimated at 2.4 per cent in the rural and 1.3 per cent in the urban areas.

Overview of Determinants

The observed stall in the crude birth rate decline since 1975-76 in spite of the corresponding doubling of the rate of contraceptive use (the percentage of couple protection rate increased from 17.0 per cent in 1975-76 to 35.0 in 1985-86) can be explained, in part at least, by the increasingly important role played by the following intermediate determinants in increasing the fertility level in India. Included in the category of positive contributors to fertility are: the widow/widower remarriages; the lactational duration; relaxation in voluntary abstinence; other biological factors (sterility, fecundity, the timing of the end of the reproductive period, intrauterine mortality, etc.); and coital frequency. On the other hand, equally important determinants responsible for negative demographic impact are (i) age at marriage; (ii) the use of contraceptives; (iii) induced abortion; and (iv) son preference. However, it is not feasible to quantify the impact of each of the variables individually because of

lack of necessary statistical data. In summary, the following broad observations may be made with regard to future trends over the next two or three decades.

As there is an increasing trend of widow/widower remarriages with the relaxation of social and other restrictions among all classes of society as education expands, a positive demographic impact is expected in the future. Also, with the increase in the expectancy of life, the rate of widowhood is declining.

With the process of modernization in the country, the duration of the practice of breast feeding is expected, as in the other developing countries, to decline steadily. Against an average of twenty-four months in the less developed countries, it is reported to be about three months, on the average, in the developed countries. In terms of its statistical importance, it is considered as important as the corresponding increase in the mean age at marriage from 15.0 to 27.5 years [Bongaarts and Potter, 1983, p.45]. Therefore, if the practice of breastfeeding declines significantly in rural India in the next decade or two, the contribution of this variable to the increase in the birth rate will be considerable. For lack of reliable national data over time, it is not quantifiable.

Similarly, with any reduction in voluntary abstinence with the process of modernization, the fertility level will be pushed upward.

Other biological factors (fecundity, amenorrhea, menarche and menopause; sterility, primary and secondary; end of reproductive period) to the extent to which they are affected by poor nutritional level and disease, are likely to contribute positively to the fertility level as medical facilities reach the rural areas and the general level of economic development increases over time. With the minor exception of the role of sterility, the total demographic impact of these factors is not expected to be significant in statistical terms. The role of coital frequency remains largely unknown for lack of reliable data; in addition, nothing much can be said about its impact in the Indian context.

Even if we assume softening of the strong attitude towards son-preference in the country in the next decade or so, it appears that its impact on

the national crude birth rate is likely to be insignificant in measurable terms. But, whatever the size of the impact, it will be negatively correlated.

On the other hand, the following determinants will have negative impact on the fertility level. The mean age at marriage for females has increased over the last twenty years from 16.1 years in 1961 to 18.7 years in 1981; this rising trend is expected to continue in the future. In a theoretical model of natural fertility, the estimated value of the TFR is reduced by 50 per cent, from 10 to 5, when the mean age at marriage is assumed to increase from 15.0 years to 27.5 years, other things remaining the same [Bongaarts and Potter, 1983, p.45]. In the Indian context, the mean age at marriage will have meaningful demographic impact only when it is pushed beyond 22-23 years. Given the past trend, it seems that this critical threshold will be reached somewhere after the year 2000 A.D. Therefore, the rising mean age at marriage will continue to depress the national fertility level, but its contribution in statistical terms will not be substantial over the next 15-20 years.

No doubt the most important determinant is the rising rate in the use of contraceptives in the country over the last twenty years. In view of the past rate of annual increase, the couple-protection rate is expected to increase within the range of one to two percentage points per year. The fertility level will correspondingly experience a decline. But such net decline, as it gets translated into the crude birth rate, will depend, at least partly, upon the other determinants pushing up the fertility level, as outlined above.

The role of induced abortion in fertility decline so far has been marginal. With the rising trend in the use of services offered in the hospitals and clinics, it seems to have the potential of becoming an important determinant with the process of modernization. However, it seems reasonable to project that in the next decade or so its demographic impact will remain rather modest.

The above broad overview and appraisal of the role of various determinants in influencing the fertility trends in the country forms the basis of the assumptions made in projecting the likely data of reaching the goal of replacement level fertility.

IV. REGIONAL DISPARITY

In a country of subcontinental size and large population, such as India, cultural, linguistic, and socio-economic heterogeneity is well pronounced. The levels of economic development (as measured by the per capita state domestic product in 1983-84) vary sharply: the ratio between the top (Punjab, per capita income Rs.3,801) and the bottom (Bihar, per capita income Rs.1,174) is of the order of three. Over the last twenty-eight years, between 1955-56 and 1983-84, the disparity has further widened. The more advanced States have not only maintained their top ranking positions but have also advanced their lead; on the other hand, the poorer States have lost ground. For example, Bihar, which was at the bottom position in 1955-56 with an index of 86.80 (all India=100), further lost ground when its index fell to a low level of 53.34 in 1983-84. The same is true of Orissa and Uttar Pradesh [Chaudhry, 1966, Table 3.1, Pp.46-47].

Appreciating the observed variation in socio-economic development at the regional level, many studies have recently attempted to classify Indian States and Union Territories according to the progress made in their efforts to control population growth and potentials for reaching replacement level fertility. Srikantan examined the family planning programme in the socio-economic context in the 15 major States, using 1961 and 1971 population Census data and the socio-economic measures for 1967-69 (15 indicators of the programme outputs, 29 indicators of the programme inputs and 15 indicators of the socio-economic structure). The relative position of each State was identified on the "development-modernization-continuum" with regard to the ten selected salient indicators (Programme outputs: cumulative index of births prevented; programme inputs: urban centres and expenditure; socio-economic indicators: total population literacy, 1971; female literacy, 1971; urban women economically active; and all women economically active) with the help of 'Principal Component Method.' The following are the "more developed" and "less developed" States according to the estimated principal component values (i) More developed States (ranked in order): Kerala, Maharashtra, Tamil Nadu,

Gujarat, and Andhra Pradesh; (ii) Less developed States (ranked in reverse order): Bihar, Assam, Uttar Pradesh, Rajasthan, Jammu and Kashmir. Outlining the policy implications of his extensive statistical analysis, Srikantan succinctly observed that "One major conclusions of our analysis thus far is that although literacy, especially female, is an important infrastructural indicator facilitating programme implementation, female participation in the labour force has a direct effect on programme outputs and is an important indicator of the motivation of women toward family planning and in the creation of significant demand for contraceptive services" [Srikantan, 1977, Pp.184-190].

In order to reach the stipulated target of net reproductive rate of one by 1996 for the country as a whole, the Working Group on Population Policy noted: "Our studies reveal that the percentage of eligible couples to be effectively protected by a modern method of family planning should be around 60". Recognizing the socio-economic and demographic differences among different regions in the country, the Working Group classified the States into three groups based on one single indicator of "the average of per cent of the couple protection in 1976-77, 1977-78 and 1978-79", and modified the targets as follows: (i) the States with the contraceptive protection rate of less than 15 per cent (Bihar, Jammu and Kashmir, Rajasthan and Uttar Pradesh) to attain the reproductive rate of one by the year 2001-2002; (ii) the States with a contraceptive protection rate of 15-25 per cent (Assam, Karnataka, Madhya Pradesh, Orissa and West Bengal) to achieve the goal by 1996-97; and (iii) the "advanced" States with a contraceptive protection rate of more than 25 per cent (Andhra Pradesh, Himachal Pradesh, Kerala, Gujarat, Haryana, Maharashtra, Punjab and Tamil Nadu) to reach the goal by 1991-92 [Planning Commission, 1980, Pp.21-24].

In a detailed cross-sectional analysis of the causes of transition from natural to controlled fertility among ten 'early-transitional' States in India, based on an all-India family planning survey commissioned by the Ministry of Health in 1970 (multi-stage sample size of 6,595 currently married women aged 35-44), Jejeebhoy

concludes that "the analysis implies that the success of a family planning program among such 'early-transitional' societies is largely a function of improvements in infant and child health". The author emphasises that, primarily, improvements in child mortality and its effects through the intervening factors account for the transition. With reference to the stage of the transition, the

study identifies, "further advanced in transition" States - Group A: Punjab, Maharashtra, Tamil Nadu, Kerala and Gujarat -, and "early transition" States - Group B: Andhra Pradesh, Rajasthan, Karnataka, Madhya Pradesh and Uttar Pradesh. In Group B States, an average of less than 15 per cent of women had ever regulated their fertility [Jejeebhoy, 1984, p.197].

TABLE 8. TOTAL POPULATION, CRUDE BIRTH RATE, URBAN, RURAL AND COMBINED, CLASSIFIED BY GROUPS OF STATES ACCORDING TO THE PROSPECTS OF REPLACEMENT LEVEL FERTILITY IN INDIA, 1981-2001

Total Population and Crude Birth Rate	All-India	Group A States	Group B States	Group C States
Total Population (Million)				
(i) 1981 Census				
Rural	525.9	246.6	56.5	222.8
Urban	159.3	103.6	9.3	46.4
Combined	685.2	350.2	65.8	269.2
(ii) 2001 "Medium" Projection				
Rural	670.3	308.4	73.5	288.4
Urban	315.8	176.3	22.1	117.4
Combined	986.1	484.7	95.6	405.8
Crude Birth Rate, 1984 (Weighted Average)				
Rural	35.10	30.75	34.72	39.79
Urban	29.20	27.47	28.87	33.63
Combined	33.80	29.73	34.04	38.76
Crude Birth Rate, 2001 (Weighted Average)				
Rural	26.57	22.25	26.22	31.29
Urban	21.36	18.97	20.36	25.13
Combined	24.90	21.05	24.87	29.51

Notes: Group A: Andhra Pradesh; Gujarat; Himachal Pradesh; Karnataka; Kerala; Maharashtra; Manipur; Nagaland; Punjab; Sikkim; Tamil Nadu; Tripura; West Bengal; Delhi; Chandigarh; and other union territories.

Group B: Assam; Haryana; Jammu and Kashmir; Orissa, and Arunachal Pradesh.

Group C: Bihar; Madhya Pradesh; Rajasthan; Uttar Pradesh; Meghalaya; Dadra and Nagar Haveli, and Mizoram.

Sources: 1. 1981 population: *Key Population Statistics Based on Five Per cent Sample Data*, Table 2, p.5, Registrar General and Census Commissioner, India, New Delhi, September, 1983. 2. 2001 population projection: *Report of the Expert Committee on Population Projection*, Table 4.2, Pp. 122-130, Demography Division, Registrar General and Census Commissioner, India, New Delhi, 1986, (Mimeographed). 3. CBR 1984: *Sample Registration Bulletin*, Vol. XIX, No. 2, December, 1985, Pp.4-5, Registrar General and Census Commissioner, India, New Delhi, 1985.

Considering the observed diversity in the socio-economic indicators and the prevailing fertility levels, the twenty-two States and nine Union Territories may now be classified into three Groups, A, B and C (Table 8). This classification scheme is different from that followed by the Working Group on Population Policy. In particular, greater weight is attached to the fertility level, the contraceptive use rate, and female literacy in the rural areas. Group A (13 States and 6 Union Territories) comprised 51.11 per cent of the total population in 1981; 29.58 per cent lived in the urban areas; and the estimated crude birth rate (weighted average) is 29.73 in 1984. Group

B (four States and one Union Territory) accounted for 9.60 per cent of the total population; only 14.1 per cent lived in the urban areas; and the crude birth rate is estimated to be 34.04 in 1984. Group C (five States and two Union Territories) accounted for the remaining 39.28 per cent of the total population. The estimated crude birth rate in 1984 is 38.76 per cent which is much higher than that in Group B, in spite of the fact that the share of the urban population is 17.24 per cent which is somewhat higher than in Group B.

At the State level, the decline in the birth rate in terms of points, based on the "reverse survival method" (see footnote Table 9) over a 12.5 year

period from 1961-71 to 1976-81 ranges from 1.3 in Uttar Pradesh and 2.5 in Rajasthan to 11.6 in Kerala and 12.8 in West Bengal. And, for all-India, the estimated decline is 6.6 points over the same period (Table 9). The latest *World Development Report 1988* estimates a decline of 13 points in the crude birth rate from 45 in 1965 to 32 in 1986, or a reduction of 13 points over a

twenty-one-year period [World Bank, 1988, Table 28, p.276]. Similarly, the United Nations assessment of the Indian fertility trends indicates a decline of 13.1 points in the crude birth rate, over a thirty-year period from 46.3 during 1950-55 to 33.2 during 1980-85 [United Nations, 1985, p.384].

TABLE 9. ESTIMATES OF CRUDE BIRTH RATES FOR MAJOR INDIAN STATES, 1961-71, 1971-76, 1976-81, AND 1971-81; BASED ON THE 'REVERSE SURVIVAL METHOD' (A)

States	1961-71	1971-76	1971-81	1976-81
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	39.2	40.47	35.11	30.06
Bihar (b)	41.9	45.73	40.91	36.20
Gujarat	41.6	40.94	37.63	34.53
Haryana	44.5	40.22	37.77	35.45
Karnataka	39.9	37.63	35.30	32.90
Kerala	37.5	29.49	27.50	25.86
Madhya Pradesh	46.6	43.44	39.81	36.57
Maharashtra	41.0	35.75	32.58	29.72
Orissa	41.3	40.38	36.42	33.00
Punjab	36.9	34.28	32.29	30.20
Rajasthan	42.7	46.52	43.56	40.26
Tamil Nadu	36.8	31.76	29.51	27.70
Uttar Pradesh	42.5	48.46	44.96	41.23
West Bengal (b)	44.3	38.80	35.04	31.53
All India	41.2	39.90	37.23	34.64

Notes: (a) Calculations are based on the smoothed age data, and the Sample Registration Scheme mortality data. The age specific mortality rate for the age group 0-4 years was further sub-divided into two sub-groups of 0-1 year and 1-4 years and the South Asian pattern of the United Nations Life Tables for developing countries was used. The method is described as follows: "The population in the age groups 0-4 and 5-9 reported in the 1981 census are survivors of the births during the inter-census period, 1971-81. From this number, births during the quinquennia 1976-81, 1971-76, and 1971-81 can be estimated by using life table survivorship probabilities". (b) Bihar and West Bengal Sample Registration Scheme data are described as "deficient for 1971-81". For Bihar an average of the reverse survival factors for Madhya Pradesh and Orissa has been used, and for West Bengal "the reverse survival factors from the child mortality estimates using Brass Technique were used after inflating them with ratio of these factors for India to the reverse survival factor from SRS for India". Source: *Report of the Expert Committee on Population Projections*, Statements A.2.1, A.2.2, and A.2.4, Pp.239, 241-242, and 247, respectively, Demography Division, Registrar General and Census Commissioner, New Delhi, 1986 (Mimeographed).

For purposes of projection, in the light of past fertility behaviour and trends in the 'socio-economic development indicators, we shall assume, somewhat arbitrarily, that the birth rate will continue to decline, on the average, at the rate of 0.5 points annually over the next seventeen years from 1984 to 2001 A.D. and that this will be so in all the three groups of States.

The broad support for this assumption is derived from the scattered research findings discussed earlier: (i) In the fertility decline during 1961-1981, the share of the raising age at marriage is estimated to be 14 per cent; (ii) The possible contribution of the relaxation of the

social ban on widow remarriages is put at 2.6 per cent, in the positive direction of raising the fertility level during 1961-1981; (iii) The changing age-sex composition contributed 54 per cent to the decline of the crude birth rate during 1961-1971; but during the next decade, 1971-1981, the contribution was in the reverse direction, 19 per cent; (iv) During the 1970s, the contribution of various major components to the fertility decline are estimated to be: increase in contraceptive use (-) 114 per cent; rising age at marriage (-) 41 per cent; changes in breast feeding practices (+) 58 per cent; and all other factors (-) 3 per cent; (v) The softening of the strong attitude

in favour of the male child over the next two decades is likely to result in 0.2 less children desired per mother. (vi) The role of induced abortion is expected to play increasingly significant role in the III and IV stages of the demographic transition model. Perhaps it could be of the order of 20 per cent. (vii) Declining infecundity (intrauterine mortality and sterility due to nutrition and general health) is expected to contribute, though marginally, in the positive direction by raising the fertility level in the future. However, glaring gaps in our knowledge in the Indian context remain particularly, in the three following areas: (a) the relationship between the rate of contraceptive use and the fertility level; (b) changes in the breast feeding practices; and (c) changes in the birth interval over time. The second part of the assumption, namely, that all the three groups of States will experience a uniform rate of decline in the crude birth rate (0.5 point per year) is based on the findings from the State data by the Panel on India of the Committee on Population and Demography of the National Research Council [Bhat et al., 1984, Pp.1-12].

Thus it seems that the national birth rate by the turn of the century will be 24.90, with urban rural rates of 21.36 and 26.57, respectively (Table 8). The Group A areas with a birth rate of 21.05 will have attained the replacement level fertility by the year 2001, provided the mortality level remains as projected, that is, a death rate of 9 per 1,000 population. In contrast, Group C will continue to experience high levels of fertility with a projected birth rate of 29.5 in the year 2001. This is much short of the recommendation of the Working Group on Population Policy of the Planning Commission that the "Group A States (low "couple protection" rate) should achieve NRR 1 by the year 2001-2002, Group B States (Intermediate level "couple protection" rate) by 1996-97 and Group C States (high "couple protection" rate) by 1991-92" [Planning Commission, 1980, p.24].

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INSTITUTIONAL CREDIT FOR AGRICULTURE IN INDIA

Nilakantha Rath

Highly unequal regional distribution characterises not only loans from financial institutions for investment in agriculture, but also for current production. The induction of the nationalised banks and subsequently of the RRBs into the field of agricultural credit has not restored regional equality; in fact, it has worsened it. There is greater dependence on own savings in developed regions; in underdeveloped ones very little financial resources are demanded and used. Commercial banks can effectively help only a limited number of large cultivators. The co-operative financial institutions are best suited to serve the vast body of farmers; but, improvements are needed in their organisation and methods of advancing credit, supervising use of loans, and recovering them.

Rural credit in India has undergone a sea change in the post - Independence period. During the century and more preceding Independence, the matter was seen and discussed as a problem of burden of debt. This was unavoidable : the rural economy was not only abjectly poor, but subject to great fluctuations in production and income due to weather and changes in the price level. The agricultural economy was stagnant. As a result, loans were incurred essentially to meet exigencies of situations arising out of these forces that affected family living as well as the possibility of carrying out the normal agricultural operations. The loans were mainly for family consumption. Production credit, which formed a smaller part of total loan operations even as late as 1951-52, was more for what is today called capital formation, that is, sinking of a well and buying of bullocks. Loans for current agricultural operations, now-a-days popularly known as crop loans, were insignificant. There was hardly any purchase of current material inputs over and above what the farm household possessed. Sources of loans were mainly the private money lenders; institutional loans, only from cooperative credit societies, formed a miniscule part of total loans. Even Government Taccavi loans, more a State action during a period of almost eighty years preceding Independence, was largely to cultivators, mainly the bigger ones, to meet exigencies arising out of crop failure, flood, cyclone, etc.

Since Independence, with planned economic

development, the concern has been with credit, not burden of debt. Accentuated capital investment and technological innovations in crops and inputs have resulted in a rate of growth of agriculture unknown in the past¹ [Blyn, 1966]. Both, crop loans and medium and long term loans, have become important in the process. At the same time, continuous inflation, at a low or high rate, over the last forty years, has obviated the need for any large scale debt adjustment. In this process of growth and expansion, institutional credit has come to occupy a dominant place.

As noted in the previous issue, institutional credit has come to form the major proportion of the total fixed capital formation in agriculture [Rath, 1989, Pp.64-83]. Indeed, the planners appear to have come to depend more on institutional credit for this purpose in recent years.

Similarly, crop loans have come to occupy an increasing proportion of all loans in rural areas : as against 6 per cent in 1950-51, crop loans had increased to 20 per cent of all loans in 1971, the latest year for which such data are available². Indeed, while in 1950-51 crop loans were equal to only one-fourth of (medium and long) term loans, by the middle of the eighties the total crop loans in a year were twice as high as the total term loans disbursed during a year by all financial institutions.

Technological improvements in agricultural production have led to the farmers resorting to loan finance to a much larger extent than before.

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Visualising this possibility in 1954, the Reserve Bank of India's Rural Credit Survey Committee recognised that private money lenders cannot and should not be depended upon to fill this need. The Committee strongly advocated that the cooperative institutions should be strengthened and enabled to supply this credit. The Committee's slogan was : cooperation has failed; cooperation must succeed.

Since then, there has been a basic policy change in this field. Instead of the co-operatives being the only rural credit institution, two more have been inducted into the field : the commercial banks since 1968 and more so after nationalisation of the major banks in 1969, and the Regional Rural Banks since 1974-75. As a result, in most parts of India today, the countryside has three different types of credit institutions, and many more individual institutions under these heads, competing to help cultivators with short and long term credit for their agricultural activity. All these institutions are under very elaborate Government and Reserve Bank control in regard to the extent of their participation in rural credit and the terms and conditions of such participation. The net result has not necessarily been the best, and quite often not what was desired. Indeed, there is often a feeling of confusion and helplessness at the level of the institutions and a feeling of neglect at various levels of agriculturists, particularly the smaller ones. A brief review of the performance of the credit institutions in the matter of crop and term loans may be useful in ascertaining the achievements as well as the sources of difficulty.

Let us begin with short term credit to agriculture - briefly, crop loans. Total crop loans by all financial institutions to agriculturists constituted about 15 per cent of the total value of all material inputs in agriculture in a year, during the period 1973-74 to 1984-85. If we add the wages paid to hired workers in agriculture to this total material cost (owned and purchased), the percentage covered by crop loans comes to about 10 per cent. This has happened despite a more than fivefold rise in the total value of all material inputs between 1970 and 1985. The crop loans as a percentage of this rose from about 13 per cent to 15 per cent around 1976-77, and have stayed there (Table 1).

But if we express the total crop loans as a percentage of the total value of only five inputs in agriculture, namely chemical fertilizers, insecticides, electricity, diesel oil, and irrigation charges, all of which are purchased by the farmer and which have become increasingly important over the years, we find that crop loans covered more than 80 per cent of the total value of these inputs in the first three years of the seventies, but declined sharply to about 45 per cent from 1975-76, following a sharp rise in prices of fertilizers, insecticides and diesel oil. In the Sixth Plan period, crop loans covered only about 35 per cent of the actual value of these five inputs (Table 1). Indeed, since 1975-76, the total crop loan has been less than the total value of chemical fertilizers alone. It appears that despite the increase in the total cost of these (the share of the five inputs in all farm inputs increased from 15 per cent in 1973-74 to 43 per cent in 1984-85), the crop loans have not increased proportionately, but have stayed at a given level of all material input costs, farm supplied and purchased.

This raises several questions that cannot be answered easily. In the first place, it raises the question about the basis for sanction of crop loans. The bulk (about 67 per cent) of the short term credit to agriculture and allied activities is provided by the Primary Agricultural Credit Societies (PACS) (Table 2). For the approval of crop loans to members, the societies use the normal credit limit for individual crops, worked out by an expert committee of the concerned District Central Co-operative Bank (DCCB) once every two years. The DCCB Committee is expected to specify a certain percentage of the out-of-pocket expenses on inputs that would be required for a crop in the region as the normal credit limit. Could it be that the DCCB Committees specify a fixed percentage of all material expenses whether purchased or otherwise, for whatever reasons? It is also possible that the quantities of inputs assumed by the Committee in specifying the normal credit limit are quite different from what is actually used at the farm level.

It is also quite likely that the total loan fund available to farmers is more than the total sum disbursed during a year for the purpose. This would be so if the overdue amount of the sum

scheduled for repayment is in effect being used by the borrowers as short term credit, thereby increasing the financial resources available to the farmers as a group for purchase of inputs. The amount overdue at the end of a year in case of all PACS in India plus the actual disbursement of short term loans in the following year, varied between 39 and 66 per cent of the total cost of the five purchased inputs during the period 1974-75 to 1984-85 (Table 3). Of course, one cannot say that the entire overdue sum has accrued to the borrowers, and they are not repaying it simply because they wish to use it in their farms. But an element, possibly a large element, of this in the overdue amount cannot be ruled out.

Whatever the reasons, it appears that ever since the steep rise in prices of fertilizer and diesel oil, crop loans have ceased to cover the bulk of the cost of the five purchased materials, not to speak of all the purchased inputs including labour. It has further declined in the Sixth Plan period. Farmers obviously are depending on their own resources or partly on non-institutional sources of credit for the purpose. While it would be fair to expect farmers in a developing economy to finance a larger part of their current farm expenses from their own sources, it would be useful to know what in fact has been happening over the years.

The first thing one notices is the wide regional disparity in crop (short term) loan disbursement to agriculture, compared to the share of different regions in the total gross cropped area of the country. In 1982-83, the latest year for which gross cropped area figures were available, the four States of eastern India - Assam, West Bengal, Orissa, Bihar and the two central Indian States of Madhya Pradesh and Rajasthan, accounted for more than 40 per cent of the total gross cropped area (Table 2). But they received only about 16 per cent of the total short term credit (Table 4). As against this, six other States - Punjab and Haryana in the north and the four southern States of Kerala, Tamil Nadu, Andhra Pradesh and Karnataka, with only about 25 per cent of the total gross cropped area, received 56 to 60 per cent of the total crop loans. The disparity persists even if the comparison is made on the basis of the gross irrigated area. There is a *prima facie* suggestion here that most farmers, including irrigated

farmers, in the agriculturally under-developed regions do not get access to institutional sources of short term credit. The same may be happening to many farmers, though to a lesser extent, in the relatively more developed and/or irrigated agricultural regions.

A more interesting way of examining this question may be mentioned here. As noted earlier, the total crop loans actually disbursed during a year was found to be less than the total value of chemical fertilizers used in agriculture (as given by the CSO), in the years since 1970-71, and particularly since 1974-75. Since State-wise distribution of the total fertilizer consumption and of its total value is available, it would be useful to compare the actual crop loan disbursement in a State as a percentage of the total value of fertilizers used in the country (as given by the CSO) with the State's share in total fertilizer consumption (Table 5). Comparison of these data show that there was a close resemblance between the distribution of total fertilizer consumption among States, and the States' crop loans as percentages of the total value of fertilizer consumed in the farm sector in the country. In States like Karnataka and Tamil Nadu, the total crop loans were approximately equal to the total expenditure on fertilizers. In States like Kerala and Maharashtra, in particular, the crop loans were considerably in excess of the total expenditure on fertilizers, while in Haryana, Madhya Pradesh, Rajasthan and Orissa, they were only marginally higher. It means that in these States the crop loans were more than adequate to finance the purchase of fertilizers by all farmers, leaving some surplus for other inputs. In Uttar Pradesh and Punjab, on the other hand, the total short term loans formed only about one-third or half of the total cost of fertilizers alone consumed in these States. The situation was similar in Andhra Pradesh, Bihar, West Bengal and Gujarat, though the total values involved were much less. This suggests that in States like Punjab, Uttar Pradesh and the others, farmers either wholly or partly financed their purchase of fertilizers from their own resources or with the help of non-institutional credit agencies. These are States where the irrigated farmers have recorded substantial growth in agricultural production. In

the relatively weaker States also, the data suggest that farmers depend partly or wholly on own funds or other sources of credit to finance purchase of most inputs.

It would be useful to know if there is any difference in this matter amongst farmers in different size groups of land holding. Data relating to the cooperative societies published by NABARD show that while the larger size cultivator-borrowers borrowed more than the smaller ones in all States, this was not the case with crop loans per hectare of land under cultivation with the borrowers (Tables 6-7). Indeed, the smallest sized farms had the highest crop loan per hectare, the amount becoming smaller as the size of holding increased. This is possible if the crop area for which the larger farmers borrow does not grow in proportion to their total land holding. This in turn can happen if the larger sized farmers have a proportionately much smaller irrigated area than the smaller ones. But in States like Punjab where 90 per cent of the cropped land is irrigated, such a phenomenon can only lead to one conclusion : that the large farmers depend to a much greater extent on their own resources (or other credit agencies) for meeting current farm expenses than the smaller farmers do. This also appears to be the case with short term loans from the commercial banks, which, starting from scratch, today account for 30 per cent of the total short term loans to agriculture (Table 8).

There is enough evidence, therefore, to conclude that amongst the borrowers from credit institutions, the larger the farmer the greater is his dependence on sources other than credit institutions for financing his current farming requirements. This does not, however, mean that most smaller farmers have received due amounts as cash loans from financial institutions.

Data published by NABARD and the Reserve Bank of India show that in case of the PACS the percentage of members in the smallest size-class of agricultural land holdings availing short term loans was not much smaller than the percentages in case of members in higher size-classes in most States, except States like Bihar and Kerala (Table 9). The real discrimination appears in the membership of small farmers as against the others. Taking the country as a whole, hardly 30 per cent

of the smallest size cultivators were members of PACS, whereas this proportion was 75 to 100 per cent in case of the rest (Table 10). Therefore, hardly 10 per cent of the smallest farmers in the country received short term loans from the cooperatives in any year. This was also broadly the situation in the different States of the Union. Indeed, there is a suspicion that even this 10 per cent is somewhat inflated; for, in the cooperative membership many land-holders really belonging to large farmer households feature as small owners for a variety of reasons and therefore avail of loans as small farmers. If the data about these can be excluded, the real small ones being members and availing of loan finance will turn out to be an even smaller proportion.

The commercial banks appear to have served the smallest farmers to a comparatively greater extent than the cooperatives (Table 11). More than 50 per cent of their borrowers of short term agricultural loans during a year are farmers in the smallest size-class (less than 1 hectare). But the important thing to note is that the total number of borrowers of crop loans during a year from the commercial banks constitute just about one-eighth of the borrowers from the cooperatives (Table 12). Therefore, the commercial banks are also not able to help the smallest farmers or even the others in a very significant way in regard to crop loans. Similar data are not available for the Regional Rural Banks which are meant exclusively for small farmers; but these banks account for a very small part of total crop loans.

This review of short term credit to agriculture shows that the financial institutions were meeting the needs of the cultivators for purchase of current inputs to a lesser extent in the Sixth Plan period. While the larger farmers have become dependent on their own and other sources to a greater extent, the smaller farmers are very largely outside the cooperative set up. The commercial banks have not been able to help them in any very significant measure either.

Before we turn to discuss the problems associated with the credit institutions, it would be useful to briefly review the problem of medium and long term credit in agriculture. It was noted in the previous issue that loans from financial institutions have come to occupy the major share

of the total fixed capital formation in the private sector in agriculture [Rath, 1989, Pp.64-83]. This is contrary to the tendency in regard to short term loans where the PACS still account for 67 per cent of all short term credit to agriculture. Beginning from scratch in 1969, the commercial banks had come almost to the level of the co-operatives (mainly the Land Development Banks) by 1973-74, the first year for which detailed data about the commercial banks are available. Between 1973-74 and 1984-85 both institutions continued to advance term loans, with ups and downs, though the commercial bank loans grew somewhat faster (Table 13).

The cultivators receiving term loans for agriculture and allied purposes during a year from these two types of financial institutions constituted only about 1.25 per cent of all cultivating households in the country, each accounting for roughly half the total (Tables 14-16). In fact, the average term loan per borrower in case of the commercial banks is anything between 30 to 50 per cent higher than the average per borrower from the Land Development Banks. Moreover, about 20 per cent of all land holding borrowers from commercial banks cultivate more than 4 hectares of land but account for half of the total loans. On the other hand, some of the small land owner-borrowers are Integrated Rural Development Programme (IRDP) beneficiaries who are mainly served by commercial banks who serve the medium and large farmers to a greater extent than the LDBs, in matter of direct agricultural loans (Tables 17-18).

The Regional Rural Banks (RRBs) essentially lend to small farmers. They account for a small part, about 7 per cent, of total term loans; but the available data do not permit any detailed analysis.

The multiple credit agency system that has emerged in rural India does not appear to have followed any particular scheme or design, unless it is contended that the basic design was creation of competitive credit agencies for agriculture in rural India. However, that would be in the nature of *post-facto* rationalisation, rather than the result of clear thinking right from the beginning. When the commercial banks were nationalised, one of the goals was not creation of a competing credit agency in rural areas. It was rather to ensure more

equitable distribution of resources amongst various regions and groups, by properly supplementing available resources in the co-operative credit system. The Fourth Five Year Plan said :

"1.55 The nationalisation of banks is expected to help progress in the direction of socio-economic democracy. It can do so by ensuring that the availability of credit for various types of small producers and other business units is adequate and on reasonable terms. This will require not so much the diverting of large resources for the purpose as the creation of appropriate institutions, spreading them through all areas and evolving suitable procedures" [Planning Commission, 1970, Pp.24-25]. For regions where the co-operative sector had failed to take proper roots, the Commission approvingly noted that the Government had found it necessary to take powers to set up new agricultural credit corporations.

These corporations, advocated since 1945, however, did not come up. Instead, there was considerable debate on what should be the role of the nationalised commercial banks vis-a-vis the co-operative financial institutions in the field of rural credit. While no clear cut policy directives emerged, there was great pressure by the Government on these banks to extend to rural areas particularly in regions underdeveloped in credit institutions. There was no clear cut directive about the type of farmers these banks should serve; but when occasion arose they were asked to serve the small and marginal farmers as well.

By 1974, it was discovered that these commercial banks were proving very expensive institutions for rural credit, particularly for the small and marginal farmers. Hence, a new institution, the Regional Rural Bank, was created, as an understudy of a particular commercial bank, to meet the needs of the disadvantaged sections in rural society, at a lower cost. It was also said that these shall be located mainly in districts which were poorly served by cooperative credit institutions. In practice, these RRBs have now covered the bulk of the districts in the country. The result is, most districts have three types of banks (and more than one commercial bank), and some at least two types.

Despite this, there appears to have been no improvement in supply of credit in traditionally underdeveloped agricultural regions. It was noted earlier that the six eastern and central Indian States have continued to receive a much smaller and unchanging share of both crop and term loans than their share in cropped land.

The commercial banks and the RRBs have not improved the position at all. Three-fourths of the total crop loans by the commercial banks are in the four southern States of Andhra Pradesh, Tamil Nadu, Karnataka and Kerala, with Andhra Pradesh taking the lion's share (more than 30 per cent) (Table 4). If we add three more States, also developed in matter of cooperative institutions like these four, namely Maharashtra, Gujarat and Punjab, that accounts for nearly 90 per cent of the total short term credit by the commercial banks. The under-developed States have an even poorer share than from the cooperative institutions.

The situation is only marginally better in case of the Regional Rural Banks. The four southern States account for nearly 70 per cent of the total crop loans extended by the RRBs. However, the four eastern and central States of Orissa, West Bengal, Bihar and Madhya Pradesh take 15 to 20 per cent of the total crop loans by the RRBs. But one must remember that crop loans by RRBs do not amount to more than 4 per cent of the total short term credit to agriculture. Therefore, the eastern region's position has not improved significantly. In regard to term loans, the RRBs have exhibited the same pattern, though Orissa has an unusually large share in it. But, again the RRBs account for only about 7 per cent of total term loans.

The commercial banks have not exhibited a significantly different regional distribution in regard to term loans than the LDBs and cooperatives, except that its concentration is somewhat greater in the four southern States.

Therefore, if there was any expectation that these new credit institutions would change the very unequal regional distribution of credit, it has been completely belied; if anything, it has become worse. Nor has there been a movement of credit in favour of the smaller farmers.

It has sometimes been contended in discussions that the commercial banks had to be pressed into

the field of rural credit because by the early years of the Fourth Plan the cooperative credit lines had been choked with overdues, and there appeared little chance of the cooperatives reviving. I have not come across a serious statement to this effect in any authoritative document. But if there is any truth in this, it has proved to be basically a wrong line of thinking. The Fourth Five Year Plan had of course expressed concern at the extent of heavy overdues with the primary societies and the Central Cooperative Banks on the eve of the Plan. However, the situation had become much worse by the end of the Sixth Plan. The overdues, as a percentage of outstanding loans of the primary credit societies had increased from around 32 to 48. But what about the commercial banks and the RRBs? The proper way of estimating overdues is to express the unrepaid part of the scheduled repayment demanded by the end of the year as a percentage of the latter (Tables 1-19). During the period 1979-80 to 1984-85, the overdues of short term loans of the commercial banks as percentages of demand varied between 40 and 47 per cent; for primary societies, it was about the same. In regard to long term loans, the overdues situation of the commercial banks was worse; it varied between 50 and 55 per cent, whereas for the LDBs it varied, during the same period, between 40 and 50 per cent. The RRBs are in no better position; their overall overdues to demand was of the order of 49 per cent during 1982-84. With such high overdues position at the all-India level, it is not surprising that in many States the percentage was higher than 60. In fact, the overdues situation of the commercial banks in regard to term loans to agriculture would be seen to be worse, if the IRDP account could be separated. Thanks to immediate repayment of some 25 to 30 per cent of the loan by the Government, the overall repayment of IRDP loans is much better than for other term loans; this would make the situation with regard to other agricultural loans of commercial banks somewhat worse. It is clear that if overdues were thought to be a particular malady of cooperative credit institutions, that impression has been proved to be wrong. All rural credit institutions are in the same boat. Obviously, the reason or reasons for overdues have little to do with the basic character of the credit organisation.

Thinking in terms of institutional types in this matter has resulted in neglect of the basic issues affecting rural credit, until a decade and half later all are caught in the same trap.

The suspicion about the character and ability of the cooperative institutions has led to their neglect, which led to a weakening of the role of the cooperatives, leading in turn to greater lack of interest in them. The situation today is such that in any discussion of rural credit in the policy making and coordinating bodies, the first reference by most is to the commercial banks. The reference to cooperatives is like to those who also ran.

An example of this relative neglect of cooperative institutions is the credit organisation for IRDP. Data show that 80 per cent of the total credit disbursement to IRDP beneficiaries was by the commercial banks (including the RRBs). Now, these beneficiaries belong to the lowest economic strata in rural society. One would naturally expect the PACS in the villages to be the most appropriate agency for identification of these beneficiaries, assessment of their needs and potentialities, and disbursement of the loans. The commercial banks with, at most, a branch in a block, and with very limited staff and familiarity with the village scene and people, would appear the least qualified to do the job. A special enquiry by NABARD into this failure of the PACS in regard to IRDP loans showed that some of the provisions in the laws and by-laws governing the cooperative institutions were primarily responsible for this. In earlier times, these laws and by-laws would have been expeditiously amended to meet the needs of the situation. But, no one has bothered, because the commercial banks can be asked to do the job. Indeed, at the governmental level there is today a greater dependence on the commercial banks, wholly owned by and therefore under the direct control of the government, rather than on the cooperatives, which, all said and done, are independent business organisations!

A more serious sign of neglect is the lack of any detailed appreciation of and control over the working of the crop loan system at the ground level. Three decades ago this was a major innovation in the Indian agricultural credit field,

freeing the cultivator from relating his production credit to his fixed assets, and instead relating it to his expected output. This was absolutely necessary and useful to a growth oriented agricultural economy. It was the responsibility of a technical committee of the DCCB to prepare an estimate of the loan per acre of different crops, under irrigated and unirrigated conditions separately, after estimating the out-of-pocket expenses that would be required under prevailing cultural practices. The secretary of the village society, thereupon, was to ascertain from each member, the area he proposed to put under different crops during the year and calculate his total credit limit accordingly. Indeed, the loan was to be disbursed as per requirements during the year, and recovery had to be made after marketing. But it is not clear that this is how the system is actually operating; otherwise, how come that the total crop loan disbursement does not come even upto the total expense on fertilizers on farms? Surely, the ineligible farmers and/or societies with overdues cannot entirely account for this! There is also reason to suspect that many borrower members really belonging to large farm households are featuring as small farmers, partly because they have as much land in their names (as share in family property), and partly because if a middle or large farmer chooses to take crop loan for only a few acres, he is listed among the small. Data for some States show that the shares of farmers of all sizes in the total crop loans from cooperatives are about the same, with the small receiving much larger loans per hectare than the larger farmers. One does not know to what extent this feature is ensured by suitable operation of the method to meet NABARD stipulations about a minimum share of total loans to small farmers. Nor does one know why some farmers do not borrow from the society: because of overdues, or no need, or excluded by the society as a deliberate act, or negligence? There have been complaints about disbursement of loans for *Kharif* or *Rabi* crops too late in the season. And, repayment is closely tied to a single date, end of June, irrespective of anything else. These have, unfortunately, not attracted the serious attention they deserve. It is only now that NABARD is conducting a small scale enquiry in depth into these questions. If

cooperatives had not lost their status, I cannot imagine that all these would not have been carefully ascertained and corrective steps taken.

In point of fact, in an agricultural economy like ours, with millions of small and not so small farmers spread over thousands of villages, it is difficult to visualise a commercial banking system of the present type with a branch in a Block, being able to operate a supervised credit system effectively. It can do so for the small number of large farms, which is what the commercial banks appear to be doing to a large extent. It is best to demarcate the field and confine their activities to such farmers. The rest should be taken care of by the cooperatives where they are well organised, and by the RRBs in other areas.

The commercial banks are high cost institutions, particularly for rural credit. In their existing pattern of staffing, transfer and promotions, they are unlikely to develop a cadre of specialised agricultural bank officers with good knowledge of local agricultural features and problems. If confined to a limited number of large farmers, these difficulties and costs can be effectively minimised. The commercial banks can and should, in addition, channel a part of their funds, particularly the deposits from their limited rural branches, to cooperatives and/or RRBs to supplement their resources for rural lending.

The cooperative credit institutions need strengthening in a number of ways in order to discharge their responsibilities satisfactorily. A major characteristic of our cooperative credit structure, particularly at the primary level, has been the heavy - in many places almost exclusive - dependence on outside funds, from Reserve Bank, now NABARD, and the Government, as loanable funds. If the members have no stake in the loanable funds, it is easy to be lax in regard to their use and recovery. When the expanded crop loan and term loan system got going, the village society was not in a position to mobilise cash savings from the members to any significant extent. The district and state level banks depended on governmental and urban deposits to a much larger extent. This ground level situation has gradually changed in some areas, like in Kerala. But the cooperative banks have not been the recipients of growing bank deposits from rural

sectors for a variety of reasons.

A recent committee of NABARD notes in its report that one reason for this inadequate deposit mobilisation has been the stiff competition from the commercial banks which can offer many advantages with their countrywide connections [NABARD, 1984].

A second reason for inadequate use of available deposits for agricultural lending is the high cost of these deposits as against the interest earned on agricultural lending. Since the interest rates on most agricultural loans are fixed by the Reserve Bank, the difference between the cost of deposits and the returns from such lendings are so small as to make it a tight rope walking. Consequently, the cooperatives use most of their deposits for lending for such indirect agricultural and related purposes where the interest rates can be higher. The result is, for most direct agricultural purposes, the cooperatives depend on funds provided by the refinancing agencies.³ It would seem, the time has come when this can change.

There are several types of direct agricultural loans for which it is no longer necessary to charge concessional interest rates. Take the case of tractors and such other farm machinery. Once upon a time when the Indian farmer was unfamiliar with such equipment, and uncertain about its economic viability, there was justification in trying to help him bear the risk element by charging a lower rate of interest. But since then much water has flown down the bridge. Today a larger part of the purchase of tractors is for replacement. Farmers have found tractors worthwhile and therefore go in for new ones, to save the growing maintenance costs on the old. Indeed, tractor services are also used significantly for consumption purposes, as many studies have shown, which is a sign of the better income position of the concerned farmers. There is no longer any economic justification for concessional interest to be charged for loans for the purpose. Indeed, charging the going market rate would hopefully lead to greater rationalisation in the use of such equipment.

Similarly, the case of pumpsets, and even sinking of wells and tubewells. In many areas, rural electrification has led to substitution of diesel pumpsets by electric ones which are

cheaper in more ways than one, since in many States today the marginal cost of power for pumping water in agriculture is zero. Under such conditions, it is pointless to charge a concessional rate of interest for the loan. Indeed, a somewhat more expensive pumpset is sure to lead to rationalisation in both the choice of a pumpset and its fixation - matters which are widely noticed to be very carelessly and wastefully handled. If the State Governments and the electricity boards will not, at least the Reserve Bank and NABARD can instil some discipline in the matter.

Sinking of wells and tubewells have been acts of gambling by farmers in many regions. But in other regions it is not so. Even where uncertainties exist, if a well strikes a source of adequate water supply, it is a paying investment. It is only when wells yield inadequate or no water that the questions of rescheduling of repayment, lowering the interest rate and of writing off the principal arise. Therefore, it is not necessary to charge concessional rates of interest for all loans for wells and tubewells. The rates of interest could be reduced when the wells are found to be poor yielding; otherwise the prevailing market rates by the financing institutions should be charged. A better alternative would be insurance against failure of a well.

This, in effect, means that the more successful wells will partly finance the cost for the less successful ones. Indeed, writing off the loan in case of a failed well should not depend upon the State Government's willingness and convenience as is the situation at present. This should be decided by the financing institutions. A fund for this purpose may be created with contributions from NABARD as well as the Banks and the State Government; and the apex financial institution should administer it.

All this need not be interpreted to mean that loans for such purposes should be freed from the list of priority sector lending. Indeed, lending to agriculture as a priority sector, in these matters, should be enforced by stipulating a particular share of total bank advances for the purpose. That need not necessarily mean concessional interest rates.

If this policy is followed, the cooperative credit institutions will have less justification in diverting

their deposits to indirect agricultural lending and other purposes. Moreover, with the deposit money of the cooperatives used to finance capital projects of members, the members of the cooperatives are likely to take greater interest in such lending operations and keep a supervising eye on their utilization. The land development banks would, in that event, find it possible and useful to have local level committees of members to help in the approval and supervision of such loans. The PACS will also find their local committees sit up and take active interest in administration of medium term loans. The vast experience of the PACS in Kerala during the last decade or so, when more than half their loanable funds have been the deposits with them, is sure to be instructive in this regard.

The crop loan system needs careful review and improvement, in view of the feeling that it has slid down due to neglect. A proper implementation of the crop loan system would result in timely supply of credit to farmers, thereby avoiding considerable hardship and high cost. By-laws and practice regarding requirement of security and surety, particularly from tenants and small farmers whose names appear on the village revenue records as such, need to be changed. A proper implementation of crop loans can also help in defining a small farmer, who is expected to be given a fairer deal, in terms of his income rather than the size of land holding by which NABARD defines him today. This will result in a common uniform definition of small farmers for purposes of both short and long term credit, which at present is absent. In fact, it may be useful to use the PACS as agents of LDBs at the village level for disbursement of term loans and their supervision, thereby bringing about an effective coordination in the working of the two types of cooperative credit institutions. It, in turn, will help improve the financial situation of the PACS, many of which today have only a part-time secretary.

The problem of overdues is a mounting problem. There are many reasons for it. Bad weather and poor crops is one. Rescheduling in such cases, and writing off of interest for the small farmer has to be expeditiously done, so that these do not appear as overdues, blocking the farmer's line of

fresh credit. Crop loan insurance, currently under operation in many States for some crops, is sure to prove useful in this regard. Both these are not working properly because Government decision in one case and the subsidy contribution in the other do not come in time. It would be preferable for Government to make its subsidy contribution available to the Insurance Company in advance as deposit so that delays are avoided.

As indicated earlier, credit is a continuous operation, where repayment does not have to be total on a terminal date to facilitate fresh borrowing. But this is what has been practised in the cooperative credit field. Writing more than two decades ago, D.R. Gadgil, an outstanding thinker and leader in the field of cooperation, who was closely associated with the evolution of the crop loan system, said :

" The point that needs consideration in connection with current overdues is the concept of complete repayment at a point of time with reference to which overdues are defined. It was no doubt necessary in the earlier stages of the development of the cooperative movement to guarantee that at an appropriate time in the year the cultivator worked off his loan completely. It is proper also that the practice of fictitious repayments and early renewal is discouraged. However, when the cooperative becomes the only source of finance for a farm family and when the total loan operations become large, the question may be raised as to whether it is proper to expect that an account will be completely cleared at one particular point in the year. It is necessary in this context to look realistically at receipts and expenditure flowing in the economy of the individual cultivator. If during the production season the borrowings and the production outlay of the cultivator are increasing, at the end of the production season he has not only the repayment but the accumulated consumption expenditure needs to meet.... it would then happen that at no time in the year would his account ever be brought to zero. The banking account of a company with continuous production operations is never expected to be fully repaid at any one point of time. A good banker watches the accounts to see that they are active in an appropriate manner and

that in the slack season, if there is one, outstandings are brought down fairly low. There is, however, no insistence on complete clearing of debts in the renewable limits. When progress is made in the direction of giving full credit and covering consumption needs together with production needs, a revised view of definition of overdues may have to be taken. The present formula of complete repayment leads to the need of artificial adjustments in many cases and, therefore, a more satisfactory index of the behaviour of accounts may have to be established. This again is something which indicates the need for a greater elaboration of administration of credit in the direction of supervised individual credit" [Gadgil, 1975].

If the real overdues position were as it usually gets reported at the end of June, the situation would have been impossible by now. People do repay, at unavoidably different rhythms. Technical overdues only complicate matters by creating artificial barriers. It is sad that in thirty years we have not made any progress in this direction. With the primaries looking up, this improvement can be a real possibility.

In addition to all these, there is the problem of the relationship of the cooperative credit institutions with the Government. The cooperative is a business organisation, working within the overall socio-economic frame of the country and in that sense responsive to its goals. While due to initial shortage of funds and administrative experience, the State had to come to the help of the cooperatives in a big way, today the State appears to be far too much in control, thereby making it almost impossible for cooperators to learn by doing. Political interference, through the Government's supervisory agency - the Registrar's office - for reasons other than the health of the organisation, has become more and more visible. Administration of cooperative banks is taken over by State Governments without reference to and consent of the Reserve Bank/NABARD. As a special custodian of the cooperative credit institutions, the Reserve Bank and its agent, NABARD, should be entrusted with this responsibility of deciding on the take over of any cooperative bank. If the shareholding by the State Government in these banks creates any problems

in this matter, it may be desirable for NABARD/RBI to take up these State shares. Banks must function as banks, and be helped to do so.

Another type of political interference with cooperative as well as other credit institutions in India in recent years is the announcement by the State of writing off of massive sums of rural credit. This has become a growing malady affecting many different political parties in power. Apart from the strain it puts on the State's exchequer, with all its consequences, the step destroys the trust of the average cultivator in his basic values in regard to credit; those that have repaid before the write off feel cheated, and the impression gets round that if you hold back, one day it will be written off by the State. Nothing can do greater harm to credit institutions than such acts of populism by the Government. The State instead of indulging in such vandalism, should strengthen the hands of the credit agencies to pursue various other measures, some of which were mentioned above, by making appropriate financial contribution to the funds.

This brings me to the question of leadership of the cooperative institutions. These are business organisations functioning on democratic lines. As in any democratic institution, leadership is very important to its success. Building up the institutions and the leadership with it, is a time consuming process. The important thing here, as in any other type of institution, is to have sustained interest in and loyalty to the cause. In a democratic pluralistic society different institutions in different fields must play their respective roles. Unfortunately, beginning with the right attitude and approach, our cooperative movement seems to have lost track somewhere. Today, too many cooperative institutions are being used by their leaders, past and present, for promotion of their political goals. In the interest of both types of organisations, it is necessary to keep the two separate, functioning in their respective fields. Therefore, it is necessary that no elected member/office bearer of a cooperative institution should be at the same time a member of any elected political body like the Parliament, Assembly, Zilla Parishad, etc. Indeed, it would be desirable that any office bearer of a cooperative

wishing to contest election to any such political body should first resign from his position in the cooperative so that he does not use the cooperative for the purpose and in the process compromise its character and interest. It is absolutely necessary to observe such discipline if cooperative leadership is to be nurtured in our rural society. Many today regret the passing away of the older generation of dedicated cooperators; a time should come when the new ones would feel they are the true inheritors of the tradition of cooperation.

The Regional Rural Banks should be allowed to be the dominant institution in areas where cooperatives have not come up or are in a poor way. The Fourth Five Year Plan visualised the Agricultural Finance Corporations (which were to be set up in such regions) essentially as transitory arrangements. Ultimately, these were to transform and mature into cooperative institutions. I think the RRBs should serve a similar purpose in the long run. Its institutional structure at the ground level should associate borrower-members in small committees to advise and keep a supervising eye on loan operations. These bodies, properly structured, might provide the training ground for future leadership in the cooperative transform.

The trouble with the cooperatively under-developed regions, particularly in eastern India, is not only a lack of tradition in this field, largely as a result of the intermediary tenure system in land, but a lack of interest in the problem of agriculture and agricultural development in the middle and upper classes that provide the political leadership in these regions. Their most serious attention is concentrated on industrial development which they see as the best way of ensuring good salaried jobs. A leadership with interest in agriculture and its problems has to be created in such unhelpful social environment. The RRBs can and should make their modest contribution in this direction.

Finally, we should remind ourselves that a large body of our cultivators consists of small and marginal farmers, and their tribe is going to increase in the foreseeable future. The credit structure cannot afford to ignore their interest. Concessional interest rates on loans to small

farmers identified on the basis of total household income rather than individual land holdings, would help some of them. In their case an integrated credit system, with investment, production and consumption loans, also will have to be worked out in which the loan repayment operation will have to be a continuous process, on the lines indicated in the quotation from Prof. Gadgil's writing above. This will need greater supervised credit than what is practised today. The primaries have to be strengthened to that end.

But when all is said and done, one must remember that every indigent small and marginal farmer simply cannot be helped by credit alone. Unless there is a production base which credit can help the farmer to exploit, credit alone can be frustrating and worse. And, banks cannot necessarily be expected to create this base or environment. There is a tendency in our country to expect every type of institution to do everything. While the anxiety and urgency behind this is laudable, it creates impossible situations for such institutions. The lead banks in different districts, for example, are expected to prepare credit plans. But a credit plan presupposes a general economic development plan for the district. Since such a thing does not exist for most districts, the lead banks are expected to somehow prepare an outline of a development plan, on the basis of which they can prepare a credit plan. The less said about such efforts, the better.

The numbers and problems of small farmers are going to become acute in the years to come. It will be unreasonable and harmful to expect the credit institutions to help most of them out. The State has to have a clear thinking about how they can be helped. Changed strategy of agricultural investments in the public sector, to which reference was made earlier, would create the basis for the banks to help some of these small people. Other types of institutional organisations, like cooperative farms, will have to be developed for banks to help them. But finally not all of them may find it possible to stay in agriculture, and agricultural credit institutions cannot be the appropriate agencies for their purpose. This is

obvious; but in our hurry we resort to adhocism that runs counter to this, and brings the institutions to grief in the process.

Rural credit is a growing field, crucial to agricultural development and to the development of democratic institutions in rural society so necessary for our social organisation and progress. The relative neglect of cooperative institutions and ad-hoc approaches seem to have reduced the flow of credit to agriculture compared to the needs. Unless corrective measures are taken early, the cooperatives would get choked and the alternative will be of high cost and ineffective. It is high time serious thought and attention are given to these, if the growth of agriculture is to be sustained and improved in a better organised rural society.

FOOTNOTES

1. The annual compound rate of growth of about 2.7 per cent for total agricultural production during the 30 years since 1955 may be compared with a total 16 per cent growth over the first half of this century.
2. The tabulated data relating to this, based on the Debt and Investment Survey in 1981-82, carried out by the N.S.S.O, on behalf of the Reserve Bank of India, are not yet available. But the percentage is very likely to be greater than it was in 1971.
3. Of course RBI/NABARD have stipulated at least a certain part of the own funds of SCBs and DCCBs to be used for directed lending to agriculture. But there is general resistance to it, and exemptions are frequently sought and granted.

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TABLE 1. TOTAL SHORT TERM LOANS TO AGRICULTURE AND THE TOTAL COST OF AGRICULTURAL INPUTS

(Rs. Lakh)

Year (1)	Value of all Material Inputs (2)	Compensation to Employees (3)	(2+3) (4)	Cost of Five Inputs* (5)	Total Short Term Loans (6)	2 (7)	6 as Per cent of 4 (8)	5 (9)
1973-74	631615	435721	1067336	94994	83843	13.3	7.9	88.4
1974-75	795999	457979	1253978	237445	92865	11.7	7.4	39.1
1975-76	783924	525679	1309603	259288	113083	14.4	8.6	43.6
1976-77	851753	566577	1418330	281792	131629	15.5	9.3	46.7
1977-78	928610	727683	1656293	300790	139932	15.1	8.4	46.5
1978-79	976665	776741	1753406	338822	162696	16.7	9.3	48.0
1979-80	1168788	850259	2019047	390495	181216	15.5	9.0	46.4
1980-81	1469982	876155	2346137	552123	209984	14.3	9.0	38.0
1981-82	1755856	967118	2722974	743040	248996	14.2	9.1	33.5
1982-83	1878532	1007737	2886269	795688	257091	13.7	8.9	32.3
1983-84	2060037	1168982	3229019	856382	315013	15.3	9.8	36.8
1984-85	2194659	1228548	3423207	947386	349018	15.9	10.2	36.8

*The five inputs are chemical fertilizers, irrigation charges, electricity, pesticides and insecticides, diesel oil.

Source: 1. Cols. (2), (3) & (5) from respective volumes of the *National Accounts Statistics*, Central Statistical Organisation, Government of India. 2. Col. (6) from NABARD. These include a small amount of loans for marketing and consumption to rural households.

TABLE 3. TOTAL OVERDUES AND ANNUAL DISBURSEMENTS BY (A) ALL FINANCIAL INSTITUTIONS, i.e. PACS, CBS AND RRBs, AND (B) ONLY PACS, AS PERCENTAGE OF THE TOTAL COST OF FIVE PURCHASED INPUTS IN AGRICULTURE

(Rs. Lakh)

Year (1)	Overdues (2)	Total Disbursement (3)	(2+3) (4)	Cost of Five Inputs in Agriculture (5)	4 as Per cent of 5 (6)
(A) ALL FINANCIAL INSTITUTIONS					
1980-81	165702	209984	375686	552123	68.0
1981-82	150481	248996	399477	743040	53.8
1982-83	159009	257091	416100	795688	52.3
1983-84	192733	315013	507746	856382	59.3
1984-85	235689	349018	584707	947386	61.7
(B) ONLY PRIMARY AGRICULTURAL COOPERATIVE SOCIETIES					
1973-74	36819	69052	105871	94994	111.5
1974-75	49850	78259	128109	237445	54.0
1975-76	57595	91828	149423	259288	57.6
1976-77	65386	106244	171630	281792	60.9
1977-78	82718	111122	193840	300790	64.4
1978-79	97901	126191	224092	338822	66.1
1979-80	111932	135765	247697	390495	63.4
1980-81	136063	152632	288695	552123	52.3
1981-82	109911	179585	289496	743040	39.0
1982-83	121190	190814	312004	795688	39.2
1983-84	130851	215785	346636	856382	40.5
1984-85	157265	232365	389630	947386	41.1

Note: The overdue figures for commercial banks relate to short term loans only, while those for PACS and RRBs to medium and short term loans. The data relating to overdues of RRBs are available for only two years, 1983-84 and 1984-85.

Source: Cols(2) and (3): are from NABARD; Col (5) from Table 1 above.

TABLE 2. SHARE OF PRIMARY AGRICULTURAL CREDIT SOCIETIES, BANKS AND RRBs IN THE TOTAL SHORT TERM LOANS SUPPLIED TO AGRICULTURE AND ALLIED ACTIVITIES, 1973-85

States	Percentage Distribution of		1973-74		1974-75		1975-76		1976-77		1977-78		1978-79		1979-80	
	Gross Cropped Area 1982-83	Gross Irrigated Area 1982-83	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
A. P.	7.4	8.7	47.0	53.0	49.2	50.8	61.0	39.0	58.9	41.1	49.4	50.6	50.7	49.3	46.3	53.7
Assam	2.1	1.1	64.5	35.5	80.3	19.7	-	100.0	54.3	45.7	61.3	38.7	66.9	33.1	77.8	22.2
Bihar	5.6	6.4	80.4	19.6	91.5	8.5	80.9	19.1	76.8	23.2	74.7	25.3	81.1	18.9	79.2	20.8
Gujarat	5.9	4.9	91.3	8.7	92.4	7.6	89.4	10.6	87.7	12.3	88.0	12.0	86.6	13.4	85.1	14.9
Haryana	3.1	6.8	95.3	4.7	94.4	5.6	95.9	4.1	97.2	2.8	96.0	4.0	96.8	3.2	92.3	7.7
H. P.	0.6	0.3	89.2	10.8	90.2	9.8	78.5	21.5	82.6	17.4	67.6	32.4	68.3	31.7	46.0	54.0
J. & K.	0.6	0.8	96.0	4.0	92.1	7.9	-	100.0	95.0	5.0	87.4	12.6	67.4	32.6	65.5	34.5
Karnataka	6.4	3.4	78.7	21.3	79.5	20.5	69.6	30.4	69.7	30.3	68.2	31.8	64.7	35.3	64.1	35.9
Kerala	1.6	0.7	80.5	19.5	70.7	29.3	61.4	38.6	63.8	36.2	69.0	31.0	71.9	28.1	74.7	25.3
M. P.	12.9	5.3	93.1	6.9	95.6	4.4	96.2	3.8	93.3	6.7	93.1	6.9	92.3	7.7	90.7	9.3
Maharashtra	11.6	5.2	85.3	14.7	87.6	12.4	90.0	10.0	91.2	8.8	89.9	10.1	88.3	11.7	86.2	13.8
Orissa	4.8	3.9	88.6	11.4	86.9	13.1	82.9	17.1	80.8	19.2	78.4	21.6	78.8	21.2	80.5	19.5
Punjab	4.0	11.8	97.8	2.2	97.7	2.3	96.2	3.8	91.2	8.8	87.0	13.0	84.3	15.7	85.9	14.1
Rajasthan	10.6	7.9	96.7	3.3	95.5	4.5	95.9	4.1	94.8	5.2	94.1	5.9	93.6	6.4	94.6	5.4
T. N.	3.5	5.2	65.3	34.7	72.3	27.7	67.6	32.4	73.2	26.8	72.1	27.9	60.1	39.9	39.5	60.5
U. P.	14.3	23.3	94.8	5.2	92.2	7.8	90.2	9.8	89.5	10.5	91.5	8.5	89.1	10.9	88.1	11.9
W. B.	4.0	3.5	79.1	20.9	85.5	14.5	80.7	19.3	92.2	7.8	76.5	23.5	74.9	25.1	75.8	24.2
Others	1.0	0.8	40.5	59.5	46.6	53.4	52.4	47.6	22.1	77.9	49.8	50.2	51.0	49.0	46.6	53.4
India	100.0	100.0	82.4	17.6	84.3	15.7	81.2	18.8	80.7	19.3	79.4	20.6	77.6	22.4	74.9	25.1

TABLE 2. (Concl'd.)

States	1980-81			1981-82			1982-83			1983-84			1984-85		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
A. P.	48.9	45.6	5.5	41.8	53.1	5.1	41.3	47.6	11.1	24.9	67.0	8.1	29.6	60.4	10.0
Assam	58.7	13.9	27.4	28.9	42.8	28.3	57.2	27.4	15.4	56.6	32.6	10.8	67.7	26.7	5.6
Bihar	66.0	25.7	8.3	75.3	16.2	8.5	80.0	10.7	9.3	73.4	13.6	13.0	61.2	29.4	9.4
Gujarat	83.4	16.5	0.1	83.4	16.4	0.2	86.2	13.6	0.2	81.1	18.6	0.3	80.2	19.4	0.4
Haryana	93.3	6.6	0.1	94.4	5.6	neg.	97.2	2.8	neg.	96.4	3.6	neg.	94.7	5.2	0.1
H. P.	51.0	46.6	2.4	64.8	34.0	1.2	79.3	16.1	4.6	77.9	19.6	2.5	66.1	31.1	2.8
J. & K.	63.9	31.5	4.6	43.5	49.2	7.3	79.2	7.4	13.4	67.0	22.4	10.6	43.5	46.1	10.4
Karnataka	61.4	33.9	4.7	55.0	39.4	5.6	55.7	37.0	7.3	56.8	33.9	9.3	54.2	36.3	9.5
Kerala	71.4	22.8	5.8	72.6	22.5	4.9	70.5	24.5	5.0	69.9	26.7	3.4	71.9	23.6	4.5
M. P.	92.3	6.8	0.9	92.8	6.0	1.2	95.4	3.4	1.2	91.3	6.5	2.2	90.6	7.4	2.0
Maharashtra	87.9	12.0	0.1	83.3	16.6	0.1	91.4	8.5	0.1	86.1	13.6	0.3	83.0	16.3	0.7
Orissa	61.1	34.9	4.0	75.0	15.7	9.3	64.8	24.4	10.8	66.0	23.4	10.6	67.6	23.2	9.2
Punjab	82.9	17.1	-	79.3	20.7	-	83.7	16.3	-	85.7	14.3	neg.	82.3	17.6	0.1
Rajasthan	92.1	6.1	1.8	92.4	6.5	1.1	93.2	6.0	0.8	91.6	7.3	1.1	87.3	11.3	1.4
T. N.	27.3	67.2	5.5	48.0	48.1	3.9	45.5	50.2	4.3	43.3	52.7	4.0	33.6	66.4	-
U. P.	80.9	17.5	1.6	83.4	14.2	2.4	87.5	9.8	2.7	85.7	11.4	2.9	79.8	15.6	4.6
W. B.	65.3	29.7	5.0	70.5	23.0	6.5	64.0	24.5	11.5	78.7	13.9	7.4	82.2	14.8	3.0
Others	48.2	47.5	4.3	32.4	61.0	6.6	38.1	55.3	6.6	21.0	76.0	3.0	30.4	69.5	0.1
India	72.7	24.6	2.7	72.1	25.0	2.9	74.2	22.0	3.8	68.5	27.7	3.8	66.6	29.6	3.8

Note: Col(1): PACS; Col(2): Commercial Banks including RRBs till 1979-80, and separated thereafter; Col(3): from 1980-81 onwards RRBs.

neg: negligible

Sources: (1) Data from the Reserve Bank of India and NABARD, obtained through the good offices of NABARD. (2) *Indian Agriculture in Brief*, 21st Edition, Ministry of Agriculture, Government of India.

TABLE 4. SHORT TERM LOANS TO AGRICULTURE AND ALLIED ACTIVITIES PROVIDED BY PACS, CBS AND RRBs, 1973-85

TABLE 4. SHORT TERM LOANS TO AGRICULTURE AND ALLIED ACTIVITIES PROVIDED BY PACS, CBS AND REGS, 1973-85 (Per cent)																						
States	1973-74			1974-75			1975-76			1976-77			1977-78			1978-79			1979-80			Total (3)
	PACS (1)	CB (2)	Total (3)	PACS (1)	CB (2)	Total (3)	PACS (1)	CB (2)	Total (3)	PACS (1)	CB (2)	Total (3)	PACS (1)	CB (2)	Total (3)	PACS (1)	CB (2)	Total (3)	PACS (1)	CB (2)	Total (3)	
A. P.	4.3	22.8	7.6	3.8	21.1	6.5	7.5	20.8	10.0	7.5	22.0	10.3	6.2	24.5	10.0	6.7	22.5	10.3	7.0	24.2	11.3	
Assam	0.2	0.4	0.2	0.2	0.2	0.2	-	0.1	neg.	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Bihar	1.8	2.1	1.9	1.6	0.8	1.5	2.0	2.0	2.0	1.7	2.1	1.8	1.6	2.1	1.7	1.7	1.3	1.6	1.5	1.2	1.4	
Gujarat	15.4	6.8	13.9	14.4	6.4	13.2	11.7	6.0	10.6	9.6	5.6	8.8	9.6	5.1	8.6	10.1	5.4	9.0	10.2	5.3	9.0	
Haryn.	4.1	0.9	3.5	4.4	1.4	4.0	4.5	0.8	3.8	6.2	0.7	5.2	6.2	1.0	5.2	7.3	0.9	5.8	5.9	1.5	4.8	
H.P.	0.4	0.2	0.3	0.4	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.3	0.1	0.3	0.2	0.1	0.5	0.2	
J & K	0.3	0.1	0.3	0.1	0.1	0.1	-	0.1	neg.	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.4	0.3	
Karn.	6.5	8.2	6.8	7.5	10.4	8.0	7.9	14.8	9.2	6.3	11.5	7.3	6.1	10.9	7.1	5.7	10.7	6.8	6.0	10.0	7.0	
Kerala	5.2	5.9	5.3	4.8	10.6	5.7	4.3	11.8	5.7	4.9	11.8	6.3	5.9	10.1	6.7	8.1	11.0	8.8	9.5	9.6	9.6	
M. P.	7.3	2.5	6.5	7.2	1.8	6.4	7.3	1.2	6.1	5.8	1.7	5.0	5.4	1.5	4.6	6.2	1.8	5.3	5.9	1.8	4.9	
Mah.	18.2	14.6	17.6	17.0	12.9	16.3	15.0	7.2	13.6	15.1	6.1	13.3	13.2	5.7	11.6	11.0	5.0	9.6	12.2	5.8	10.6	
Orissa	1.7	1.1	1.6	1.8	1.5	1.8	1.8	1.6	1.8	2.0	2.0	2.0	2.2	2.3	2.2	2.5	2.3	2.5	3.0	2.2	2.8	
Punjab	8.3	0.9	7.0	9.7	1.2	8.3	7.9	1.3	6.7	7.0	2.8	6.2	7.8	4.5	7.1	9.6	6.2	8.8	14.5	7.1	12.7	
Raj.	3.4	0.6	2.9	4.2	1.0	3.7	6.4	1.2	5.4	5.3	1.2	4.5	4.9	1.2	4.1	5.1	1.2	4.2	5.1	0.9	4.0	
T. N.	10.5	26.2	13.3	10.9	22.3	12.6	10.9	22.6	13.1	12.9	19.9	14.3	12.9	19.2	14.2	8.7	20.0	11.2	4.7	21.2	8.8	
U. P.	10.0	2.5	8.7	9.1	4.1	8.3	9.9	4.7	8.9	11.7	5.8	10.5	12.8	4.6	11.2	12.5	5.3	10.9	10.9	4.4	9.2	
W. B.	2.1	2.5	2.1	2.6	2.4	2.6	2.3	2.3	2.3	3.1	1.1	2.7	4.4	5.3	4.6	4.1	4.7	4.2	2.8	2.7	2.8	
Others	0.3	1.7	0.5	0.3	1.6	0.5	0.3	1.2	0.5	0.4	5.1	1.3	0.3	1.3	0.5	0.3	1.0	0.5	0.4	1.1	0.5	
India	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Loans*	690.52	147.91	838.43	782.59	146.06	928.65	918.28	212.55	1130.83	1062.44	253.85	1316.29	1111.22	288.10	1399.32	1261.91	365.05	1626.96	1357.65	454.51	1812.16	
States	1980-81			1981-82			1982-83			1983-84			1984-85			TOTAL (4)						
PACS (1)	CB (2)	RRB (3)	TOTAL (4)	PACS (1)	CB (2)	RRB (3)	TOTAL (4)	PACS (1)	CB (2)	RRB (3)	TOTAL (4)	PACS (1)	CB (2)	RRB (3)	TOTAL (4)							
A. P.	6.6	18.2	20.2	9.8	5.8	21.3	17.8	10.1	5.5	21.6	28.1	10.0	5.1	34.0	29.9	14.1	38.1	29.1	38.1	14.3		
Assam	0.1	0.1	1.1	0.1	0.1	0.1	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.1	0.1	0.1	0.1		
Bihar	0.9	1.1	3.2	1.1	1.4	0.9	4.0	1.3	1.4	0.6	3.2	1.3	0.9	4.0	3.0	0.9	1.2	1.2	3.1	1.2		
Gujarat	7.9	4.6	0.3	6.9	7.4	4.2	0.6	6.4	6.9	3.7	0.3	5.9	6.9	3.9	0.5	5.8	7.7	4.2	0.6	6.4		
Haryn.	7.7	1.6	0.1	6.0	8.0	1.4	0.1	6.1	8.9	0.9	0.1	0.1	6.8	7.7	0.7	0.1	5.5	7.4	0.9	0.1		
H.P.	0.2	0.4	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2		
J & K	0.2	0.3	0.4	0.2	0.2	0.5	0.7	0.3	0.2	0.2	0.1	0.5	0.2	0.1	0.1	0.4	0.1	0.2	0.4	0.2		
Karn.	6.0	9.9	12.6	7.2	6.1	12.5	15.6	7.9	5.5	12.4	14.2	14.2	7.4	6.6	9.7	19.5	8.0	6.0	9.1	18.7		
Kerala	11.0	10.4	24.2	11.2	10.1	9.0	17.1	10.0	10.7	12.6	14.8	11.3	10.5	9.9	9.3	10.2	13.3	9.8	14.5	12.3		
M. P.	7.6	1.6	1.9	6.0	7.5	1.4	2.4	5.8	7.1	0.8	1.7	5.5	6.3	1.1	2.7	4.7	7.2	1.3	2.8	5.3		
Mah.	14.2	5.7	0.2	11.8	14.2	8.2	0.5	12.3	16.2	5.1	0.3	13.1	13.7	5.4	0.7	10.9	12.6	5.5	1.9	10.1		
Orissa	3.6	6.2	6.3	4.3	3.3	2.0	10.3	3.2	3.0	3.9	9.9	9.9	3.5	3.3	2.9	9.4	3.4	2.5	2.0	6.1		
Punjab	12.9	7.8	-	11.2	10.9	8.2	-	9.9	10.2	6.7	-	-	9.1	13.2	5.5	0.0	10.6	12.4	6.0	0.2		
Raj.	4.8	0.9	2.5	3.8	5.3	1.1	1.6	4.1	5.3	1.1	0.9	4.2	5.1	1.0	1.1	3.8	4.5	1.3	1.2	3.4		
T. N.	2.8	20.0	15.1	7.3	7.2	20.8	14.7	10.8	6.1	22.7	11.3	9.9	6.1	18.5	10.1	9.7	5.0	22.3	-	10.0		
U. P.	10.7	6.8	5.7	9.6	10.0	4.9	7.3	8.6	10.8	4.1	6.5	9.2	10.5	3.5	6.5	8.4	9.7	4.2	9.7	8.0		
W. B.	2.5	3.4	5.2	2.8	2.3	2.2	5.4	2.4	1.7	2.2	5.9	3.5	3.5	2.0	3.5	5.8	3.0	3.6	1.5	2.4		
Others	0.3	1.0	0.8	0.5	0.2	1.1	1.0	0.4	0.3	1.3	0.9	0.5	0.2	1.6	0.5	0.6	0.2	1.1	0.0	0.5		
India	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Loans*	1526.32	517.02	56.50	2099.84	1795.85	623.07	71.04	2489.96	1908.14	564.83	97.94	2570.91	2157.85	872.46	119.82	3150.13	2323.65	1034.86	131.67	3490.18		

neg: negligible; * Rs.Crore

Source: Supplied by NABARD.

TABLE 5. CONSUMPTION OF CHEMICAL FERTILIZERS AND TOTAL CROP LOANS BY ALL FINANCIAL INSTITUTIONS, 1973-85.

States	1973-74		1974-75		1975-76		1976-77		1977-78		1978-79		1979-80		1980-81		1981-82		1982-83		1983-84		1984-85	
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
A. P.	9.9	11.2	11.9	6.8	14.2	10.1	11.8	9.7	12.2	9.3	11.8	10.2	10.2	11.8	10.4	8.6	10.8	7.7	11.4	7.9	11.8	13.0	11.9	11.0
Assam	0.3	0.3	0.3	0.2	0.2	neg	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1
Bihar	3.4	2.7	4.5	1.5	4.7	2.0	4.6	1.7	4.0	1.6	3.8	1.6	3.5	1.5	3.7	1.0	3.4	1.2	3.2	1.1	3.8	0.9	4.6	1.0
Gujarat	7.4	20.4	5.8	10.6	5.2	10.7	5.9	8.3	6.8	8.1	6.3	9.0	7.2	9.4	6.5	6.1	6.6	4.7	5.7	4.7	6.5	5.4	6.1	5.5
Haryana	4.0	5.2	2.9	3.1	3.3	3.9	4.0	4.9	4.4	4.8	4.0	5.8	4.1	5.0	4.2	5.3	4.1	4.9	4.2	5.4	4.2	5.1	4.1	4.5
H. P.	0.2	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.1	0.3	0.1	0.2	0.2	0.3	0.1
J & K	0.5	0.4	0.3	0.1	0.4	neg	0.4	0.2	0.3	0.2	0.3	0.2	0.4	0.3	0.4	0.2	0.4	0.3	0.5	0.2	0.2	0.2	0.4	0.1
Karnataka	6.8	10.0	9.0	6.4	7.6	9.3	6.0	6.9	6.3	6.6	7.1	6.8	7.0	7.3	6.2	6.3	6.3	5.8	6.0	5.9	6.3	7.4	7.2	6.2
Kerala	2.9	7.8	2.6	4.3	2.2	5.8	2.0	5.9	1.8	6.3	2.0	8.7	2.0	10.0	1.8	10.3	1.6	8.9	1.6	9.3	1.7	9.9	1.6	10.2
M. P.	4.6	9.6	3.9	5.2	3.7	6.2	4.0	4.7	3.7	4.3	3.8	5.2	3.0	5.1	3.6	5.3	3.9	4.4	3.7	4.5	4.1	4.6	4.5	4.5
Maharashtra	9.2	25.9	11.8	13.4	9.2	13.7	8.5	12.6	8.4	10.4	7.4	9.6	8.0	11.0	7.6	10.3	8.7	9.0	7.8	10.4	8.3	10.1	7.1	8.6
Orissa	2.2	2.4	1.9	1.4	1.7	1.8	1.8	1.9	1.5	2.1	1.4	2.4	1.3	2.9	1.4	3.8	1.4	3.0	1.8	2.9	1.3	5.1	1.4	1.9
Punjab	11.8	10.3	9.9	6.5	10.8	6.8	10.9	5.9	10.6	6.6	11.6	8.8	13.0	13.2	13.7	9.8	13.5	7.9	13.9	7.2	12.9	9.8	12.8	8.6
Rajasthan	2.6	4.3	2.3	2.8	2.7	5.4	2.9	4.3	2.6	3.9	2.6	4.2	2.8	4.2	2.4	3.4	2.3	3.3	2.6	3.3	2.7	3.5	2.5	2.9
T. N.	11.9	19.6	9.5	11.2	10.4	13.2	8.1	13.5	10.0	13.2	9.6	11.2	10.2	9.2	8.9	6.4	8.4	7.0	7.4	7.9	7.6	9.1	8.4	8.7
U. P.	16.3	12.7	16.0	6.5	16.8	9.0	21.4	10.0	20.1	10.4	20.6	10.8	19.2	9.7	20.9	8.4	20.9	7.6	22.4	7.2	21.3	7.3	19.6	6.6
W. B.	3.6	3.1	4.9	2.2	4.5	2.3	4.5	2.6	4.0	4.3	4.8	4.2	4.6	2.9	5.1	2.5	4.3	1.9	4.2	1.5	4.8	2.9	4.9	2.5
India	100.0	147.1	100.0	82.7	100.0	101.0	100.0	94.7	100.0	93.5	100.0	98.9	100.0	104.3	100.0	88.3	100.0	78.1	100.0	80.0	100.0	95.1	100.0	83.5

(A): Consumption of fertilizers in each State in a year as per cent of the total consumption of fertilizers in the country in that year.

(B): Short term loans advanced to farmers in each State in a year as per cent of the total expenditure on fertilizers in the country in that year, as given in the *National Accounts Statistics*, Central Statistical Organisation, Government of India.

neg: negligible

Source: Data on fertilizer consumption from 1973-74 to 1981-82 from *Fertilizer Statistics*, and *FAI Annual Review of Fertilizer Production and Consumption*. For 1982-83, *Indian Agriculture in Brief*, Twentieth Edition. For 1983-85, *Agricultural Statistics at a Glance*, Ministry of Agriculture, Government of India, April 1986.

TABLE 6. TOTAL LOANS AND ADVANCES PER BORROWER FROM PRIMARY AGRICULTURAL CREDIT SOCIETIES, CLASSIFIED ACCORDING TO SIZE OF LAND HOLDING, 1976-81 (Rupees)

States	1976-77										1977-78										1978-79									
	Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -				
	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8
A. P.	619	774	810	830	1191	332	233	465	780	681	683	747	780	713	795	630	317	1599	720	622	622	650	674	628	622	622	622	622	622	622
Assam	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bihar	445	774	990	2057	2855	239	382	518	1475	269	893	1047	1418	2070	3609	307	1799	3946	1868	69	69	81	183	225	238	238	238	238	238	238
Gujarat	817	1734	1602	1312	2283	407	422	500	1301	1132	1132	1125	1521	1875	1653	480	1000	1445	1388	520	520	854	1472	2352	5012	5012	5012	5012	5012	5012
Hryn.	239	412	558	659	290	422	497	345	388	189	189	397	438	735	462	173	311	247	354	422	422	798	665	569	393	393	393	393	393	393
H.P.	159	227	199	523	239	302	320	335	216	190	190	358	503	1651	755	1000	281	-	352	222	222	448	550	1321	619	619	619	619	619	619
J & K	159	227	199	523	239	302	320	335	216	190	190	358	503	1651	755	1000	281	-	352	222	222	448	550	1321	619	619	619	619	619	619
Karn.	735	1146	1269	1649	1711	326	826	826	1155	567	691	1063	1498	1143	1171	1059	2560	1011	1011	562	562	808	1118	1314	2223	2223	2223	2223	2223	2223
Kerala	213	635	597	662	619	263	298	220	384	626	626	810	962	803	973	505	346	386	715	886	886	1159	1392	1363	1558	1558	1558	1558	1558	1558
M. P.	214	480	761	1153	1843	226	179	995	1067	776	776	690	998	1569	2416	277	572	553	762	335	335	606	865	1446	1826	1826	1826	1826	1826	1826
Mah.	363	610	902	1678	2371	226	605	995	1067	776	776	690	998	1569	2416	277	572	553	762	335	335	606	865	1446	1826	1826	1826	1826	1826	1826
Orissa	363	610	902	1678	2371	226	605	995	1067	776	776	690	998	1569	2416	277	572	553	762	335	335	606	865	1446	1826	1826	1826	1826	1826	1826
Punjab	534	820	1106	1508	486	512	392	546	795	1675	1675	801	272	1066	813	1620	8205	1966	639	639	639	1134	1577	1145	1174	1174	1174	1174	1174	1174
Raj.	242	399	579	885	950	512	392	546	795	1675	1675	801	272	1066	813	1620	8205	1966	639	639	639	1134	1577	1145	1174	1174	1174	1174	1174	1174
T. N.	307	393	674	619	2233	203	1287	746	490	772	772	391	611	696	2393	285	950	-	609	282	282	446	533	795	1412	1412	1412	1412	1412	1412
U. P.	282	480	522	665	2410	202	514	282	504	365	365	506	681	760	1017	370	413	277	550	322	322	474	1078	902	1075	1075	1075	1075	1075	1075
W. B.	249	434	742	781	1199	95	115	68	395	326	326	511	976	1342	3900	100	98	143	490	362	362	559	1068	1463	2038	2038	2038	2038	2038	2038
India	344	602	801	1120	1654	294	584	433	677	552	552	602	804	1108	1632	470	1007	953	774	440	440	577	933	1138	1637	1637	1637	1637	1637	1637

TABLE 6. (Contd.)

States	1978-79 (Contd.)										1979-80										1980-81									
	Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -					Size Class of Farmers - Hectares -				
	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8	Upto 1	1-2	2-4	4-8	Above 8
A. P.	717	575	715	715	642	675	685	708	725	790	912	616	285	780	712	738	663	858	1450	1708	639	454	750	96	838	838	838	838	838	838
Assam	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bihar	1013	1746	1276	1276	2050	637	1080	1875	2835	5669	627	976	1226	354	2137	523	1063	1483	3048	4928	364	2186	359	1988	1988	1988	1988	1988	1988	1988
Gujarat	1729	1296	1404	1404	1603	1277	1414	1879	1636	1917	1286	976	1226	354	2137	523	1063	1483	3048	4928	364	2186	359	1988	1988	1988	1988	1988	1988	1988
Hryn.	301	486	465	465	570	505	712	713	657	683	413	371	450	226	85	211	967	861	949	594	446	386	683	745	745	745	745	745	745	745
H.P.	50	55	55	55	364	85	211	967	861	949	533	913	999	999	1393	745	1242	2171	3008	3547	589	1506	819	1578	1578	1578	1578	1578	1578	1578
J & K	406	881	1194	1194	1102	808	1131	1469	2164	3108	533	913	999	999	1393	745	1242	2171	3008	3547	589	1506	819	1578	1578	1578	1578	1578	1578	1578
Karn.	771	518	542	542	1036	955	1339	1478	1528	1572	715	519	519	582	1128	1193	1678	1820	1899	1939	837	647	766	1404	1404	1404	1404	1404	1404	1404
Kerala	315	938	236	236	983	416	657	1166	1462	1939	215	575	575	761	1373	742	1201	2351	1670	4105	225	1119	688	1727	1727	1727	1727	1727	1727	1727
M. P.	277	523	410	410	1190	664	780	1309	2124	2645	200	575	575	761	1373	742	1201	2351	1670	4105	225	1119	688	1727	1727	1727	1727	1727	1727	1727
Mah.	324	597	415	415	639	540	676	871	751	2728	690	687	539	539	1548	714	350	666	930	1115	1713	1986	2604	821	821	821	821	821	821	821
Orissa	794	437	1223	1223	1146	632	1187	4092	1081	2276	2790	1013	1547	1547	1548	714	350	666	930	1115	1713	1986	2604	821	821	821	821	821	821	821
Punjab	1841	651	968	968	644	338	410	590	927	1527	2790	1013	1547	1547	1548	714	350	666	930	1115	1713	1986	2604	821	821	821	821	821	821	821
Raj.	651	677	481	481	498	120	217	372	442	751	319	333	333	478	626	434	651	758	830	704	462	463	463	442	442	442	442	442	442	442
T. N.	135	398	106	106	555	403	714	694	876	1059	475	210	210	478	626	434	651	758	830	704	462	463	463	442	442	442	442	442	442	442
U. P.	116	115	115	115	583	301	504	616	995	1548	189	515	515	672	826	516	629	983	968	2167	682	622	858	897	897	897	897	897	897	897
W. B.	538	583	640	640	778	462	645	1005	1130	1783	189	515	515	672	826	516	629	983	968	2167	682	622	858	897	897	897	897	897	897	897
India	538	583	640	640	778	462	645	1005	1130	1783	189	515	515	672	826	516	629	983	968	2167	682	622	858	897	897	897	897	897	897	897

Source: Calculated from Statistical Statements Relating to the Cooperative Movement in India, Part I, Reserve Bank of India/NABARD for relevant years.

TABLE 7. LOANS AND ADVANCES PER HECTARE BY PACS, IN DIFFERENT SIZE-CLASSES OF LAND HOLDINGS, 1976-81.

States	Upto 1 Hectare					1-2 Hectares					2-4 Hectares					4-8 Hectares					Above 8 Hectares				
	76-77	77-78	78-79	79-80	80-81	76-77	77-78	78-79	79-80	80-81	76-77	77-78	78-79	79-80	80-81	76-77	77-78	78-79	79-80	80-81	76-77	77-78	78-79	79-80	80-81
A.P.	1238	1366	1245	1351	1477	516	498	434	457	442	270	260	225	237	286	138	119	105	121	242	119	79	62	79	171
Assam	-	-	-	783	679	-	-	-	233	247	-	-	-	-	135	150	-	-	-	79	48	-	-	-	-
Bihar	-	-	138	138	66	-	-	54	54	31	-	-	61	61	56	-	-	37	37	8	-	-	24	24	9
Gujarat	889	1786	1039	1273	1046	516	698	569	720	709	330	473	473	625	494	343	345	392	472	508	286	361	501	567	493
Hryn.	1634	2263	2421	2554	1960	1156	750	936	943	895	534	507	611	626	841	219	313	306	273	362	228	165	168	192	298
H.P.	477	379	843	1009	999	275	265	266	475	635	186	216	222	238	338	110	122	95	109	127	29	46	39	68	59
J & K	318	380	445	171	171	151	225	256	141	141	66	168	183	322	322	87	275	220	144	144	24	76	62	95	95
Karn.	1469	1133	1125	1615	1489	764	461	539	754	828	423	354	373	490	724	275	250	271	361	501	171	114	222	311	355
Kerala	425	1251	1772	1910	2385	423	540	772	893	1119	199	321	464	493	607	110	134	227	255	317	62	97	156	157	194
M.P.	427	501	669	832	1040	320	295	405	438	459	254	243	288	389	324	192	186	241	244	250	184	156	183	194	178
Mah.	727	1551	963	1328	1484	407	460	456	520	801	301	333	375	436	784	280	262	328	354	278	237	242	270	265	411
Orissa	730	977	761	1080	858	330	396	433	450	502	232	229	238	290	421	140	145	137	125	240	213	133	159	273	201
Punjab	1068	3349	1257	1264	1562	546	534	756	791	1011	369	91	526	1364	915	251	178	191	180	251	49	81	117	228	243
Raj.	484	384	564	675	700	266	279	298	273	444	193	164	178	197	310	148	142	133	155	186	95	120	141	153	117
T.N.	613	1544	633	240	219	262	260	227	145	107	225	203	285	124	98	103	116	113	74	39	223	239	111	75	91
U.P.	564	729	645	807	867	320	337	316	476	434	174	227	359	231	253	111	127	150	146	139	241	102	107	106	70
W.B.	497	652	723	601	1007	290	341	372	336	419	247	325	356	205	328	130	224	244	166	161	120	390	204	155	217
India	689	1104	879	925	1032	401	402	385	431	462	267	268	311	334	390	187	185	190	188	208	165	163	164	178	182

Source: Calculated from Statistical Statements Relating To The Cooperative Movement In India, Part I, Reserve Bank of India/NABARD for relevant years.

TABLE 8. PER BORROWER SHORT TERM LOANS TO AGRICULTURE DISTRIBUTED BY COMMERCIAL BANKS, ACCORDING TO SIZE OF LAND HOLDING, 1979-84

States	1979-80 -hectares-					1980-81 -hectares-				
	Upto 1	1 to 2	2-4	Above 4	Total	Upto 1	1 to 2	2-4	Above 4	Total
A. P.	1381	2517	2588	5420	2342	1584	2348	3348	5987	2486
Assam	334	1199	426	50000	450	352	655	818	7527	610
Bihar	533	1141	1518	2094	940	795	1245	1777	2975	1191
Gujarat	1747	2721	4504	7612	4414	1676	3178	4748	8076	4771
Haryana	1539	1849	2809	5738	2749	1819	1743	2625	6660	2863
H. P.	979	2721	4677	4667	1526	1750	3857	6852	9474	2745
J & K	1234	2321	7792	30509	3654	1286	2473	6283	13983	4550
Karnataka	1346	1995	4394	8649	2342	1224	1900	3714	7142	2528
Kerala	914	1516	2091	6907	1142	1133	1814	2691	16324	1395
M. P.	1996	2174	2095	2377	2198	1591	1829	1954	2661	2095
Maharashtra	1607	2493	3364	6256	3387	1821	2522	3703	5683	3632
Orissa	2428	2716	2091	2459	2475	1458	1725	1575	1580	1565
Punjab	2129	2722	3704	4874	3402	2237	2974	3652	5151	3591
Rajasthan	1249	1504	2129	3577	2404	1226	1777	2290	3473	2476
T. N.	1261	1405	2404	3631	1476	1403	1605	2545	6196	1624
U. P.	560	877	1819	2182	1087	826	1331	2358	6939	1907
W. B.	1055	1211	1896	8946	1304	2211	1484	2100	7561	2080
India	1186	1800	2677	4849	1867	1368	1883	2939	5485	2071

TABLE 8. (Concl.)

States	1981-82 -hectares-				1982-83 -hectares-				1983-84 -hectares-				Total
	Upto 2.5	2.5 to 5	5-10	Above 10	Total	Upto 2.5	2.5 to 5	Above 5	Total	Upto 2.5	2.5 to 5	Above 5	
A. P.	1743	2509	3837	5323	2599	2185	2825	5493	3175	1770	3084	5707	2897
Assam	1799	1257	1173	93539	3250	2009	3588	6400	3190	1687	2318	8632	2428
Bihar	887	1217	1591	2753	1168	1497	1768	2769	1751	1023	886	1482	1035
Gujarat	1391	2836	4879	6645	3815	1499	3309	7218	5097	2987	4693	7842	6190
Haryana	3544	5472	6913	9051	6183	3141	3919	5886	4885	2589	3672	5596	4592
H. P.	2307	3233	7679	10455	2791	2014	2087	6667	2206	2497	2938	2267	2576
J & K	1305	2291	20789	5063	3242	2496	2903	25000	2891	2241	16177	28649	9338
Karnataka	1862	3022	4077	7753	3319	2075	3264	6334	3608	2520	3793	6975	4143
Kerala	1712	2406	4458	10831	1936	1830	2296	3648	1983	2094	2461	4106	2243
M. P.	1048	1213	1363	3548	1516	1500	1677	2765	2154	1223	1946	3068	2293
Maharashtra	2332	2922	4269	6412	4172	2921	3463	4505	3975	3635	3392	4972	4229
Orissa	1137	1675	1845	2403	1368	1151	5877	6288	3868	1166	5197	7103	3977
Punjab	2030	2999	5010	6496	3810	4549	3984	4411	4312	2775	4430	5709	4947
Rajasthan	4842	1844	2483	4053	3547	2379	2641	4756	4056	1769	2676	4050	3477
T. N.	1894	2400	3581	9073	2295	2044	2433	3371	2331	2113	2444	4140	2480
U. P.	996	1644	2217	3378	1658	1365	2280	3963	3232	1423	2247	4054	2354
W. B.	1137	3341	4331	10620	2005	975	1457	12414	1413	1499	1974	6671	1872
India	1703	2395	3525	6020	2490	1916	2763	4898	2778	1978	2926	5447	2952

Note: The Original Tables give the classes in acres; these are converted into hectares at the rate of 2.5 acres = 1 hectare
 Source: Report On Currency And Finance, Vol II Reserve Bank of India, for relevant years.

TABLE 9. BORROWERS FROM PACS DURING A YEAR AS PERCENTAGE OF TOTAL MEMBERSHIP OF PACS DURING THE YEAR.

States	1976-77										1977-78										1978-79										Total Borrow- ers
	Farmers with Land Holdings - Hectares -					Total Borrow- ers	Farmers with Land Holdings - Hectares -					Total Borrow- ers	Farmers with Land Holdings - Hectares -					Total Borrow- ers	Farmers with Land Holdings - Hectares -					Total Borrow- ers							
	Agricultural Labour- ers		Others		Agricultural Labour- ers		Others		Agricultural Labour- ers		Others		Agricultural Labour- ers		Others		Agricultural Labour- ers		Others												
	Upto 1	Above 2	Upto 1	Above 2	Upto 1		Above 2	Upto 1	Above 2	Upto 1	Above 2		Upto 1	Above 2	Upto 1	Above 2	Upto 1		Above 2	Upto 1	Above 2	Upto 1	Above 2								
A. P.	58.5	55.8	53.6	1.8	0.4	31.7	32.0	35.6	48.0	9.9	-	28.1	30.2	36.4	54.8	6.6	4.0	-	-	30.7	30.7	36.3	40.9	4.5	4.3	40.2	36.1				
Assam	-	-	-	-	-	1.0	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9				
Bihar	-	-	-	-	-	26.2	-	-	-	-	-	26.2	30.4	36.3	40.9	-	-	-	-	-	-	36.3	40.9	-	-	-	36.1				
Gujarat	26.8	44.9	58.1	7.8	3.2	42.8	26.6	42.3	52.4	12.5	-	41.1	27.6	48.9	54.0	4.5	4.3	4.3	4.3	4.3	4.3	48.9	54.0	4.5	4.3	40.2	36.1				
Hrym.	84.7	61.4	79.5	27.8	25.2	60.8	78.4	76.8	77.4	11.7	-	15.0	66.4	66.3	77.3	18.2	12.5	12.5	12.5	12.5	12.5	66.3	77.3	18.2	12.5	58.4	35.6				
H. P.	20.7	34.0	35.6	13.9	20.0	28.1	18.4	40.1	50.5	32.4	-	31.2	13.8	19.3	35.4	23.7	10.0	10.0	10.0	10.0	10.0	13.8	19.3	23.7	10.0	20.7	13.9				
J & K	-	-	-	-	-	30.5	31.5	51.1	17.0	7.7	-	24.7	12.0	32.3	19.4	11.8	-	-	-	-	-	32.3	19.4	11.8	-	-	19.1				
Karn.	29.2	36.4	30.1	13.5	11.1	28.6	19.3	32.4	34.8	3.0	-	24.5	26.4	23.8	26.4	5.6	8.7	8.7	8.7	8.7	24.5	26.4	5.6	8.7	21.6	13.5					
Kerala	98.5	68.5	88.8	16.2	12.4	72.3	38.9	54.0	88.0	21.2	-	23.0	43.6	62.0	-	15.0	16.9	16.9	16.9	16.9	43.6	62.0	-	15.0	16.9	43.0	16.2				
M. P.	40.1	35.5	31.5	16.7	-	32.8	36.8	33.5	28.7	12.0	-	30.2	34.5	32.1	30.7	6.9	4.1	4.1	4.1	4.1	30.2	34.5	32.1	30.7	6.9	4.1	30.2				
Mah.	46.5	44.3	38.8	3.4	3.6	36.6	20.1	36.7	31.9	2.5	-	27.0	25.4	34.9	39.1	2.4	0.8	0.8	0.8	0.8	27.0	25.4	34.9	39.1	2.4	0.8	25.2				
Orissa	21.8	25.9	29.2	-	-	22.7	22.7	24.8	25.5	-	-	21.8	25.4	34.9	39.1	2.4	0.8	0.8	0.8	0.8	21.8	25.4	34.9	39.1	2.4	0.8	25.2				
Punjab	61.4	55.2	89.9	-	-	60.6	16.4	68.3	92.0	6.2	-	10.1	54.8	62.9	83.1	8.5	6.3	6.3	6.3	6.3	60.6	16.4	68.3	92.0	6.2	0.1	61.4				
Raj.	72.0	54.3	48.0	4.3	3.3	49.9	41.8	39.2	54.9	0.7	-	42.3	39.0	45.8	53.3	1.8	1.1	1.1	1.1	1.1	49.9	41.8	39.2	54.9	0.7	-	72.0				
T. N.	60.2	91.0	95.3	8.4	26.2	63.9	25.8	85.6	92.0	8.5	-	49.5	46.4	82.0	63.9	2.3	-	-	-	-	60.2	91.0	95.3	8.4	26.2	63.9	50.1				
U. P.	45.1	44.3	37.4	7.3	14.6	37.1	39.5	49.1	42.2	3.0	-	32	37.6	5.3	52.6	17.9	47.7	47.7	47.7	47.7	45.1	44.3	37.4	7.3	14.6	37.4	45.1				
W. B.	-	-	-	-	-	55.7	50.9	84.1	34.4	22.0	-	1.2	53.2	47.0	64.9	19.0	1.1	1.1	1.1	1.1	-	-	-	-	-	-	-				
India	52.0	49.6	49.3	8.6	2.9	39.9	29.7	45.0	46.4	7.0	-	34.5	36.1	42.7	43.0	8.5	10.4	10.4	10.4	10.4	52.0	49.6	49.3	8.6	2.9	39.9	52.0				

States	1979-80										1980-81										Total Borrow- ers					
	Farmers with Land Holdings - Hectares -					Total Borrow- ers	Farmers with Land Holdings - Hectares -					Total Borrow- ers	Farmers with Land Holdings - Hectares -					Total Borrow- ers								
	Agricultural Labour- ers		Others		Agricultural Labour- ers		Others		Agricultural Labour- ers		Others		Agricultural Labour- ers		Others											
	Upto 1	Above 2	Upto 1	Above 2	Upto 1		Above 2	Upto 1	Above 2	Upto 1	Above 2		Upto 1	Above 2	Upto 1	Above 2	Upto 1		Above 2							
A. P.	31.6	35.8	40.0	51.7	44.9	6.7	7.6	41.1	27.0	34.1	42.5	41.1	27.0	24.5	9.7	5.6	28.1	30.7	36.3	40.9	4.5	4.3	40.2	36.1		
Assam	1.7	1.1	3.5	10.5	-	1.4	0.7	1.5	8.2	15.0	51.6	71.4	23.7	-	-	0.9	1.9	-	-	-	-	-	-	-	-	1.9
Bihar	-	-	-	-	-	-	-	-	-	21.5	51.6	71.4	23.7	-	-	-	39.9	-	-	-	-	-	-	-	-	39.9
Gujarat	51.7	57.5	46.8	35.9	42.4	3.3	2.5	46.9	41.6	49.2	46.9	41.6	32.7	42.9	1.8	0.6	35.6	-	-	-	-	-	-	-	-	35.6
Hrym.	47.1	55.1	68.3	83.1	-	9.2	10.3	62.4	69.2	57.9	69.2	57.9	91.8	91.3	20.7	17.4	56.9	-	-	-	-	-	-	-	-	56.9
H. P.	11.3	18.2	20.0	17.6	50.0	20.0	18.2	16.6	18.2	13.2	16.6	18.2	20.0	69.2	28.6	22.7	17.6	-	-	-	-	-	-	-	-	17.6
J & K	47.7	-	13.3	20.0	20.0	-	-	-	-	-	-	-	-	-	-	-	39.3	-	-	-	-	-	-	-	-	39.3
Karn.	23.8	24.2	21.8	20.9	16.6	4.1	7.2	25.4	18.8	29.2	25.4	18.8	17.2	14.3	2.1	14.3	18.7	-	-	-	-	-	-	-	-	18.7
Kerala	42.0	62.1	-	-	-	14.0	15.1	42.0	40.3	40.3	55.6	94.6	-	-	13.7	13.6	39.5	-	-	-	-	-	-	-	-	39.5
M. P.	39.6	34.9	29.5	37.9	34.8	7.7	0.7	32.6	36.8	36.8	36.3	37.6	35.7	36.5	9.6	1.1	35.0	-	-	-	-	-	-	-	-	35.0
Mah.	22.2	29.6	23.1	38.0	34.3	12.1	4.1	24.9	30.2	30.2	31.4	21.1	52.9	24.9	8.5	1.0	26.8	-	-	-	-	-	-	-	-	26.8
Orissa	35.6	32.9	42.3	62.3	64.6	12.3	34.3	36.7	42.8	42.8	40.1	35.4	29.7	40.6	9.4	4.3	36.7	-	-	-	-	-	-	-	-	36.7
Punjab	100.0	100.0	58.8	72.5	72.4	12.3	34.3	73.4	98.8	98.8	100.0	84.9	82.0	68.4	-	-	69.0	-	-	-	-	-	-	-	-	69.0
Raj.	39.8	46.4	49.9	32.8	-	2.1	0.5	45.5	52.0	52.0	45.5	37.4	39.3	53.7	3.1	1.8	37.7	-	-	-	-	-	-	-	-	37.7
T. N.	48.3	85.6	68.4	75.6	63.3	2.5	2.5	52.8	44.8	44.8	74.4	61.5	65.3	41.1	2.1	-	46.6	-	-	-	-	-	-	-	-	46.6
U. P.	52.1	45.2	49.6	39.6	47.2	2.4	23.9	40.2	41.7	42.9	40.2	41.7	42.9	34.4	9.0	7.1	35.6	-	-	-	-	-	-	-	-	35.6
W. B.	37.5	53.9	53.7	19.2	27.3	12.3	12.3	39.7	30.4	30.4	47.0	16.4	12.0	9.4	9.5	14.5	30.2	-	-	-	-	-	-	-	-	30.2
India	38.1	35.7	43.7	39.0	57.9	6.0	8.4	36.0	35.9	35.9	43.1	40.7	38.9	47.5	6.7	7.8	34.2	-	-	-	-	-	-	-	-	34.2

Source: Calculated from Statistical Statements Relating to the Cooperative Movement in India, Part I, Reserve Bank of India/NABARD for relevant years.

TABLE 10. MEMBERS OF PACS IN SPECIFIC SIZE CLASS OF LAND HOLDINGS, AS PERCENTAGE OF THE TOTAL NUMBER OF LAND HOLDINGS IN THE SIZE CLASS IN 1981, BORROWERS IN SIZE CLASS AS PER CENT OF ALL LAND HOLDERS IN THE CLASS, AND BORROWERS AS PER CENT OF TOTAL MEMBERS IN 1981.

		(Per cent)				
States		Less than 1	- H e c t a r e s -			Total
			1-2	2-4	4 & Above	
Andhra Pradesh	A)	26.95	62.04	65.21	100.97	48.70
	B)	9.19	26.34	26.78	26.41	18.56
	C)	34.11	42.45	41.07	26.16	38.11
Assam	A)	71.52	151.82	27.10	20.47	81.56
	B)	1.25	2.29	2.23	3.07	1.78
	C)	1.74	1.51	8.24	3.07	2.19
Bihar	A)	17.45	110.52	68.33	302.83	45.58
	B)	3.76	56.98	48.78	126.32	19.23
	C)	21.52	51.56	71.38	41.71	42.20
Gujarat	A)	44.90	46.34	46.16	73.96	54.03
	B)	22.10	21.75	19.23	26.95	42.07
	C)	49.22	46.94	41.67	36.40	42.07
Haryana	A)	43.30	108.71	101.47	76.87	77.30
	B)	27.03	75.22	58.80	70.46	57.73
	C)	62.41	69.19	57.94	91.67	74.68
Himachal Pradesh	A)	57.86	120.54	102.59	129.10	83.84
	B)	7.66	19.97	18.65	38.93	14.73
	C)	13.24	16.57	18.18	30.16	17.57
Jammu & Kashmir	A)	20.50	34.68	57.80	138.41	29.94
	B)	9.77	43.77	7.71	27.68	15.84
	C)	47.65	126.23	13.33	20.00	52.90
Karnataka	A)	44.80	63.00	75.73	88.46	64.42
	B)	13.10	15.99	14.27	14.19	14.48
	C)	29.24	25.38	18.85	16.04	22.48
Kerala	A)	37.90	195.65	193.37	263.29	55.56
	B)	16.36	108.70	182.85	367.09	31.76
	C)	43.17	55.56	94.56	139.42	57.17
Madhya Pradesh	A)	26.78	64.66	66.64	65.83	52.97
	B)	9.85	23.48	25.08	23.74	19.42
	C)	36.77	36.32	37.64	36.06	36.67
Maharashtra	A)	41.66	62.57	89.54	76.93	66.34
	B)	12.60	19.64	18.88	32.18	20.40
	C)	30.25	31.38	21.08	41.83	30.76
Orissa	A)	52.51	77.28	71.24	84.89	65.20
	B)	22.50	31.03	25.22	26.55	25.64
	C)	42.84	40.14	35.40	31.28	39.33
Punjab	A)	128.74	122.37	115.17	137.61	126.67
	B)	127.22	122.37	97.77	106.71	111.19
	C)	98.22	100.00	84.89	77.54	87.78
Rajasthan	A)	41.45	75.31	75.20	69.48	63.56
	B)	21.56	34.29	28.12	30.85	28.28
	C)	52.01	45.54	37.39	44.40	44.50
Tamil Nadu	A)	38.19	76.51	98.80	183.23	56.41
	B)	17.11	56.91	60.80	105.54	32.50
	C)	44.80	74.38	61.54	59.60	57.62
Uttar Pradesh	A)	20.75	71.43	24.18	149.46	32.50
	B)	8.63	28.71	10.09	61.09	13.43
	C)	41.59	40.19	41.75	40.88	41.32
West Bengal	A)	22.85	56.31	52.75	145.63	34.40
	B)	6.96	26.46	8.66	16.77	11.37
	C)	33.45	46.99	16.42	11.52	33.04
India	A)	29.91	75.59	75.95	99.88	52.57
	B)	10.74	32.57	30.94	41.25	21.27
	C)	35.91	43.09	40.73	41.30	40.46

A): Number of members of PACS as percentage of number of land holdings.

B): Number of borrowers during the year from PACS as percentage of number of land holdings.

C): Number of borrowers during the year from PACS as percentage of number of members of PACS.

TABLE 11. PERCENTAGE DISTRIBUTION OF BORROWER ACCOUNTS IN DIFFERENT SIZE CLASSES OF LAND HOLDING TO TOTAL NUMBER OF BORROWERS OF SHORT TERM LOANS FROM COMMERCIAL BANKS, 1979-84 (Per cent)

States	1979-80					1980-81				
	Upto 1	- Hectares - 1-2	2-4	Above 4	Total Number of Accounts	Upto 1	- Hectares - 1-2	2-4	Above 4	Total Number of Accounts
A. P.	39.1	28.5	23.7	8.7	245604	46.8	27.1	17.2	8.9	379003
Assam	49.0	41.1	9.6	0.3	2445	61.5	27.1	9.6	1.8	5083
Bihar	50.2	29.7	15.2	4.9	33313	47.0	33.6	15.0	4.4	47613
Gujarat	22.3	21.6	26.8	29.3	18216	21.9	19.8	28.0	30.3	50121
Haryana	21.6	34.2	25.7	18.5	12333	23.9	32.3	26.1	17.7	28925
H. P.	76.7	16.0	5.4	1.9	8258	71.3	18.2	8.0	2.5	7688
J & K	64.2	23.8	8.7	3.3	1768	53.4	20.8	5.5	20.3	3494
Karnataka	43.3	30.3	15.6	10.8	65516	45.3	27.9	13.8	13.0	201664
Kerala	83.8	10.8	3.3	2.1	160654	85.6	10.8	2.6	1.0	384801
M. P.	15.3	18.5	29.6	36.6	20933	16.7	19.0	32.5	31.8	40670
Maharashtra	23.5	25.5	28.4	22.6	35550	19.8	23.5	27.5	29.2	81791
Orissa	53.3	29.9	12.1	4.7	28486	40.4	23.9	18.7	17.0	199499
Punjab	27.1	18.1	28.9	25.9	47794	23.9	17.2	32.6	26.3	112524
Rajasthan	18.8	18.2	24.8	38.2	10234	18.4	17.9	23.3	40.4	19511
T. N.	65.9	22.2	8.0	3.9	315917	69.7	21.1	7.2	2.0	638448
U. P.	37.5	32.2	18.3	12.0	104838	42.8	28.8	17.4	11.0	184822
W. B.	61.0	29.4	8.1	1.5	54836	68.7	24.1	6.2	1.0	84358
India	52.7	23.9	14.8	8.6	1182412	55.4	22.0	13.4	9.2	2496471

TABLE 11. (Concl'd.)

States	1981-82					1982-83				1983-84			
	Upto 1	- Hectares -			Total Number of Accounts	Upto 1	- Hectares -		Total Number of Accounts	Upto 1	- Hectares -		Total Number of Accounts
1-2	2-4	Above 4	1-2	Above 2		1-2	Above 2						
A. P.	46.5	29.1	16.3	8.1	214127	42.8	33.0	23.4	384440	49.1	33.5	17.4	1024331
Assam	57.3	29.9	11.0	1.8	1418	50.1	35.9	14.0	1787	69.3	22.0	8.7	5477
Bihar	48.4	32.8	15.3	3.5	23509	59.6	25.9	14.5	20506	51.1	35.6	13.3	36132
Gujarat	30.0	22.0	23.3	24.6	20584	22.8	20.8	56.4	40886	18.7	23.6	57.7	54924
Haryana	29.0	21.1	24.8	25.1	6368	18.0	25.8	56.2	9908	18.2	23.4	58.4	13392
H. P.	72.0	23.6	3.5	0.9	2316	72.3	23.9	3.8	2403	67.1	23.0	9.9	3999
J & K	53.9	33.6	7.2	5.3	1507	67.9	30.9	1.2	1003	64.7	18.5	16.8	1103
Karnataka	43.3	26.3	17.4	13.0	78536	42.9	29.3	27.8	194930	43.4	28.3	28.3	205400
Kerala	86.1	10.8	2.1	1.0	95547	81.3	13.8	4.9	358384	80.7	14.6	4.7	384130
M. P.	8.9	32.3	48.3	10.5	31066	21.1	31.2	47.7	22377	22.6	31.8	45.6	42296
Maharashtra	19.5	24.5	27.5	28.5	45028	17.1	24.9	58.0	72387	21.3	29.0	49.7	110891
Orissa	63.5	25.4	8.2	2.9	40775	45.5	19.5	35.0	56651	45.1	23.4	31.5	62754
Punjab	30.9	25.9	26.9	16.3	60618	12.8	27.6	59.6	88388	15.6	23.9	60.5	96358
Rajasthan	25.8	15.7	23.1	35.4	11167	12.2	19.1	68.7	15854	15.4	16.1	68.5	25284
T. N.	66.5	23.3	8.2	2.0	260562	59.0	27.4	13.6	549457	55.6	31.4	13.0	650935
U. P.	43.7	27.7	17.1	11.5	99127	46.4	25.9	27.7	99495	43.1	31.3	25.6	128541
W. B.	73.2	21.8	4.1	0.9	39095	73.3	23.8	2.9	86992	68.4	26.9	4.7	70853
India	52.7	24.6	14.5	8.2	1044356	52.8	25.6	21.6	2032920	51.0	28.8	20.2	2955367

Note: The original tables give the classes in acres; these are converted into hectares at the rate of 2.5 acres = 1 hectare.
Source: *Report on Currency and Finance, Vol II*, Reserve Bank of India, for relevant years.

TABLE 12. BORROWERS OF SHORT TERM LOANS FROM COMMERCIAL BANKS AS PERCENTAGE OF BORROWERS FROM PACS, 1979-80 TO 1983-84.

State	(Per cent)			
	1979-80	1980-81	1982-83	1983-84
Andhra Pradesh	16.1	24.5	20.1	-
Assam	7.4	12.1	-	-
Bihar	20.0	2.2	-	-
Gujarat	2.5	7.5	5.7	7.8
Haryana	2.2	4.5	1.3	-
Himachal Pradesh	9.4	7.3	2.3	3.5
Jammu & Kashmir	1.1	2.1	-	-
Karnataka	9.9	29.2	30.4	27.9
Kerala	10.7	25.8	19.7	18.9
Madhya Pradesh	2.0	3.2	1.7	3.1
Maharashtra	2.7	5.7	4.7	7.1
Orissa	3.4	23.0	6.5	7.7
Punjab	3.7	9.9	8.3	-
Rajasthan	0.8	1.5	1.1	1.8
Tamil Nadu	12.0	27.1	48.9	67.9
Uttar Pradesh	3.0	6.0	3.3	-
West Bengal	6.0	12.1	12.2	-
India	6.0	12.7	10.2	14.8

TABLE 14. BORROWERS OF TERM LOANS FROM COMMERCIAL BANKS, IN DIFFERENT SIZE CLASSES OF LAND HOLDING, AS PERCENTAGE OF TOTAL NUMBER OF LAND HOLDERS IN THE SIZE CLASS, 1980-81.

PERCENTAGE OF TOTAL NUMBER OF LAND HOLDERS IN THE SIZE CLASS, 1980-81.					(Per cent)
State	- Hectares -				Total
	Upto 1	1-2	2-4	Above 4	
Andhra Pradesh	0.49	0.63	0.36	0.25	0.47
Assam	0.04	0.02	0.02	0.04	0.03
Bihar	0.21	0.84	0.40	0.39	0.30
Gujarat	0.73	0.74	0.75	1.09	0.84
Haryana	1.35	1.55	1.66	3.36	2.02
Himachal Pradesh	0.88	0.56	0.51	0.41	0.72
Jammu & Kashmir	0.27	0.75	0.37	0.13	0.58
Karnataka	0.68	0.86	0.66	1.03	0.79
Kerala	0.60	3.14	3.60	1.75	0.87
Madhya Pradesh	0.63	1.64	1.56	1.26	1.18
Maharashtra	0.54	0.58	0.53	0.64	0.57
Orissa	1.52	1.40	1.57	3.07	1.62
Punjab	4.31	2.80	3.58	5.52	4.22
Rajasthan	0.65	1.21	0.88	0.88	0.87
Tamil Nadu	0.26	0.40	0.39	1.02	0.34
Uttar Pradesh	0.22	0.85	0.21	1.95	0.36
West Bengal	0.24	0.51	0.24	0.66	0.30
India	0.40	0.90	0.80	1.20	0.60

Note: The original tables give the classes in acres; these are converted into hectares at the rate of 2.5 acres = 1 hectare.

Source: The total number of land holdings in each size class, statewise taken from the *Agricultural Census, 1981*, and borrowers from commercial banks from *Report on Currency and Finance Vol. II*, (RBI).

TABLE 13. SHARE OF COOPERATIVES (INCLUDING L.D.B.S), COMMERCIAL BANKS AND R.R.B.S IN THE TOTAL TERM LOAN TO AGRICULTURE AND ALLIED ACTIVITIES IN THE DIFFERENT STATES 1973-74 TO 1984-85.

(Per cent)

States	1973-74		1974-75		1975-76		1976-77		1977-78		1978-79		1979-80	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
A. P.	63.5	36.5	59.0	41.0	73.1	26.9	79.8	20.2	81.7	18.3	65.3	34.7	66.2	33.8
Assam	39.6	60.4	46.3	53.7	40.9	59.1	38.9	61.1	69.5	30.5	47.6	52.4	32.6	67.4
Bihar	57.1	42.9	77.8	22.2	71.8	28.2	58.5	41.5	38.4	61.6	30.3	69.7	35.7	64.3
Gujarat	56.9	43.1	91.6	8.4	78.4	21.6	62.2	37.8	70.7	29.3	50.9	49.1	36.9	63.1
Haryana	51.2	48.8	66.0	34.0	63.1	36.9	55.3	44.7	56.4	43.6	47.7	52.3	49.1	50.9
H. P.	83.9	16.1	81.7	18.3	77.4	22.6	66.9	33.1	77.4	22.6	68.6	31.4	50.8	49.2
J & K	58.1	41.9	51.5	48.5	27.5	72.5	61.0	39.0	65.2	34.8	29.4	70.6	30.8	69.2
Karnataka	58.2	41.8	56.3	43.7	50.6	49.4	59.5	40.5	47.9	52.1	29.7	70.3	35.9	64.1
Kerala	72.1	27.9	58.7	41.3	47.0	53.0	66.3	33.7	73.4	26.6	75.7	24.3	73.9	26.1
M. P.	55.7	44.3	70.5	29.5	57.2	42.8	62.4	37.6	45.2	54.6	52.5	47.5	62.1	37.9
Maharashtra	39.1	60.9	58.0	42.0	74.2	25.8	63.4	36.6	54.7	45.3	54.9	45.1	53.7	46.3
Orissa	79.9	20.1	86.8	13.2	77.2	22.8	82.5	17.5	20.4	32.9	63.0	37.0	81.5	18.5
Punjab	56.0	44.0	71.7	28.3	53.6	46.4	55.4	44.6	39.6	60.4	33.1	66.9	31.2	68.8
Rajasthan	31.0	69.0	55.9	44.1	45.0	55.0	51.3	48.6	55.4	44.6	41.5	58.5	54.4	45.6
T. N.	65.8	34.2	74.1	25.9	54.5	45.5	61.0	39.0	54.9	45.1	50.5	49.5	29.7	70.3
U. P.	47.2	52.8	65.9	34.1	61.2	38.8	60.4	39.6	58.6	41.4	46.4	53.6	62.8	37.2
W. B.	11.9	88.1	48.5	51.5	47.9	52.1	68.4	31.6	50.4	49.6	63.1	36.9	52.3	47.6
Others	64.4	35.6	18.1	81.9	13.7	86.3	3.7	96.3	10.2	89.8	7.9	92.1	11.8	88.2
India	52.4	47.6	70.0	30.0	62.5	37.5	62.7	37.3	58.7	41.3	50.1	49.9	53.1	46.9

TABLE 13. (Concl'd.)

States	1980-81			1981-82			1982-83			1983-84			1984-85		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
A. P.	65.0	29.4	5.6	55.1	38.6	6.3	62.5	32.1	5.4	45.7	48.6	5.7	41.2	53.1	5.7
Assam	30.6	47.5	21.9	37.6	35.0	27.4	37.1	42.8	20.1	28.1	54.4	17.5	25.6	66.8	7.6
Bihar	35.0	39.3	25.7	41.8	33.2	25.0	33.3	29.0	37.7	25.0	35.5	39.5	17.0	58.3	24.7
Gujarat	27.9	71.5	0.6	61.3	38.2	0.5	66.5	32.9	0.6	50.1	48.4	1.5	27.9	69.2	2.9
Haryana	41.9	55.0	3.1	44.8	52.5	2.7	50.5	44.1	5.4	41.6	56.5	1.9	36.7	57.6	5.7
H. P.	52.1	41.5	6.4	45.1	43.8	11.1	53.8	33.4	12.8	57.3	30.8	11.9	56.4	31.8	11.8
J & K	17.4	64.4	18.2	15.7	64.9	19.4	21.6	32.7	45.7	16.3	42.0	41.1	11.9	44.2	43.9
Karnataka	38.0	56.0	6.0	29.2	63.7	7.1	37.1	54.4	8.5	31.5	58.9	9.6	27.2	65.9	6.9
Kerala	61.8	35.1	3.1	59.6	37.2	3.2	69.9	25.9	4.2	68.4	29.2	2.4	64.2	32.5	3.3
M. P.	36.4	59.3	4.3	38.0	55.6	6.4	43.8	47.8	8.4	59.0	28.0	13.0	32.2	53.0	14.8
Maharashtra	60.4	39.6	-	48.8	51.2	-	63.7	36.3	-	51.7	48.0	0.3	47.2	51.2	1.6
Orissa	35.0	61.2	3.8	39.3	50.1	10.6	54.8	25.4	19.8	46.8	38.9	14.3	23.5	69.7	6.8
Punjab	24.8	75.2	-	29.8	70.2	-	37.2	62.8	-	31.1	68.8	0.1	31.6	68.1	0.3
Rajasthan	51.9	38.9	9.2	53.8	35.1	11.1	56.5	33.0	10.5	29.5	56.9	13.6	36.0	51.8	12.2
T. N.	10.5	85.8	3.7	12.7	85.8	1.5	32.6	65.3	2.1	19.5	78.4	2.1	24.1	75.9	-
U. P.	40.9	52.8	6.3	39.1	52.1	8.8	46.4	39.4	14.2	44.1	40.3	15.6	34.0	50.6	15.3
W. B.	37.1	55.0	7.9	35.6	54.6	9.8	34.2	52.4	13.4	43.4	41.2	15.4	23.1	66.0	10.9
Others	12.3	75.8	11.9	12.8	77.2	10.0	9.7	84.5	5.8	2.3	95.5	2.2	4.2	95.6	0.2
India	42.5	52.7	4.8	41.4	52.8	5.8	50.8	41.4	7.8	40.9	51.6	7.5	34.1	58.6	7.3

Col.(1): Loans by PACS & LDBs; col(2): Loans by Commercial Banks, including RRBs upto 1979-80 and separately there after; col(3): From 1980-81 onwards, loans by RRBs.

Source: Data from Reserve Bank of India and NABARD, obtained through the good offices of NABARD.

TABLE 15. MEMBERS AND BORROWERS OF TERM LOANS FROM CENTRAL AND PRIMARY LAND DEVELOPMENT BANKS AS PERCENTAGE OF TOTAL LAND HOLDERS, MEMBERS, ETC., IN 1980-81

State	Regular Mem- bers as per cent of total	Nominal Members Number of Cultivators	Borrowers	Borrowers as per cent of Regular Members	Borrowers as per cent of Nominal Members	Loan per Borrower and by Central and Primary LDDB (Rs.)
A. P.	13.06	2.44	1.94	14.82	79.20	4126
Assam	0.71	0.10	0.01	1.59	11.70	11703
Bihar	2.81	-	0.22	7.96	-	5697
Gujarat	16.62	0.07	0.12	0.70	170.87	16877
Haryana	15.85	1.54	2.54	16.20	164.36	11884
H. P.	1.54	0.50	0.05	3.56	10.98	8543
J & K	3.11	1.78	0.06	1.81	3.07	6045
Karnataka	18.46	5.06	1.16	6.28	22.92	3967
Kerala	8.14	1.59	1.00	12.29	62.84	5457
M. P.	4.11	12.18	0.35	8.56	2.89	8634
Maharashtra	10.86	0.09	1.20	11.02	1371.50	6577
Orissa	7.30	7.40	0.85	11.61	11.46	3585
Punjab	28.30	-	4.75	16.79	-	8872
Rajasthan	7.25	1.66	0.53	7.37	32.26	7189
T. N.	7.10	12.20	0.04	0.60	0.35	11851
U. P.	5.10	-	0.30	5.84	-	7914
W. B.	2.50	0.05	0.25	9.80	501.78	4291
India	7.64	2.80	0.66	8.59	23.45	6184

Source: Numbers of Regular, Nominal members and borrowers from *Statistical Statements Relating to the Cooperative Movement in India, Part I*, Reserve Bank of India/NABARD amount borrowed supplied by NABARD; data on total cultivators (land holdings) from *Agricultural Census, 1981*.

TABLE 16. BORROWERS ACCOUNTS OF COMMERCIAL BANKS FOR TERM LOANS AS PERCENTAGE OF THE TOTAL NUMBER OF BORROWERS FROM LDDBS, 1979-84

STATE	1979-80	1980-81	1982-83	1983-84
Andhra Pradesh	13.1	24.3	22.3	43.8
Assam	49.6	285.3	-	-
Bihar	180.9	134.5	-	353.1
Gujarat	453.6	717.7	345.8	309.4
Haryana	35.7	79.3	74.4	-
Himachal Pradesh	890.7	1305.7	1191.9	1134.5
Jammu & Kashmir	161.4	632.6	165.6	149.9
Karnataka	29.3	68.1	145.5	192.3
Kerala	66.7	87.1	138.8	114.7
Madhya Pradesh	119.5	336.3	184.2	158.8
Maharashtra	36.6	47.8	103.5	154.8
Orissa	18.7	190.9	45.2	42.3
Punjab	33.8	56.9	-	126.0
Rajasthan	82.0	163.3	118.5	233.4
Tamil Nadu	71.4	766.2	205.0	138.2
Uttar Pradesh	33.5	120.0	113.8	101.4
West Bengal	65.5	123.5	50.0	-
India	45.8	93.4	83.8	115.6

TABLE 17. TERM LOAN BORROWER ACCOUNTS OF COMMERCIAL BANKS IN DIFFERENT SIZE CLASSES OF LAND HOLDINGS AS PERCENTAGE OF TOTAL TERM LOAN BORROWER ACCOUNTS IN A YEAR

States	1979-80				1980-81				1981-82				1982-83				1983-84						
	- hectares -		Total Number of		- hectares -		Total Number of		- hectares -		Total Number of		- hectares -		Total Number of		- hectares -		Total Number of				
	Upto 1	2-4	Above 4	Upto 1	2-4	Above 4	Upto 1	2-4	Above 4	Upto 1	2-4	Above 4	Upto 1	2-4	Above 4	Upto 1	2-4	Above 4	Upto 1	2-4	Above 4		
A. P.	41.9	26.5	20.1	11.5	18018	53.7	28.1	12.3	5.9	36038	43.6	34.0	11.0	11.4	15587	42.8	29.6	27.6	37806	47.7	27.9	24.4	75227
Assam	50.0	23.4	14.9	11.7	128	72.4	15.7	7.0	4.9	739	54.0	30.3	10.0	5.7	769	65.4	30.2	4.4	2180	49.1	42.5	8.4	5441
Bihar	45.0	37.7	11.5	5.7	25711	52.0	30.4	11.3	6.3	33700	53.4	31.7	8.9	6.0	23120	58.0	23.2	18.8	27704	60.7	28.4	10.9	44778
Gujarat	26.5	20.5	21.7	31.3	14243	21.1	19.0	22.1	37.8	24623	57.9	9.8	10.7	21.6	20551	27.6	25.1	47.3	26620	22.4	24.0	53.6	41558
Haryana	21.1	14.9	24.8	39.2	8061	21.6	14.8	17.2	46.4	2374	42.5	23.9	11.7	21.9	8299	23.8	20.9	55.3	15691	32.1	27.3	40.6	30578
H. P.	79.1	4.7	14.7	1.5	3251	67.7	17.1	10.8	4.4	4570	59.0	27.6	10.0	3.4	4223	65.2	23.6	11.2	5590	63.0	30.9	6.1	5820
J & K	44.9	32.0	21.8	1.3	762	52.6	36.0	10.3	1.1	3682	25.4	59.8	5.8	9.0	2404	56.1	30.0	13.9	1878	53.9	32.7	13.4	1477
Karnataka	36.1	24.2	19.3	20.4	10758	29.9	26.7	17.8	25.6	34003	42.9	28.7	16.4	12.0	21550	44.9	23.9	31.2	62426	40.0	28.5	31.5	95027
Kerala	63.0	23.8	7.8	5.4	16210	60.9	25.0	12.2	1.9	36469	56.4	16.4	26.1	1.1	18873	77.5	15.6	6.9	32721	58.4	28.9	12.7	42163
M. P.	13.7	28.2	31.0	27.1	42533	17.5	26.6	27.4	28.5	75846	22.0	28.4	27.7	21.9	22779	27.0	28.5	44.5	46199	29.3	33.1	37.6	60604
Maharashtra	21.5	26.2	26.6	25.7	16339	28.0	23.0	22.2	26.8	39380	24.2	24.1	22.7	29.0	23001	31.6	28.4	40.0	45032	33.2	31.3	35.5	75623
Orissa	55.2	28.9	12.3	3.6	8227	43.8	23.2	17.2	15.2	53877	42.4	20.9	34.9	1.8	21086	47.0	14.9	38.1	36766	40.9	20.5	38.6	35497
Punjab	16.4	13.7	19.9	50.0	14055	19.7	12.9	23.7	43.7	43341	17.8	21.2	16.0	45.0	14585	17.6	20.7	61.7	31339	15.3	22.1	62.6	39507
Rajasthan	14.7	22.2	27.9	35.2	22694	21.7	27.0	20.5	30.8	39198	49.7	14.5	19.5	16.3	17790	25.0	22.3	52.7	31017	32.9	23.9	43.2	42987
T. N.	48.9	17.6	16.4	17.1	9160	54.9	20.8	10.8	13.5	23401	58.2	27.0	7.5	7.3	21873	57.1	28.7	14.2	45057	51.5	31.3	17.2	76492
U. P.	33.1	33.5	15.9	17.5	34971	34.9	30.9	16.2	18.0	79746	42.9	26.1	16.0	15.0	59467	47.7	26.4	25.9	76878	46.1	31.0	22.9	79074
W. B.	52.4	30.9	11.2	5.5	11656	55.6	33.3	6.9	4.2	17781	52.1	37.1	8.0	2.8	6040	73.2	17.6	9.2	8034	74.6	16.8	8.6	14760
India	32.8	26.5	19.9	20.8	260796	35.5	25.0	18.0	21.5	573212	43.3	24.6	17.3	14.8	304465	42.9	24.4	32.7	538256	41.3	28.4	30.3	782506

Note: The Original tables give the classes in acres; these are converted into hectares at the rate of 2.5 acres = 1 hectare

Source: Report on Currency and Finance, Vol II, Reserve Bank of India, for relevant years

TABLE 18. SHARE OF BORROWERS IN DIFFERENT SIZE CLASSES OF LAND HOLDINGS IN THE TOTAL TERM LOANS ADVANCED TO LAND HOLDERS BY COMMERCIAL BANKS 1979-84 (Per cent)

States	1979-80 -hectares -				1980-81 -hectares -				1981-82 -hectares -				1982-83 -hectares -				1983-84 -hectares -			
	Upto 1	1-2	2-4	Above 4	Upto 1	1-2	2-4	Above 4	Upto 1	1-2	2-4	Above 4	Upto 1	1-2	Above 2	Upto 1	1-2	Above 2	Upto 1	Above 2
A. P.	21.8	14.1	21.3	42.8	3.9	5.4	14.5	76.2	25.1	28.2	12.0	34.7	25.0	27.3	47.7	21.9	26.2	51.9		
Assam	20.0	20.0	-	60.0	12.1	1.7	15.5	70.7	42.3	29.2	17.2	11.3	40.0	29.6	30.4	37.7	27.5	34.8		
Bihar	26.0	26.1	10.8	37.1	29.8	25.9	13.3	31.0	41.6	29.0	10.2	19.2	40.8	23.3	35.9	40.7	26.7	32.6		
Gujarat	8.1	10.3	14.6	67.0	6.3	5.8	11.9	76.0	12.7	6.2	13.3	67.8	9.1	12.2	78.7	8.9	11.8	79.3		
Haryana	3.6	4.2	20.9	71.3	3.9	5.5	14.7	76.2	9.2	10.2	15.1	65.5	7.4	12.2	80.4	8.5	12.3	79.2		
H. P.	42.1	8.8	40.3	10.5	45.3	13.7	17.5	24.0	37.0	30.6	18.6	13.8	49.6	31.6	18.8	42.2	20.8	37.0		
J & K	44.5	14.8	29.6	11.1	35.8	20.4	38.3	6.2	20.7	16.2	11.2	51.9	43.5	27.1	29.4	9.8	6.6	83.6		
Karnataka	14.3	9.4	22.3	54.0	10.3	11.3	14.7	63.7	17.5	21.9	23.0	37.6	19.6	15.5	64.9	20.8	18.3	60.9		
Kerala	43.0	19.9	12.9	24.1	31.7	16.3	10.3	41.6	43.0	18.8	29.9	8.3	49.8	22.3	27.9	40.5	23.4	36.1		
M. P.	9.8	20.9	24.9	44.4	10.1	18.0	21.1	50.8	11.8	20.6	21.0	46.6	14.7	24.5	60.8	14.3	25.6	60.1		
Maharashtra	11.4	13.3	22.3	53.0	12.2	12.0	16.6	59.2	10.5	16.8	17.5	55.2	16.3	20.5	63.2	18.4	22.0	59.6		
Orissa	47.4	25.5	17.7	9.4	38.6	22.1	20.7	18.6	25.4	18.9	47.2	8.5	26.6	10.3	63.1	22.5	14.8	62.6		
Punjab	3.2	6.0	20.2	70.6	3.1	5.7	17.8	73.5	3.8	10.2	14.8	71.2	5.9	9.1	85.0	2.2	8.6	89.2		
Rajasthan	6.4	14.7	18.0	60.9	12.2	14.3	16.7	56.9	31.2	13.7	18.0	37.1	37.6	10.4	52.0	8.9	24.0	67.1		
T. N.	19.9	13.7	14.9	51.3	24.3	18.7	12.4	44.6	32.5	16.8	9.4	41.2	36.6	19.1	44.3	30.6	28.8	40.6		
U. P.	12.2	17.0	15.1	55.6	11.6	15.4	11.7	61.3	18.9	20.2	16.5	44.4	20.7	16.5	62.8	23.8	25.2	51.0		
W. B.	18.7	29.2	16.7	35.4	19.5	32.3	15.0	33.2	24.8	33.9	12.1	29.2	57.5	14.4	30.0	35.0	11.6	53.5		
India	11.7	13.7	18.7	55.9	12.7	13.0	15.5	58.8	18.1	17.2	17.1	47.6	20.5	16.3	63.2	16.4	19.1	64.5		

Note: The Original tables give the classes in acres; these are converted into hectares at the rate of 2.5 acres = 1 hectare.
Source: Report on Currency and Finance, Vol. II, Reserve Bank of India, for relevant years

TABLE 19. OVERDUES AS PERCENTAGE OF ANNUAL DEMAND FOR REPAYMENT OF TERM LOANS AND SHORT TERM LOANS BY COMMERCIAL BANKS, 1979-85.

States	Term Loans					Short Term Loans				
	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1979-80	1980-81	1981-82	1982-83
A. P.	71.8	57.7	59.7	55.3	53.3	50.8	43.6	42.8	41.5	40.1
Assam	65.0	78.6	76.9	75.9	69.3	60.5	86.4	75.7	69.7	62.1
Bihar	61.2	59.2	59.5	58.8	61.0	60.9	70.2	69.2	62.7	66.9
Gujarat	54.5	49.7	48.1	47.6	47.8	47.6	48.5	46.2	44.7	47.0
Haryana	36.6	43.0	45.7	41.8	43.7	41.9	26.3	33.3	35.9	33.7
H. P.	39.1	56.2	54.7	45.7	47.2	47.0	55.3	56.6	62.3	66.2
J & K	36.4	43.8	43.5	52.9	61.4	51.7	63.6	60.0	57.4	58.0
Karnataka	61.9	60.6	60.0	61.1	60.7	53.3	41.0	40.7	40.5	38.6
Kerala	44.3	41.8	43.5	50.7	48.1	49.6	42.7	26.9	30.4	26.6
M. P.	63.9	57.5	58.6	56.5	58.9	57.0	56.4	54.8	50.3	52.3
Maharashtra	67.1	64.0	63.8	64.3	63.1	61.1	44.1	38.3	42.2	42.2
Orissa	60.2	61.7	57.9	60.4	67.6	61.9	58.6	66.8	60.3	61.7
Punjab	20.6	25.1	31.0	28.6	40.2	31.9	17.6	21.0	22.8	22.3
Rajasthan	49.5	57.2	56.2	57.0	54.8	53.0	37.1	94.0	40.4	38.4
T. N.	59.9	56.6	53.1	54.5	50.0	46.3	41.9	36.2	37.7	36.5
U. P.	47.2	46.9	49.4	47.7	47.4	46.3	45.1	41.4	46.2	41.8
W. B.	72.9	76.7	80.8	76.0	74.3	69.8	64.8	64.4	65.6	67.2
Others	49.0	45.0	53.1	57.5	69.4	60.4	-	-	45.1	52.5
India	55.1	53.2	53.5	51.9	53.4	50.4	42.8	47.0	41.5	41.2

Source: Data supplied by NABARD.

TABLE 20. OVERDUES AS PERCENTAGE OF ANNUAL DEMAND FOR REPAYMENT OF LOANS BY PACS 1972-85, AND BY RRBs 1982-84.

State	Loans by RRBs					Short and Medium Term Loans by PACS									
	1982-83	1983-84	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
A. P.	49.3	40.3	51.3	40.1	40.1	37.8	33.8	36.5	37.8	48.0	45.3	42.2	36.3	38.2	55.7
Assam	42.2	44.2	89.5	89.5	89.5	n.a.	88.7	89.8	81.3	85.9	82.4	38.9	94.6	91.3	91.3
Bihar	50.1	52.6	55.9	55.9	64.8	59.1	68.4	68.4	63.6	63.6	51.4	82.4	74.8	63.0	63.2
Gujarat	38.7	37.3	22.5	25.3	26.8	38.6	43.4	42.6	40.9	47.4	47.9	45.7	32.6	33.1	33.3
Haryana	45.0	46.5	34.2	30.9	34.8	27.9	30.2	29.8	27.0	30.4	31.5	30.9	30.2	35.4	36.3
H. P.	60.0	51.4	37.6	42.8	39.5	41.1	47.1	45.1	45.6	44.1	41.4	40.9	40.9	35.1	36.4
J & K	52.4	62.0	35.4	35.4	35.4	n.a.	50.7	53.9	58.9	55.5	52.0	52.0	52.6	n.a.	30.1
Karnataka	37.3	43.2	44.9	40.2	39.2	38.6	42.1	47.2	46.7	48.5	50.8	45.2	37.6	39.8	41.6
Kerala	27.1	31.2	30.4	30.4	32.7	32.5	31.7	27.6	25.8	23.4	21.0	50.8	21.8	20.0	20.7
M. P.	56.0	54.6	48.5	52.5	51.5	50.5	58.0	57.2	54.2	56.5	45.5	51.2	38.5	49.2	45.1
Maharashtra	54.9	61.6	18.3	36.0	41.9	39.9	45.9	55.0	52.8	53.4	42.7	51.2	41.3	47.4	47.5
Orissa	56.1	60.8	62.6	64.5	60.0	57.8	56.4	51.7	50.6	45.2	40.1	66.4	41.3	36.4	14.8
Punjab	n.a.	10.0	34.1	38.5	34.0	37.3	39.8	27.9	25.5	28.0	19.8	19.8	19.8	36.4	14.8
Rajasthan	50.1	53.0	48.0	41.3	40.1	26.3	39.4	42.9	43.5	48.0	39.0	38.9	38.3	41.5	47.1
T. N.	41.4	61.2	25.5	27.9	27.9	29.6	27.9	33.3	51.4	76.7	38.0	18.6	55.2	55.0	57.9
U. P.	53.0	55.5	49.9	50.2	53.6	40.3	47.1	46.1	44.9	46.3	47.0	40.2	50.4	46.3	50.6
W. B.	61.5	62.0	60.8	47.6	37.2	38.4	28.7	45.7	49.0	59.7	61.3	41.4	69.0	70.1	60.8
Others	47.8	49.9	44.4	61.2	40.5	37.8	63.4	64.4	64.4	75.5	70.1	68.7	68.0	87.2	69.8
India	47.8	49.9	36.1	39.4	40.3	39.3	42.9	44.4	43.9	48.7	40.7	41.9	40.0	43.1	42.2

Source: Data supplied by NABARD.

TABLE 21. OVERDUES AS PERCENTAGE OF ANNUAL DEMAND FOR REPAYMENT OF TERM LOANS BY LDBS., 1972-85

State	(Per cent)														
	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85		
Andhra Pradesh	19.4	10.3	9.2	8.6	9.8	19.0	24.3	17.9	37.7	36.9	45.4	43.6	43.6		
Assam	71.4	75.0	66.7	50.0	38.1	36.0	44.1	65.2	63.2	68.6	84.8	63.4	63.4		
Bihar	42.3	33.6	33.6	34.8	58.0	60.8	59.5	76.7	25.8	45.9	59.6	58.0	44.9		
Gujarat	61.3	45.4	72.1	56.3	63.2	68.7	71.6	79.1	76.0	58.1	71.4	68.7	72.5		
Haryana	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	1.5	1.3		
Himachal Pradesh	84.4	56.1	58.7	51.1	63.8	57.6	75.3	61.7	49.0	47.4	47.6	27.4	37.5		
Jammu & Kashmir	31.3	32.6	32.7	38.1	47.5	38.4	47.9	58.2	47.6	45.6	55.9	51.4	51.4		
Karnataka	32.9	13.7	20.1	25.4	40.2	39.5	42.1	47.4	49.9	44.1	37.2	41.6	38.3		
Kerala	36.3	22.3	20.5	12.4	8.3	4.9	6.9	5.9	3.1	5.7	7.9	10.1	12.8		
Madhya Pradesh	28.1	25.6	24.4	22.5	40.0	44.9	42.1	60.1	44.0	50.3	36.3	62.5	55.7		
Maharashtra	84.7	44.5	58.5	60.5	62.8	57.6	19.4	52.4	65.3	41.9	44.5	49.4	43.9		
Orissa	88.7	61.2	57.4	57.4	59.9	40.0	43.3	54.8	34.8	53.9	64.0	27.5	61.0		
Punjab	3.7	5.0	1.4	2.6	8.5	2.8	2.2	2.7	1.0	1.6	0.5	30.6	14.5		
Rajasthan	48.2	41.3	45.5	20.1	27.6	30.8	25.3	17.7	25.5	24.3	28.4	31.8	47.8		
Tamil Nadu	5.7	4.0	9.8	17.7	36.0	64.7	80.0	88.3	80.6	62.1	81.2	62.1	69.9		
Uttar Pradesh	25.4	22.7	25.4	25.4	23.9	26.7	27.7	24.8	29.7	33.9	33.9	28.1	26.1		
West Bengal	41.1	19.9	19.9	0.7	0.9	7.9	21.4	37.1	52.0	66.0	61.4	49.9	53.2		
Others	0.0	85.7	100.0	38.9	52.0	53.6	51.4	95.0	50.0	62.5	74.4	-	42.0		
India	45.4	27.9	36.5	34.4	39.8	43.4	41.5	50.0	47.8	39.7	43.7	43.5	42.8		

Source: Data supplied by NABARD.

INDIA'S BALANCE OF PAYMENTS - 1948-49 TO 1984-85: A SURVEY

Y.U.K. Sarma

The paper presents time series data on India's Balance of Payments for the period from 1948-49 to 1984-85 and analyses trends in its main components. Concepts, definitions and sources of data are given in an appendix. India has had persistent and growing current account deficit over the period. In the fifties, adjustment was relatively easy because of the availability of the sterling balances. Concessional aid from bilateral and multilateral agencies helped in the sixties and seventies. Private transfers from Indians working abroad was another important source in mid-seventies. In the eighties, due to unfavourable climate for concessional aid, stagnant private transfers, and bunching of repayment obligations to IMF, commercial borrowings increased considerably.

Introduction

The responsibility of compiling the Balance of Payments (BoP) statistics is vested with the Reserve Bank of India (RBI). The RBI started compilation of balance of payments statistics in a systematic manner from 1948. It brought out for the first time a publication in 1953 giving the statistical information on balance of payments up to the beginning of the First Five Year Plan period. The second publication presented the statistics up to the end of the First Plan period and also incorporated changes in the method of compilation and several refinements in the data published earlier. The third in the series, published in 1963, covered the period 1948-49 to 1961-62 and was statistically comprehensive incorporating the revised data as well as the general information on the compilation of the balance of payments. The trends in principal constituents of balance of payments were also discussed.

The objective of this paper is to bring at one place the information on concepts and definitions of BoP, sources of data, method of compilation and also to present BoP statistics in the form of time series and to bring out broad trends in the main components. Section I presents India's overall balance of payments from 1948-49 to 1984-85 and reviews trends in three time periods viz., (i) 1948-49 to 1960-61, (ii) sixties and seventies, and (iii) the Sixth Five-Year Plan. Section

II focusses on the external commercial and official borrowings of the country. Statistical statements relevant to Sections I and II are given in a Statistical Appendix. (The concepts, definitions, sources of data and method of compilation are given in a technical appendix at the end).

I. ANALYSIS OF INDIA'S BALANCE OF PAYMENTS

India's external sector, though small, is crucial to India's development and in spite of best efforts, its management has proved difficult. The management of external sector economy of many developing countries encountered several problems over the last four decades or so. India also faced the problem of sluggish growth in exports and fast rising imports as the country embarked on planned economic development. India lost its share in world exports in U.S. dollar terms. Data on world exports and India's exports as available in IMF Year Book on International Financial Statistics reveal that as against 1.9 per cent share in 1950, India's share in world exports declined to 1.4 per cent in 1955 and further to 1.1 per cent in 1960 and 1.0 per cent in 1965. During 1970 it further declined to 0.7 per cent and varied between a narrow range of 0.45 to 0.56 per cent during rest of the period (Table 1). Some of the developing countries showed faster export growth. The share of exports and imports in the

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GDP can be seen from Statement 3 of the Statistical Appendix. There was a persistent trade deficit during this period except in 1976-77. The ratio of foreign trade to GDP has been continuously declining since the fifties. The current

account of the balance of payments showed large imbalances. Except for some years during the First Plan period and the Fourth Plan period, there was deficit in current account in almost all the years.

TABLE 1. INDIA'S SHARE IN WORLD TRADE: 1950 TO 1984

Year	World Exports Billions of US \$	India's Exports Millions of US \$	India's exports as per cent of World Exports
1950	59.6	1145	1.92
1955	88.5	1263	1.42
1960	120.1	1332	1.11
1965	173.4	1687	0.97
1970	290.6	2026	0.70
1975	822.4	4355	0.53
1980	1892.1	8586	0.45
1981	1857.9	8295	0.45
1982	1728.4	9358	0.54
1983	1677.5	9148	0.55
1984	1777.5	9916	0.56

Source: IMF, International Financial Statistics, Year Book, 1988.

There has been a change in the structure of India's foreign trade since 1951. The share of primary goods in the exports has declined from about 50 per cent in 1951-52 to 40 per cent in 1984-85, while the share of manufactured goods has gradually increased. The structure of imports has also undergone a vast change. The proportion of food imports gradually declined as the production of foodgrains increased spectacularly. The share of food imports declined from 14.4 per cent during the First Plan period to 1.9 per cent during the Sixth Plan period. On the other hand, the share of capital goods increased considerably during this period. The share of fuel imports in total imports went up marginally from 26.7 per cent in 1969-70 to 27.8 per cent in 1984-85 despite phenomenal increase in domestic production. This period was characterised by two oil price shocks one in 1973-74 and the other in 1979-80. To contain the trade deficit India had followed the policy of restriction of imports and promotion of import substitution. The massive industrialisation programme initiated in the sixties coupled with the slow export growth necessitated obtaining considerable foreign aid. The external capital flows were mainly in the nature of official aid. The share of private foreign capital in gross domestic investment was negligible. Besides, short-term external borrowings and draw down

on foreign exchange reserves to finance the imports were also resorted to. This has resulted in a sharp decline in foreign exchange reserves over the years particularly upto 1965-66, and increasing pressure on adjustments of international payments.

Around the mid-sixties, the foodgrains production deteriorated due to successive droughts in 1965-66 and 1966-67. India had to import foodgrains from the U.S. under the PL-480 programmes. The industrial growth slowed down. The Indo-China conflict in 1962 and the Indo-Pakistan war in 1965 had their impact on both the domestic economy and the external sector. To promote exports, the rupee was devalued in June 1966 by 36.5 per cent against the U.S. dollar. However, it seems that because of reduction in export subsidies and imposition of export duties on major traditional items the devaluation did not promote exports to the extent expected.

Exports as percentage of GDP remained stagnant and hovered around 4 per cent during the sixties. The share of imports in GDP during this period varied between 6 to 7 per cent. The trade deficit which gradually increased to 3.3 per cent of GDP in 1966-67 came down to 2.5 per cent in 1967-68 and further to 1.1 per cent in 1968-69. Trade deficit was one per cent of GDP or below

that during the Fourth Plan period. It rose to 1.9 per cent by the Fifth Plan end due to the first oil shock, when oil prices increased four fold. It reached peak level of 4.7 per cent in 1980-81 due to the second oil shock when oil prices more than doubled compared to the 1979 level. It remained more than 3 per cent of GDP during the Sixth Plan period.

Of all the sources of external finance, viz., export earnings, remittances, external aid, and borrowings, the country depended to a large extent on external assistance from various institutions such as World Bank, IBRD, IDA, IMF and bilateral arrangements agreed through Aid India Consortium to finance the developmental imports almost upto the beginning of the Fourth Plan period. It was only during the seventies that the exports of the country started growing. The remittances from Indians abroad, after the first oil shock and emergence of petro-dollars, formed a significant source to bridge the trade deficit. Towards the end of the seventies, concessional aid to finance developmental imports became difficult. Consequently, during the eighties, the country started resorting to commercial borrowings.

For a more detailed analysis of the country's balance of payments during 1948-49 to 1984-85, we have divided the period into three sub-periods. The first covers 1948-49 to 1960-61 (*i.e.*, pre-plan period, First Five Year Plan and Second Five Year Plan). The second covers 1961-62 to 1979-80, roughly coinciding with the sixties and seventies and comprising Third Five Year Plan, three Annual Plans, Fourth and Fifth Five Year Plans; and the third period covers Sixth Five Year Plan.

Developments during 1948-49 to 1960-61

The period of 13 years from 1948-49 to 1960-61 comprises two distinct periods, viz., pre-plan period and a decade of planned development. It would, therefore, be worth considering the two periods separately.

Pre-plan Period

The period 1948-49 to 1950-51 was characterised by the post-war shortages of food and basic

raw materials aggravated by the Partition of the country and the Korean War boom of 1950-51. Imports were very high, Rs. 766 crore in 1948-49 which came down to Rs. 604 crore in the following year but again rose to Rs. 650 crore in 1950-51. Though exports rose from Rs. 482 crore in 1948-49 to Rs. 514 crore in 1949-50 and further to Rs. 646.8 crore in 1950-51, they were lower than the imports. The structure of imports during this period showed wide and uneven variations in commodities like raw jute, raw cotton, foodgrains and machinery. The reasons for fluctuations were shortages due to failure of monsoons, loss of land producing high quality jute as a result of the Partition, devaluation in 1949 and consequent increase in the import cost of machinery, and conclusion of a Trade Agreement with Pakistan. The Partition had also resulted in the loss of the food-surplus areas.

The pattern of exports during this period was also affected by (i) Partition, (ii) devaluation in 1949 and (iii) the Korean War in 1950-51. The exports were confined to a few commodities like jute manufactures, tea, cotton manufacturers, raw cotton and raw and tanned hides and skins.

The trade deficit which was as high as Rs. 283.8 crore in 1948-49 declined to merely Rs. 3.5 crore in 1950-51 and constituted only 0.04 per cent of GDP. The terms of trade were favourable during this period. The developments in the invisibles account were also favourable. The current account deficit of Rs. 252 crore in 1948-49 declined to Rs. 47 crore in 1949-50 and turned into a surplus of Rs. 39 crore in 1950-51.

There was a continuous outflow of private capital. In 1948-49, it amounted to Rs. 28 crore, but dropped to less than half in 1949-50 and 1950-51. There were fluctuations in respect of banking capital. There was an inflow of banking capital in 1948-49 and 1950-51, but an outflow in 1949-50. There was a large outflow of official capital during 1948-49 (Rs. 338 crore) due to extraordinary payments such as Pension, Annuities and Partition transfers to the U.K. and Pakistan. The total outflow of capital was Rs. 324 crore during the three years 1948-49, 1949-50, and 1950-51. As there were sufficient foreign exchange balances available, the country could

meet the payments obligations without borrowing. Taking both current and capital accounts together, the foreign exchange reserves were drawn down by Rs. 583 crore.

First Decade of Planned Development: 1951-52 to 1960-61

During the first half of the decade, covering the First Plan period, major influences on the external sector were the Korean War boom in 1951-52, recession in America in 1953 and favourable monsoons which boosted agricultural and consequently industrial production. Payments position was uneven. In 1951-52 both exports and imports increased to reach peak levels at Rs. 730 crore and Rs. 963 crore, respectively. In the next two years, there was a steep fall in both exports and imports. But as the fall in imports was greater than that in exports, the trade gap was narrower. In fact in the current account there was a surplus in all the years of the First Plan except in 1951-52. Trade deficit as percentage of the GDP was small except in 1951-52 when it was 2.3 per cent. During the First Plan period the inflow of foreign capital was of the order of Rs. 13.6 crore and the draft on foreign exchange reserves was of the order of Rs. 127 crore.

In the Second Five Year Plan, the public sector investment in infrastructure and in basic industries like steel, coal, power and heavy electrical machinery was greatly accelerated. As a result, there was a sharp rise in the imports of capital goods, which constituted the core of the programme of industrialisation; their share in the total imports moved up from 18 per cent in 1951-52 to 38 per cent in 1960-61. Throughout the Second Plan period, exports were stagnant and the value of imports was almost double that of exports. The trade deficit as well as current account deficit widened and in 1957-58 reached the all time high of 4.7 per cent and 3.6 per cent of GDP. The current account deficits were financed through reserves, IMF drawings, and foreign assistance.

Developments during 1961-62 to 1979-80

(i) Third Plan period and Three Annual Plan:

The payments position between 1961-62 to

1979-80 is reviewed separately for 1961-62 to 1968-69 and 1969-70 to 1979-80.

In the years 1961-62 to 1963-64 the trade deficit and current account deficit were smaller than in 1960-61. In the subsequent years, barring 1968-69, the trade gap and current account gap widened considerably. Throughout the period, trade deficit as well as current account deficit formed 2 per cent or more of the GDP except in 1968-69. The flows of both unrequited transfers and long-term capital showed considerable year to year variations. The proportion of transfers to trade deficits was generally small.

The transactions in the capital account of India's balance of payments were dominated by foreign aid and movement of reserves on official account. Transactions in the private capital and banking capital were not significant. Foreign exchange reserves increased from Rs. 297 crore in 1961-62 to Rs. 577 crore in 1968-69. This was on account of a net inflow of long term capital and surplus on transfers.

During the Third Plan period, because of the Indo-China conflict of 1962 and India-Pakistan War of 1965, trade deficit increased from Rs. 337 crore in 1960-61 to Rs. 620 crore in 1964-65 and declined somewhat to Rs. 583 crore in 1965-66. Invisibles met the trade deficit only marginally. During the entire Third Plan period, there was deficit on current account, which was largely met by borrowing on official account.

Severe drought conditions in two successive years 1965-66 and 1966-67 and the balance of payments difficulties during the Third Plan period compelled the country in 1966 to devalue the rupee against the US dollar. Due to various developments in the external sector and in the domestic economy, the country had to take a Plan Holiday, during 1966-67, 1967-68 and 1968-69. During this period as a whole, though exports and imports both increased, the growth in imports was faster than in exports, resulting in increased trade deficits in all the three years. In view of insignificant amounts of net invisible receipts, the current account deficits were also large, which again had to be financed by borrowing from abroad on official account.

(ii) Fourth & Fifth Plan period and 1979-80:

Though merchandise trade showed deficits during this period, except in 1976-77 when there

was a surplus of Rs. 316.4 crore, trade gap was covered to a large extent by unrequited transfer receipts. In fact, the current account showed surplus in six out of the eleven years. The balance of payments position was therefore comfortable. Net long-term capital inflows showed fluctuations during this period. Large capital inflows helped to cover the current account deficit in 1974-75 and in 1979-80. The net inflow of foreign capital increased the foreign exchange reserves in nine out of the eleven year period. Foreign exchange reserves rose more than seven fold from Rs.821 crore in 1969-70 to Rs.5,934 crore in 1979-80.

Exports of goods rose from Rs.1,403.9 crore in 1969-70 to Rs.2,350.7 crore in 1973-74 recording a rise of 11.4 per cent per annum during the Fourth Five Year Plan. In terms of volume, exports showed a rise of 4.6 per cent per annum. The unit value index of exports recorded a rise of 7.9 per cent. Merchandise imports showed smaller rise than exports in the Fourth Plan period. Value of imports increased from Rs.1,582.3 crore in 1969-70 to Rs.2,729.3 crore in 1973-74 that is by 9.4 per cent per annum. The quantum of imports increased at 2.7 per cent per annum while the unit value index rose by 6.7 per cent per annum. The percentage of trade deficit to GDP increased from 0.5 per cent in 1969-70 to 1.0 per cent in 1971-72 but declined to 0.6 per cent in 1973-74. During 1972-73 and 1973-74, general inflationary conditions prevailed all over the world. World prices of food, fertilizers, and mineral oils rose steeply. As a result, the terms of trade for India were affected. The terms of trade, which is defined as the ratio of export prices to import prices, rose during the period 1968-69 to 1972-73, but thereafter deteriorated. The unfavourable trend in terms of trade affected merchandise exports and imports, both in real and value terms, and consequently the balance of trade.

There were fluctuations in the invisible trade (excluding official transfers). The invisible trade showed net outgo of Rs. 57.4 crore in 1969-70 and of Rs. 11.6 crore in 1973-74. During this period, private transfers increased from Rs. 125.1 crore to Rs. 191.3 crore. The investment income, however, showed persistent outflow of foreign exchange of the order of Rs.225 crore or more every year.

During the period 1974-75 to 1979-80 exports and imports showed phenomenal rise of more than 100 per cent. The quantum index of exports (1978-79 = 100) rose from 78 per cent to 105 per cent. The unit value index of exports changed from 74 per cent to 106 per cent. The unit value index of imports increased by 30 percentage points and the volume index of imports rose by 39 percentage points. The terms of trade were unfavourable. However, there was significant increase in the remittances from the Indians abroad especially from Gulf countries. The private transfers increased sharply from Rs. 273.7 crore in 1974-75 to Rs. 1,624.2 crore in 1979-80. During the period of eleven years from 1969-70 to 1979-80, the payments position remained relatively easy.

Sixth Five Year Plan (1980-81 to 1984-85)

The second oil shock of 1979-80, when oil prices doubled, had great impact on the economies of several countries all over the world. In India, imports went up sharply by 31 per cent to Rs. 12,544 crore in 1980-81 while exports increased by a mere 6 per cent, to Rs. 6,576 crore in that year. The Sixth Plan period was characterised by huge trade deficits of around Rs. 6,000 crore during each of the first four years and of Rs. 6,721 crore in the last year of the Plan. The inflow of net invisible receipts could not cover the trade deficit. Hence, the current account balance was also negative throughout the period rising from over Rs. 1,600 crore in 1980-81 to Rs. 2,852 crore in 1984-85. The share of current account deficit in GDP increased steeply from 0.2 per cent in 1979-80 to 1.3 per cent in 1980-81 and further to 1.6 per cent in 1981-82. In 1984-85 the current account deficit was 1.3 per cent of GDP. This had to be met by borrowing from banking, private and official sources. The draft on reserves was to the tune of Rs.500 crore in 1980-81 and Rs.1,600 crore in 1981-82. Mainly because of drawals under the IMF's Extended Fund Facility, the reserves increased by Rs. 2,323 crore during the last three years of the Plan.

Official transfers varied between Rs. 255 crore to Rs. 440 crore during the Plan period. Net invisible receipts, excluding official transfers,

progressively declined from 65 per cent of trade deficit in 1980-81 to 51 per cent in 1984-85. This was because of a sharp increase in the net outflow of investment income from Rs. 283 crore in 1982-83 to Rs. 996 crore in 1984-85. This was partly offset by the remittances from Indians working in the Middle-East countries. In 1984-85, the private transfer receipts accounted for 38 per cent of gross invisible receipts and covered the trade gap to the extent of 46 per cent. To encourage investments by non-resident Indians, a number of new schemes were introduced in 1982 and higher rates of interest were allowed on deposit accounts of non-resident Indians in NRER and FCNR accounts. As a result, inflows under these two accounts increased substantially. These amounted to nearly Rs. 700 crore in 1984-85.

II. EXTERNAL ASSISTANCE, COMMERCIAL BORROWINGS AND EXTERNAL DEBT

It is evident from the foregoing analysis that India has had persistent trade deficit practically throughout the period since Independence. The exports were insufficient to earn foreign exchange needed to finance the consumption and developmental imports. The gaps in trade balances were met through invisible surplus and capital inflows comprising multilateral and bilateral assistance and trade credits.

Foreign economic assistance to India dates back to the dawn of Independence. IMF was the first to provide foreign economic assistance to India in early 1948 for hard currency requirements. The first loan from IBRD came in 1949 for expansions of railways. During the Second Plan period, there was a significant increase both in the requirement and inflow of external capital. In response, in August 1958, IBRD convened a meeting of capital exporting countries to form the Aid India Consortium. Initially, five countries - the U.S.A., U.K., West Germany, Canada and Japan - along with IBRD formed the Club. Subsequently, more countries joined. Foreign economic assistance to India had taken several forms from outright grants to loans repayable in foreign currencies and loans repayable in Indian rupees. Deferred credits provided by foreign suppliers formed substantial part of foreign assistance

during a short period from 1957 to 1959. Technical assistance was also received on an increasing scale. India had taken recourse to IMF assistance to support the BoP position in 1957 and in 1961.

As the environment for external assistance progressively became unfavourable due to competition from various developing countries in Asia and Africa, multilateral and bilateral aid on concessional terms progressively declined. The inflow of foreign investment capital was never significant, because of strict exchange control regulations allowing foreign investment highly selectively. During the seventies and eighties, the inflow of private transfers from Indians working abroad helped a great deal. However, this source of finance has now lost its buoyancy.

Since the beginning of the eighties, India has had large trade and current account deficits and the BoP deteriorated markedly. The capital flows from multilateral and bilateral sources and private transfers were inadequate to bridge the current account gap. The country was thereby forced to enter into an agreement with IMF to borrow SDR 5 billion under its Extended Fund Facility. The drawals under this facility started in the last quarter of 1981 and continued till May 1984. The cumulative drawals till that period amounted to SDR 3,900 million. Then Government decided not to withdraw any further under this facility. Besides, India resorted to commercial borrowings in the international capital market in significant proportions. The inflow of foreign loans and credits and the use of IMF resources resulted in a mounting external debt.

The data on India's total external debt as available in the Economic Survey, released by the Government at the time of budget every year, do not include disbursement and debt service payment on suppliers credit, commercial borrowings and IMF credits (other than IMF Trust Fund Loans). The total external assets and liabilities of the country are estimated by the RBI from time to time by conducting periodic surveys. The latest such survey was conducted with March 31, 1987 as the reference period. The total foreign liabilities of the country at the end of March 31, 1987 are estimated at Rs. 62,000 crore. The data as available in the latest issue of the World Debt

Tables published by World Bank give details of India's external debt in U.S. dollars. India's total debt as given in this Table, as at the end of 1986, is estimated at U.S. \$ 41.3 billion which is comparable with the estimates by the RBI (Statement 11).

According to World Debt Tables, published by the World Bank in 1989, the total debt of the country increased from U.S. \$ 7.9 billion in 1970 to U.S. \$ 12.4 billion in 1975, and further to U.S. \$ 19.3 billion in 1980. The growth of external debt during the subsequent period was very rapid. It amounted to U.S. \$ 31.3 billion at the end of 1984, and to U.S. \$ 46.4 billion at the end of 1987.

It may be seen that upto 1980, official and officially guaranteed long-term debt accounted for over 90 per cent of the total debt (including undisbursed) and private non-guaranteed debt for only about 2 per cent. The latter increased to 4.1 per cent in 1981 and to 8.3 per cent in 1984. Since then this proportion has remained almost stationary. Recourse to IMF credit was of the order of 5 to 6 per cent of total debt in 1974 and 1975. In 1980, it constituted only 2 per cent but rose to more than 11 per cent in the next four years. In 1987, IMF credit accounted for 8 per cent of the total debt. Short-term debt constituted 5 to 7 per cent of the total debt during 1980 to 1984. By 1987 its share in the total debt slightly declined to 4.2 per cent.

It would be seen from the official and officially guaranteed long term debt classified by source that official creditors accounted for 94 per cent or more upto 1980. The debt owed to private creditors was only 5.5 per cent in 1970 and 3.1 per cent in 1975. The share of multi-lateral agencies was 21 per cent in 1970 and steadily increased to 32 per cent in 1975, to 46 per cent in 1980, and 53 per cent in 1984. Between 1970 and 1980 while IBRD accounted for 5 to 7 per cent of the debt owed to all agencies, the share of IDA increased from 13.6 per cent in 1970 to 27.5 per cent in 1975 and to 36 per cent in 1980. In 1984, the share of IBRD increased to 15 per cent while that of IDA remained at 35 per cent. The share of bilateral credit declined considerably from 75 per cent in 1970 to 65 per cent in 1975, 48 per cent in 1980 and to 34 per cent in 1984. The debt owed to private creditors which constituted 6.2 per cent in

1980 constituted 13 per cent in 1984 and 15 per cent in 1987. Between 1970 and 1975 suppliers credit formed significant proportion of the debt owed to private creditors. During the subsequent period, the importance of suppliers' credit had drastically reduced and that of financial markets increased considerably. Debt owed to financial markets increased from 5 per cent in 1980 to 11 per cent in 1984 and further to 14 per cent in 1987.

It may be seen from average terms of new commitments from all creditors that the rate of interest increased from 2.5 per cent per annum in 1970 to 7.3 per cent per annum in 1982. It gradually declined to 5.5 per cent in 1986 and was 5.7 per cent in 1987. The average maturity period was 34.4 years in 1970 which declined to 23 years by 1983, increased to 26.9 years in 1984 and again declined and reached 23.3 years in 1987. The grace period declined from 8.2 years in 1970 to 5.6 years in 1983 and fluctuated between 5.7 years and 6.8 years in the remaining period. The grant element in the new commitments which was as high as 61.1 per cent in 1970 declined substantially to 23.3 per cent in 1982 but again gradually moved up to reach the level of 31.5 per cent in 1987.

The debt service ratio (total debt service as the percentage of export of goods and services) in respect of official and officially guaranteed debt declined from 21.5 per cent in 1970 to 11.6 per cent in 1975 and further to 7.1 per cent in 1980. The reduction in debt service ratio became possible due to increase in the external aid from IDA and IBRD which was available on soft terms during this period. However, it started increasing gradually upto 1984 and sharply thereafter. The debt service ratio increased from 8.3 per cent in 1984 to 11.6 per cent in 1985, and to 16.9 per cent in 1987. As per the Economic Survey 1988-89, debt service on all the external sources, including external commercial borrowings and EFF drawings from the IMF, as percentage of current receipts has risen from 8.5 per cent in 1979-80 to 12.1 per cent in 1984-85 and further to 24.0 per cent in 1987-88.

Concluding Remarks:

India had persistent trade deficit and current

account deficit almost throughout the period since Independence. India did not have serious difficulties upto the end of the First Plan period, because of large sterling balances available after Independence. But, the Indian Economy was consciously insulated from the international environment in the initial period particularly during the fifties and sixties. The development strategy followed in the Five Year Plans laid stress on self-reliance through import substitution particularly in basic and heavy industries. The developmental imports of the country were financed to a large extent through external aid which was available on soft terms. Conscious efforts were not made to produce what we can export. Therefore, for a fairly long time after Independence the exports were confined to a few traditional commodities.

Due to the emergence of other Asian and African countries which became independent and also followed the path of planned economic development, as competitors, the quantum of concessional aid available to India slowly became scarce. India was forced to give up inward looking policies and adopt outward orientation as far as trade policies were concerned due to two oil price shocks of the seventies.

In late seventies, an export promotion drive was undertaken. But, it did not yield substantial results due to competition among developing countries. Actually, India's share in world exports declined.

Fortunately, the net inflow of remittances from Indians abroad helped to solve the payments problems to a large extent during the late seventies. In fact, from 1973-74 to 1979-80, India's foreign exchange reserves continuously increased. The second oil shock in 1979-80 ended this comfortable position.

The efforts oriented towards diversification of exports in terms of market and commodities had a favourable impact on the composition of India's exports and its export earnings in the eighties. The share of manufactured products in total exports increased. The import-substitution efforts slowed down and the country adopted policies of import liberalisation. This, in turn, added to the payments problems. As mentioned earlier, the environment of getting concessional aid became unfavourable during this period; IDA loans which were highly concessional in nature became uncertain. IMF credit was coupled with stringent conditions: as a result, the country had to resort to commercial borrowings in significant proportions to meet payments obligations and gradually the magnitude of commercial borrowings increased, particularly during the first three years of the Seventh Plan period. The debt service ratio increased and was well above 20 per cent, considered unsafe. This calls for a more determined management of the country's Balance of Payments.

ABBREVIATIONS

AD	Authorised Dealers
BoP	Balance of Payments
c.i.f	Customs, Insurance and Freight
ECD	Exchange Control Department of the Reserve Bank of India
EFF	Extended Fund Facility with IMF
FCNRA	Foreign Currency Non-Resident Account
f.o.b	Free on Board
GDP	Gross Domestic Product
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IMF	International Monetary Fund
NRER	Non-Resident External Rupee Account
RBI	Reserve Bank of India
SDR	Special Drawing Rights

TECHNICAL APPENDIX

CONCEPTS AND DEFINITIONS, SOURCES OF DATA AND
METHODOLOGY OF COMPILATION OF BOP STATISTICS

The 'Balance of Payments' of a country is defined as 'A systematic record of the economic transaction during a given period between its residents and residents of the rest of the world, for convenience referred to as foreigners or sometimes, for greater clarity as non-residents'. The International Monetary Fund lays down a conceptual framework for the compilation of balance of payments through its manual, issued and revised from time to time, for the benefit of its member countries, with a view to bringing uniformity in compilation and presentation of balance of payments statistics. Adoption of the standard also makes inter-country comparison meaningful. The definition of BoP presently adopted by the member countries of the International Monetary Fund (contained in the fourth edition of the BoP manual) reads as follows:

"The balance of payments is a statistical statement for a given period showing (a) transactions in goods and services and income between the economy and the rest of the world; (b) changes of ownership and other changes in that economy's monetary gold, Special Drawing Rights (SDRs); and claims on and liabilities to the rest of the world; and (c) unrequited transfers and counter part entries that are needed to balance, in the accounting sense, any entries for the foregoing transactions and changes which are not mutually offsetting."

Economy: An economy is conceived as comprising economic entities that have a clear association with a given territory than with any other territory. Each such entity is considered as resident of that economy. For balance of payments of a country, the economy is synonymous with the country. However, balance of payments of regional groups can also be constructed besides that of the individual countries of such groups.

Territory: Territory is defined to include the territories lying within the political frontiers of a country and territorial seas and international waters over which it has exclusive jurisdiction.

Country: The country means those individual and business enterprises including financial institutions that have permanent association with the country's territory, together with the country's governmental authorities at all levels.

Residents: Residents include all those economic units whose economic activity is subject to direction and control by the national authorities.

Non-residents: All others, other than residents, are regarded as non-residents.

Foreign country controlled enterprises are regarded an integral part of the host country's economy. Tourists and other travellers are residents of their home country. The workers migrated from one country to another country are regarded as residents of the country where they dwell. Embassies or military units and personnel of governments stationed in foreign countries are regarded a part of the home country's economy and hence non-residents of the country in which they happen to dwell. Staff of international agencies are regarded as residents of international area and not of the country in which they are located. Thus the residents and non-residents have no territorial connotation, but are based on the concept of 'centre of interest' and their contribution to the domestic or foreign economy as the case may be.

Receipts and payments: The balance of payments includes all transactions which at some stage or the other give rise to monetary settlement in cash or against credit of varying duration. As the financial position of a country, like that of a business, depends not only on its cash holdings but also on what it owes to and what others owe to it, transactions resulting in monetary settlement against credit are also included in balance of payment. Further, it includes some economic transactions even if they never give rise to monetary settlement, e.g. goods granted under foreign aid programme are included as exports or imports with a matching entry for the foreign aid or capital movement involved.

Economic transaction: An economic transaction occurs when economic value is provided by a unit in one economy to a unit in another economy, whether they involve money transactions or not. Sometimes economic values are exchanged against one another and sometimes they are provided or acquired, without *quid pro quo*. Accordingly, in the IMF Manual, five basic types of economic transactions have been identified: (a) purchase and sale of goods against financial items *i.e.*, the interchange of goods and services against financial claim and monetary gold; (b) barter *i.e.*, the interchange of goods and services against other goods and services; (c) the interchange of financial items against other financial items, *e.g.* repayment in money of foreign debts; (d) the provision or acquisition of goods and services without a *quid pro quo*, *e.g.* grants in kind; (e) the provision or acquisition of financial items without a *quid pro quo*, *e.g.* gifts, workers' remittances.

Generally, a transaction presupposes two parties or transactors. The balance of payments, however, includes even one-sided transactions which are unrequited transfers and migrants' transfers. Unrequited transfers are transactions such as gifts, grants, taxes, etc.

The imputed transactions for the undistributed income of direct investment enterprises attributable to direct investors are also covered under balance of payments. It is recorded as a component of foreign investment income payment in the current account matched by the inflow of foreign investment in the capital account.

Balance of payments also include changes arising from monetisation/demonetisation of gold and the allocation/cancellation of SDRs. Gold is treated as a financial asset when it is held by the central monetary authorities as part of the international reserves and it is referred to as monetary gold. When it is held by any other party including the central authorities as a non-monetary asset, it is treated like any other commodity. Monetisation refers to the transfer of gold from non-monetary sector to monetary sector when central monetary authority increases its holding of official reserve assets by acquiring non-monetary gold from

resident/non-resident. Demonetisation refers to the reverse process when central monetary authority releases monetary gold from the holdings of official reserve assets for non-monetary purposes. The allocation or cancellation of SDRs by the IMF involves the creation or extinction by the IMF of reserve assets which form part of a country's holding of official reserve assets.

Double-Entry System: The balance of payments employ a double entry system of accounting. Thus, every transaction that enters into the balance of payments statement is to be represented by two entries that have exactly equal values. One entry of each of these pairs is designated as a credit and given a positive arithmetic sign while the other entry is called a debit and given a negative sign. Thus, in principle, sum of all debits equals the sum of all credits and the accounts are always in balance. For example, an export transaction for which money is received through the banking system involves a credit entry for export, and a debit entry for the increase in foreign exchange assets. Similarly the repayment of foreign loans through the banking system involves a debit entry to show reduction in foreign liabilities and a credit entry signifying decrease in foreign exchange assets.

Most of the entries in the balance of payments refer to transactions in which economic values are provided or received in exchange for other economic values; those values consist of real resources (goods, services and income) and financial items. The offsetting credit and debit entries are, therefore, equal in amount. In the case of one-sided items such as taxes, grants, etc., special type of entries referred to as unrequited transfers and counterparts are made in order to furnish the required offsets.

In practice, balance of payments statements are condensed for statistical or analytical reason. The debit or credit entries for a single kind of goods, service, income or capital item may be shown separately or aggregated. Moreover, transactions are treated on a gross or net basis.

For the five basic types of economic transactions referred to earlier, the entries are as follows:

	No. of entries in Account for		
	Goods and Services	Transfer Payments	Capital
1. Purchases and sales of goods and services against financial items.	One	None	One
2. Barter	Two	None	None
3. Interchange of financial items	None	None	Two
4. Provision or acquisition of goods without <i>quid pro quo</i>	One	One	None
5. Provision or acquisition of financial items without <i>quid pro quo</i>	None	One	One

Errors and omissions: Since the sources on which the two entries (for each transaction) are based may be incomplete or inaccurate, an item for 'errors and omissions' is included for balancing purposes. While credit entry for errors and omissions denotes a net understatement of recorded credits or overstatement of recorded debits, debit entry for errors and omissions denote a net understatement of recorded debits or overstatement of recorded credits.

Principles for Valuation and Time of Recording: A uniform system for pricing all balance of payments transactions is necessary for a variety of reasons. Each transaction in balance of payments has a credit and a debit aspect because of double entry system of recording. The credit and debit aspects are often derived independently from separate sources. A uniform valuation system makes different items in the balance of payments comparable with each other. Balance of payments statements of trade partner by countries also become comparable due to adoption of uniform valuation principles. The choice of such a system is, however, beset with practical difficulties. The universal solution is to adopt the principle of basing values on market prices or their equivalent. As per the fourth edition of the IMF manual, market price is defined as 'the amount of money that a willing buyer pays to acquire something from a willing seller, when such an exchange is one between independent parties into which nothing but commercial considerations enter'.

In peculiar situations such as barter, tax payments, transactions between a branch and a parent company, transactions between affiliated enterprises, goods transferred under a financial lease arrangement, etc., market price as defined above does not exist. In such cases customary

prices are constructed by analogy with known market prices that are established under conditions that are considered to be essentially the same. These are known as market price equivalents.

For merchandise transactions, IMF manual has recommended that exports and imports may be valued f.o.b. (free on board) at the customs frontier of the exporter's country. In India's balance of payments statistics, exports are valued on f.o.b. basis at the ports of shipment and the imports are valued on c.i.f. (cost, insurance and freight) basis.

Transactions denominated in foreign currencies are to be converted into domestic currency at market rates of exchange prevailing at the time of transaction.

A uniform time of recording is recommended for the same reasons as those indicated for uniform pricing. Both sides of transactions that may be registered using different data sources are required to be recorded in the same period in the balance of payments. Thus, the time of recording of current account transactions is conceived as the time when legal ownership of goods change, when services are rendered, when undistributed income of direct investment enterprises is earned. Interest and dividends are to be recorded at the time they are due for payments. Unrequited transfers in kind are recorded when the relative goods, services change ownership.

Presentation: The balance of payments statistics are compiled by member countries of the IMF in accordance with the guidelines provided in the IMF's Manual. The presentation of data, however, differs from country to country.

The balance of payments statement is divided into two major accounts, viz., current account and capital account. The current account is divided

into 'Merchandise', 'Non-monetary gold movement' and 'Invisibles'. Invisibles are further classified into services (comprising travel, transportation, insurance, investment income, Government not included elsewhere and miscellaneous) and transfer payments (unrequited transfers, e.g. grants, gifts, taxes, etc.). Among various components and sub-components presented in the current account, only 'Merchandise' and 'transfers' are sub-divided into 'Government' and 'Private'.

The capital account includes those economic transactions which result in changes in the foreign financial assets and liabilities. Capital transactions are classified into three main sectors, viz., 'Private', 'Banking', and 'Official'. While the private sector's statistics comprise capital account transactions of resident individuals and private corporate entities, that of Banking Sector's comprise transactions in foreign financial assets and liabilities of both private and public sector banks, including the Reserve Bank. Official sector include capital account transactions of the Central and State Governments and public sector undertakings. Movements in foreign exchange assets held by the RBI are shown under Reserves.

Sources and Method of Compilation of Balance of Payments in India

Sources of data: The compilation of balance of payments involves the use of a variety of sources of information. In India, the records of the Exchange Control Department (ECD) of the RBI, which administers the Foreign Exchange Regulations, are the basic source of these statistics for non-official sector. The exchange control records, however, cover only transactions that result in money transfers through the domestic banking system. These are supplemented by other sources of data like Government of India including its agencies abroad and by conducting specific surveys. These surveys include Survey of Unclassified Receipts, Survey of Foreign Assets and Liabilities, survey to estimate Freight and Insurance components on exports, etc.

Compilation: Details of methods of compilation of data in respect of individual items of India's

balance of payments are given in the Manual on Balance of Payments Compilation published by the RBI in 1987. These are briefly described below.

Merchandise: Merchandise trade covers all transactions relating to movable goods, with some exceptions, the ownership of which changes from residents to non-residents (exports) and from non-residents to residents (imports). As per the IMF recommendations, recording of merchandise exchanges is to be done at the time of ownership change at value on f.o.b. basis.

Exports: Exporters are required to submit declarations in the prescribed form under Section 18(1) of the Foreign Exchange Regulation Act, while making a shipment. The declaration forms (GR forms) are submitted in duplicate by the exporter to the customs in the case of exports by sea or air; and, in the case of exports by post parcel (called PP form), they are submitted to the postal authorities. The duplicate copy of the form duly authenticated by the customs is returned to the exporter for submission to his banker (authorised dealers, ADs) along with shipping documents for negotiation. Exports data in the BoP compilation are based on the negotiations of the export documents by ADs reported regularly by them through periodic statements to RBI. In the case of post parcel exports also, the procedure for inclusion of data in the BoP compilation is similar with only incidental changes.

Imports: Data for recording imports in the BoP statistics are largely derived from the exchange control records which are based on fortnightly returns (viz., R>Returns) and supporting forms submitted by the banks dealing in foreign exchange (ADs) to Exchange Control Department. Value of imports recorded in India's BoP statistics is on c.i.f. basis.

Since data on imports available in ECD records cover transactions effected through the banking channel, these are supplemented by data on grants in the form of goods received by the Government of India from foreign Governments, imports under direct settlement procedure where payment is made to the foreign exporter directly by the lending institution abroad, payments for imports directly made by Government of India Agencies abroad, i.e., India Supply Mission, Washington,

Indian High Commission, London, Indian Embassy, Tokyo, imports on Government of India's account settled through the rupee accounts of Non-Resident Indians maintained with the RBI, payments of imports directly to supplier of goods abroad through the foreign currency loans raised by financial and non-financial institutions, imports of machinery through issue of shares to non-residents.

Non-monetary gold movement: The counterpart entries arising from increase (debit) in the foreign exchange reserves as a result of monetisation of gold are recorded as credit in the category of 'Non-monetary gold movement'.

Invisibles: The invisible credits comprise the value of services rendered by residents to non-residents. Conversely, invisible debits comprise the value of services rendered by non-residents to residents.

As indicated earlier, the balance of payments compilation is mainly based on records of the ECD of the RBI. The Authorised Dealers (ADs) submit to the ECD details of purchases and sales of foreign currencies through various R-returns prescribed for reporting transactions in different foreign currencies on a fortnightly basis. Along with the R-returns, some ancillary statements/returns such as A-1, A-2 forms, supplementary statements, etc. are submitted by the ADs providing details of merchandise as well as non-merchandise transactions during the reporting period. While classifying the data on invisibles, there are no difficulties to classify the payments (*i.e.*, outward remittances). However, under the Exchange Control Regulations, ADs are not required to report the purpose of purchases of foreign exchange from the public (*i.e.*, inward remittances individually below the equivalent of less than Rs.10,000). Instead, the aggregate amount of such small value transactions is required to be reported by the ADs to ECD in the relevant R-return. In order to get a broad classification of such small value (*i.e.*, unclassified) receipts, the RBI undertakes periodic sample surveys called "Survey of Unclassified Receipts". Since 1984-85, the Survey of Unclassified Receipts is conducted throughout the year. Under the Survey, the selected beneficiaries in India are required to report details of remittances received

by them from abroad on a questionnaire card. The details of encashment of travellers' cheques in foreign currency or rupee drafts and conversion of foreign currency notes including those surrendered by the authorised money changers are required to be reported by the ADs in prescribed returns. The aggregate amount of unclassified receipts reported by ADs is allocated under different purposes such as services, private capital, travel, etc., in balance of payments statistics on the basis of proportions worked out from the Survey results separately for remittances in foreign currencies and rupees.

The RBI also conducts periodic comprehensive surveys of India's foreign assets and liabilities. The latest such survey was undertaken with reference date as March 1987. The data obtained through these surveys are utilised to fill the gap in the capital transactions.

Travel: Foreign travel covers receipt and payment on account of tourist, travel undertaken by students, businessmen, patients undergoing medical treatment, government officials, etc.

Transportation: Transportation covers all payments by foreigners for transportation services rendered by residents and payments by residents for transportation services rendered by foreigners. A large part of freight on imports are not recorded in transportation account as imports are recorded on c.i.f. basis.

Insurance: Insurance covers all credits and debits on life and general insurance as well as reinsurance claims. Though credits cover insurance on exports, debits do not cover insurance element of imports as imports are recorded on c.i.f. basis.

Investment income: Investment income covers all income from investments. Incomes received by residents from investment abroad is a credit entry and income paid to foreigners on their investment in India is a debit entry. Interest, profits and dividend payments on foreign investments, charges on the uses of IMF resources, interest and other charges on foreign loans are covered under this item.

Government not included elsewhere: This item covers current expenditure of Government/diplomatic missions.

Miscellaneous transactions: This item includes

receipts and payments for royalties and management fees, receipts and payments to technicians and other receipts and payments for professional services. Charges for advertisement, agency services, posts and telegraph charges, subscription to journals, film rentals, refunds and rebates are also included here.

Transfer payments: Transfer payments are the counterparts of international transactions such as grants, gifts or other transfers without *quid pro quo*.

(a) *Official:* Official transfers are counterparts of grants, aids, government contributions to International Institutions such as the U.N., U.N.E.S.C.O., and pension payments.

(b) *Private:* Private transfer payments include the counterparts of remittances of missionaries, educational and charitable purposes and personal remittances by workers to their families.

Capital Account

(a) *Private capital:* Private capital includes transfer of funds for investment. It is further divided into long-term and short-term.

(i) *Private long-term:* This item includes drawings and repayment on long-term loans received by private sector, investments in shares and debentures and repatriation thereof, remittance of accumulated profits and flows of funds from non-resident Indians in FCNRA and NRER schemes and repatriation thereof.

(ii) *Private short-term:* Private short-term capital receipts and payments cover transactions in the nature of short-term borrowings (with original maturity of one year or less) and repayments and the movement in funds held abroad by private parties out of foreign currency loans raised by them.

(b) *Banking Capital:* This item covers changes in foreign financial assets and liabilities of Indian authorised dealers, and in rupee overdrafts and rupee liabilities of ADs to non-resident banks.

(c) *Official Capital:* It includes transactions affecting foreign financial assets and foreign liabilities of the Government of India and the RBI. Transactions relating to purchases and repurchases from the IMF relating to Government of India, are shown as a separate item. Official capital transactions are further sub-divided into

(i) Loans, (ii) Amortisation and (iii) Miscellaneous.

(i) *Loans:* Loans cover drawings of foreign loans by the Government of India, state governments and public sector organisations. Credit entries under this item cover drawings on loans from international institutions such as IBRD and IDA and from other countries. Debit entries under loans represent the disbursement of loans granted by the Government of India to foreign government.

(ii) *Amortisation:* Repayment of loans by the Government of India is recorded under the debit side of this item and repayment of loans by the foreign countries on the credit side.

(iii) *Miscellaneous:* Transactions under this head comprise changes in rupee balances held by the Central Banks of East European countries, technical credit granted to/repaid by these countries, changes in rupee balances held by foreign government and semi-government institutions, changes in the balances held by U.S. Embassy in India maintained with RBI, changes in the balances held abroad by Government agencies, capital subscription to international agencies, movement in funds held by public sector undertakings out of foreign currency loans raised by them.

Other items under capital account refer to IMF, SDR Allocation and Errors and Omissions, a reference to which was already made earlier.

Reserves and Monetary Gold: This item covers changes in total foreign exchange reserves, the movement in SDRs and the monetisation/demonetisation of gold corrected for valuation changes. Change in this item provides a quick measure of the strength or weakness of the country's external payments position.

Uses of Balance of Payments: The basic use of the balance of payments is in appraising the effects of the international transactions on the domestic economy. Naturally, the policy makers must keep constant vigil on the developments in balance of payments position. Further, as the balance of payments of an economy mirrors the rest of the world's dealings with that economy, the international institutions such as IMF, IBRD, World Bank, IDA, etc., are directly interested in the balance of payments statements of their

member countries.

The balance of payments is an integral part of national income accounts, as net inflow/outflow of resources from abroad perceived through balance of payments statistics is important in the computation of national income accounts.

The balance of payments records enable Governmental authorities to take decisions on appropriate monetary and fiscal policies on the one hand and trade and payments on the other.

Balance of payments statistics is a tool useful for economic analysis which relates the economic activity of a country to its transactions with the rest of the world. A deficit on current account would mean a net inflow of foreign resources. However, persistent deficit may pose problems of financing which may effect the development process. Such trends may be disturbing and urgent attention is necessary to be paid in taking

appropriate trade and commercial policies and borrowing programmes.

A decision to revalue or devalue the currency is inevitably taken after a careful consideration of the country's current and prospective payments position.

Changes in the country's net foreign assets and liabilities have important implications on the prospective income or debt service outflow so that appropriate policies may be taken in the national interest.

If BoP shows a serious drain on the country's foreign exchange reserves, this may indicate the need for prompt corrective action. Decision on export promotion and to encourage import substitution, and the adoption of foreign investment policies have necessarily to be based, inter alia, on the country's foreign exchange receipts and payments.

STATISTICAL APPENDIX

		Page Nos.
Statement 1	India's Overall Balance of Payments	283-289
Statement 2	India's Foreign Exchange Reserves	290
Statement 3	Current Account Transactions as percentage of Gross Domestic Product	291
Statement 4	India's Exports, Imports and Trade Balance	292
Statement 5A	India's Export Import Unit Value Index and Net Terms of Trade	293
Statement 5B	India's Export Quantum Index and Gross Terms of Trade	293
Statement 6A	India's Major Items of Exports	294
Statement 6B	India's Major Items of Imports	295
Statement 7	Overall External Assistance	296
Statement 8	External Debt Servicing (Government and Non-Government)	296
Statement 9	India's External Debt on Government and Non-Government Account	297
Statement 10	Drawings and Repurchases from the IMF and SDR allocation	297
Statement 11	Details of India's External Debt & Debt Service Payments	298-301

STATEMENT 1. INDIA'S OVERALL BALANCE OF PAYMENTS

	1948-49		1949-50		1950-51		1951-52		1952-53		1953-54	
	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net
A. CURRENT ACCOUNT												
I Merchandise	482.5	766.3	-283.8	514.0	603.9	-89.9	646.8	650.3	-3.5	730.1	962.9	-232.8
1. Private	476.3	529.4	-53.1	501.5	448.8	52.7	634.0	476.2	157.8	714.1	668.2	45.9
2. Government	6.2	236.9	-230.7	12.5	155.1	-142.6	12.8	174.1	-161.3	16.0	294.7	-278.7
II Non-monetary gold movement	-	-	-	-	-	-	-	-	-	-	-	-
III Invisibles	127.7	96.0	31.7	136.2	93.4	42.8	139.5	97.1	42.4	178.8	107.6	71.2
1. Travel	3.8	5.0	-1.2	3.9	9.4	-5.5	4.6	17.0	-12.4	9.0	22.0	-13.0
2. Transportation	22.3	9.7	12.6	26.3	9.5	16.8	30.1	8.6	21.5	40.5	13.5	27.0
3. Insurance	6.0	3.1	2.9	7.1	2.6	4.5	8.3	2.9	5.4	9.8	3.0	6.8
4. Investment income	12.7	30.1	-17.4	10.3	28.6	-18.3	7.2	31.3	-24.1	10.6	28.7	-18.1
5. Govt. not included elsewhere	23.9	22.1	1.8	21.3	25.1	-3.8	19.3	15.8	3.5	25.1	18.1	7.0
6. Miscellaneous	28.4	20.1	8.3	29.9	12.8	17.1	27.1	15.7	11.4	30.7	16.6	14.1
7. Transfer payments	-	-	-	-	-	-	-	-	-	-	-	-
(i) Official	30.6	5.9	24.7	37.4	5.4	32.0	40.8	5.8	35.0	47.8	5.7	42.1
(ii) Private	-	-	-	-	-	-	-	-	-	-	-	-
Total Current Account (I+II+III)	610.2	862.3	-252.1	650.2	697.3	-47.1	786.3	747.4	38.9	908.9	1071.5	-162.6
B. CAPITAL ACCOUNT												
1. Private	11.0	37.3	-26.3	13.9	27.4	-13.5	13.8	27.2	-13.4	12.8	25.2	-12.4
(i) Long-term	0.7	2.9	-2.2	3.5	3.0	0.5	1.6	1.8	-0.2	2.8	0.7	2.1
(ii) Short-term	13.4	-	13.4	0.1	14.3	-14.2	37.9	15.6	22.3	33.0	9.8	23.2
2. Banking	28.5	-	28.5	27.0	-	27.0	7.7	-	7.7	59.6	-	59.6
(i) Loans	12.2	12.8	-0.6	10.0	12.4	-2.4	9.8	12.9	-3.1	11.7	12.9	-1.2
(ii) Amortisation	77.6	443.1	-365.5	82.4	47.3	35.1	12.8	29.7	-16.9	1.9	30.4	-28.5
(iii) Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Account (1+2+3)	143.4	496.1	-352.7	136.9	104.4	32.5	83.6	87.2	-3.6	121.8	79.0	42.8
C. I.M.F.	-	-	-	-	-	-	-	-	-	-	-	-
D. SDR ALLOCATION	-	-	-	-	-	-	-	-	-	-	-	-
E.	143.4	496.1	-352.7	136.9	104.4	32.5	83.6	87.2	-3.6	121.8	79.0	42.8
F.	753.6	1358.4	-604.8	787.1	801.7	-14.6	869.9	834.6	35.3	1030.7	1150.5	-119.8
G.	6.3	-	6.3	1.7	-	1.7	-	-	-6.7	-45.0	-	-45.0
H.	598.5	-	598.5	12.9	-	12.9	-	-28.6	-	164.8	-	-16.7
E. CAPITAL ACCOUNT, IMF AND SDR ALLOCATION; F. TOTAL CURRENT ACCOUNT, IMF AND SDR ALLOCATION; G. ERRORS AND OMISSIONS; H. RESERVES AND MONETARY GOLD												

(Contd.)

STATEMENT 1. (Contd.)

	1954-55		1955-56		1956-57		1957-58		1958-59		1959-60	
	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net
A. CURRENT ACCOUNT												
I Merchandise	596.6	689.7	-93.1	640.3	773.1	-132.8	635.2	1102.1	-466.9	668.6	1233.2	-564.6
(i) Private	595.8	523.9	71.9	638.2	622.2	16.0	633.0	819.0	-186.0	587.0	707.6	-120.6
(ii) Government	0.8	165.8	-165.0	2.1	150.9	-148.8	2.2	283.1	-280.9	81.6	525.6	-444.0
II Non-monetary gold movement	-	-	-	-	-	-	-	-	-	-	-	-
III Invisibles	204.5	105.4	99.1	255.9	116.4	139.5	265.5	111.4	154.1	249.0	115.8	133.2
1. Travel	9.0	12.6	-3.6	11.8	12.1	-0.3	14.7	12.4	2.3	13.1	7.1	6.0
2. Transportation	35.6	11.3	24.3	38.3	15.0	23.3	46.2	16.1	30.1	47.4	19.0	28.4
3. Insurance	8.3	3.8	4.5	9.5	5.1	4.4	10.4	6.9	3.5	9.0	5.5	3.5
4. Investment income	24.5	29.5	-5.0	29.8	29.9	-0.1	32.8	23.9	8.9	23.3	28.5	-5.2
5. Govt. not included elsewhere	26.8	16.6	10.2	23.0	13.0	10.0	23.7	12.7	11.0	24.5	13.9	10.6
6. Miscellaneous	27.9	15.1	12.8	34.0	20.8	13.2	37.1	23.6	13.5	36.6	25.3	11.3
7. Transfer payments	21.7	-	21.7	51.9	-	51.9	37.0	-	37.0	32.9	-	32.9
(i) Official	50.7	-16.5	34.2	57.6	20.5	37.1	63.6	15.8	47.8	62.2	16.5	45.7
(ii) Private	-	-	-	-	-	-	-	-	-	-	-	-
Total Current Account (I+II+III)	801.1	795.1	6.0	896.2	889.5	6.7	900.7	1213.5	-312.8	917.6	1349.0	-431.4
B. CAPITAL ACCOUNT												
1. Private	15.7	22.0	-6.3	16.2	23.1	-6.9	25.5	43.8	-18.3	33.7	28.7	5.0
(i) Long-term	10.9	9.4	1.5	20.1	2.8	17.3	11.6	15.1	-3.5	15.8	17.3	-1.5
(ii) Short-term	17.4	13.0	4.4	22.8	13.9	8.9	24.6	37.2	-12.6	23.6	34.7	-11.1
2. Banking	0.6	17.2	-16.6	9.4	7.1	2.3	91.1	6.0	85.1	149.5	15.0	134.5
3. Official	21.5	10.7	10.8	9.3	3.6	5.7	6.5	3.3	3.2	6.2	79.0	-72.8
(i) Loans	6.5	12.3	-5.8	7.9	13.8	-5.9	55.4	17.5	37.9	136.5	11.2	125.3
(ii) Amortisation	-	-	-	-	-	-	-	-	-	-	-	-
(iii) Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Account (1+2+3)	72.6	84.6	-12.0	85.7	64.3	21.4	214.7	122.9	91.8	365.3	185.9	179.4
C. I.M.F.	-	-	-	-	-	-	-	-	-	-	-	-
D. SDR ALLOCATION	72.6	84.6	-12.0	85.7	64.3	21.4	214.7	122.9	91.8	365.3	185.9	179.4
E.	873.7	879.7	-6.0	981.9	953.8	28.1	1115.4	1336.4	-221.0	1282.9	1534.9	-252.0
F.	-	-	-	-	-	-	-	-	-	-	-	-
G.	-	-	-	-	-	-	-	-	-	-	-	-
H.	-	-	-	-	-	-	-	-	-	-	-	-
E. CAPITAL ACCOUNT, IMF AND SDR ALLOCATION; F. TOTAL CURRENT ACCOUNT, CAPITAL ACCOUNT, IMF AND SDR ALLOCATION; G. ERRORS AND OMISSIONS; H. RESERVES AND MONETARY GOLD												

(Contd.)

STATEMENT 1. (Contd.)

	1960-61			1961-62			1962-63			1963-64			1964-65			1965-66		
	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net
A. CURRENT ACCOUNT																		
I. Merchandise	630.5	1102.4	-471.9	668.3	1006.0	-337.7	680.9	1096.8	-415.9	801.6	1245.0	-443.4	800.9	1420.8	-619.9	784.5	1367.9	-583.4
1. Private	624.3	623.9	0.4	661.1	641.7	19.4	677.5	626.6	50.9	800.1	619.0	181.1	799.6	626.3	173.3	783.8	557.5	226.3
2. Government	6.2	478.5	-472.3	7.2	364.3	-357.1	3.4	470.2	-466.8	1.5	626.0	-624.5	1.3	794.5	-793.2	0.7	810.4	-809.7
II Non-monetary gold movement	-	-	-	-	-	-	-	-	-	-	-	-	16.0	-	16.0	-	-	-
III Invisibles	256.1	173.5	82.6	234.3	203.0	31.3	284.1	222.2	61.9	325.9	231.9	94.0	406.6	254.7	151.9	344.8	272.1	72.7
1. Travel	15.3	12.1	3.2	15.0	11.4	3.6	15.6	11.7	3.9	16.7	10.6	6.1	17.5	10.3	7.2	15.1	10.8	4.3
2. Transportation	44.1	24.6	19.5	47.6	26.5	21.1	49.3	27.8	21.5	57.4	29.0	28.4	56.5	32.2	24.3	53.6	27.9	25.7
3. Insurance	8.1	5.8	2.3	7.4	5.6	1.8	7.6	4.9	2.7	8.1	5.5	2.6	7.3	4.9	2.4	11.7	6.1	5.6
4. Investment income	14.3	60.3	-46.0	12.2	80.4	-68.2	10.8	94.4	-83.6	10.9	102.9	-92.0	11.4	119.7	-108.3	10.9	135.0	-124.1
5. Govt. not included elsewhere	51.1	21.0	30.1	29.5	24.2	5.3	50.1	25.2	24.9	69.5	24.2	45.3	96.2	14.9	81.3	45.5	15.6	29.9
6. Miscellaneous	32.4	32.9	-0.5	35.5	38.7	-3.2	33.4	44.2	-10.8	32.5	46.4	-13.9	23.4	45.8	-22.4	25.8	49.4	-23.6
7. Transfer payments	46.4	-	46.4	45.9	-	45.9	77.2	-	77.2	83.4	-	83.4	138.1	10.3	127.8	87.3	11.5	75.8
(i) Official	44.4	16.8	27.6	41.2	16.2	25.0	40.1	14.0	26.1	47.4	13.3	34.1	56.2	16.6	39.6	94.9	15.8	79.1
(ii) Private	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Current Account	886.6	1275.9	-389.3	902.6	1209.0	-306.4	965.0	1319.0	-354.0	1127.5	1476.9	-349.4	1223.5	1675.5	-452.0	1129.3	1640.0	-510.7
B. CAPITAL ACCOUNT																		
1. Private	43.9	25.3	18.6	28.7	28.6	0.1	36.0	39.2	-3.2	43.1	37.6	5.5	45.9	36.6	9.3	57.8	53.8	4.0
(i) Long-term	5.4	8.4	-3.0	4.1	7.8	-3.7	9.1	6.7	2.4	4.8	5.3	-0.5	3.2	7.1	-3.9	5.5	6.3	-0.8
(ii) Short-term	43.5	30.0	13.5	42.6	46.8	-4.2	47.2	39.1	8.1	56.3	55.2	1.1	42.3	59.5	-17.2	56.2	48.0	8.2
2. Banking	256.8	15.7	241.1	393.2	60.7	332.5	407.5	-	407.5	445.5	23.8	421.7	641.8	47.6	594.2	596.8	35.7	561.1
(i) Loans	2.9	35.3	-32.4	2.1	60.3	-58.2	2.0	53.0	-51.0	1.9	57.2	-55.3	4.5	67.4	-62.9	1.6	74.3	-72.7
(ii) Amortisation	140.1	37.2	102.9	139.8	114.0	25.8	59.6	77.6	-18.0	78.4	36.1	42.3	142.3	217.2	-74.9	270.3	198.7	71.6
(iii) Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Account	492.6	151.9	340.7	610.5	318.2	292.3	561.4	215.6	345.8	630.0	215.2	414.8	880.0	435.4	444.6	988.2	416.8	571.4
(1+2+3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C. I.M.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D. SDR ALLOCATION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E.	492.6	151.9	340.7	610.5	318.2	292.3	561.4	215.6	345.8	630.0	215.2	414.8	880.0	435.4	444.6	988.2	416.8	571.4
F.	1379.2	1427.8	-48.6	1513.1	1527.2	-14.1	1526.4	1534.6	-8.2	1757.5	1692.1	65.4	2103.5	2110.9	-7.4	2117.5	2050.8	60.7
G.	-	-	-10.7	-	-	7.8	-	-	5.9	-	-	-54.6	-	-	-48.8	-	-12.4	-
H.	-	-	59.3	-	-	6.3	-	-	2.3	-	-	-10.8	-	-	56.2	-	-48.3	-
E. CAPITAL ACCOUNT, IMF AND SDR ALLOCATION; F. TOTAL CURRENT ACCOUNT, CAPITAL ACCOUNT, IMF AND SDR ALLOCATION; G. ERRORS AND OMISSIONS; H. RESERVES AND MONETARY GOLD																		

(Contd.)

STATEMENT 1. (Contd.)

	1966-67		1967-68		1968-69		1969-70		1970-71		1971-72	
	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net
A. CURRENT ACCOUNT												
I. Merchandise	1086.5	1991.1	-904.6	1257.9	2055.7	-797.8	1367.4	1740.5	-373.1	1403.9	1582.3	-178.4
1. Private	1086.5	767.8	318.7	1257.9	791.0	466.9	1367.4	646.5	720.9	1403.0	628.6	774.4
2. Government	-	1223.3	-1223.3	-	1264.7	-1264.7	-	1094.0	-1094.0	0.9	953.7	-952.8
II Non-monetary gold movement	-	-	-	-	-	-	-	-	-	-	-	-
III Invisibles	459.5	398.8	60.7	432.5	441.1	-8.6	462.8	454.9	7.9	437.5	476.1	-38.6
1. Travel	18.1	14.6	3.5	20.1	15.0	5.1	4.9	14.4	-9.5	31.7	15.2	16.5
2. Transportation	81.4	46.4	35.0	94.0	59.7	34.3	99.3	65.1	34.2	100.4	72.0	28.4
3. Insurance	11.7	5.2	6.5	12.4	6.8	5.6	12.7	9.1	3.6	12.9	13.4	-0.5
4. Investment income	18.3	210.9	-192.6	20.1	230.6	-210.5	25.8	239.7	-213.9	33.8	251.6	-217.8
5. Govt. not included elsewhere	81.6	22.7	58.9	80.6	24.6	56.0	48.0	21.0	27.0	29.5	23.5	6.0
6. Miscellaneous	50.4	61.6	-11.2	44.5	67.4	-22.9	71.7	72.6	-0.9	54.3	69.4	-15.1
7. Transfer payments	87.8	17.2	70.6	40.1	18.1	22.0	56.2	16.7	39.5	35.6	16.8	18.8
(i) Official	110.2	20.2	90.0	120.7	18.9	101.8	144.2	16.3	127.9	139.3	14.2	125.1
(ii) Private	-	-	-	-	-	-	-	-	-	-	-	-
Total Current Account	1546.0	2389.9	-843.9	1690.4	2496.8	-806.4	1830.2	2195.4	-365.2	1841.4	2058.4	-217.0
(I+II+III)	-	-	-	-	-	-	-	-	-	-	-	-
B. CAPITAL ACCOUNT												
1. Private	78.0	64.8	13.2	59.3	50.7	8.6	32.3	49.5	-17.2	30.8	66.3	-35.5
(i) Long-term	5.8	8.2	-2.4	8.8	11.8	-3.0	6.2	2.6	3.6	3.4	2.1	1.3
(ii) Short-term	98.2	101.9	-3.7	144.5	139.9	4.6	32.9	55.2	-22.3	51.8	37.2	-14.6
2. Banking	-	-	-	-	-	-	-	-	-	-	-	-
3. Official	995.6	43.6	952.0	1047.0	50.2	996.8	797.5	62.4	735.1	659.0	128.2	530.8
(i) Loans	1.8	128.3	-126.5	1.9	176.3	-174.4	3.2	159.6	-156.4	2.3	180.8	-178.5
(ii) Amortisation	316.0	354.6	-38.6	412.0	292.6	119.4	264.6	290.4	-25.8	329.2	192.6	136.6
(iii) Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Account	1495.4	701.4	794.0	1673.5	721.5	952.0	1136.7	619.7	517.0	1076.5	607.2	469.3
(I+2+3)	-	-	-	-	-	-	-	-	-	-	-	-
C. I.M.F.	-	-	-	-	-	-	-	-	-	-	-	-
D. SDR ALLOCATION	-	-	-	-	-	-	-	-	-	-	-	-
E.	1495.4	701.4	794.0	1673.5	721.5	952.0	1136.7	619.7	517.0	1076.5	607.2	469.3
F.	3041.4	3091.3	-49.9	3363.9	3218.3	145.6	2966.9	2815.1	151.8	2917.9	2665.6	252.3
G.	-	-	-	-	-	-	-	-	-	-	-	-
H.	-	-	-	-	-	-	-	-	-	-	-	-

E. CAPITAL ACCOUNT, IMF AND SDR ALLOCATION; F. TOTAL CURRENT ACCOUNT, CAPITAL ACCOUNT, IMF AND SDR ALLOCATION;
G. ERRORS AND OMISSIONS; H. RESERVES AND MONETARY GOLD

(Contd.)

STATEMENT 1. (Contd.)

	1972-73		1973-74		1974-75		1975-76		1976-77		1977-78	
	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net
A. CURRENT ACCOUNT												
I Merchandise	1895.5	2146.5	-251.0	2350.7	2729.3	-378.6	3179.7	4156.9	-977.2	4177.6	4744.1	-566.5
1. Private	1881.3	779.1	1122.2	2345.8	836.4	1509.4	3164.4	1004.4	2160.0	4176.7	1147.7	3029.0
2. Government	14.2	1367.4	-1353.2	4.9	1892.9	-1888.0	15.3	3152.5	-3137.2	0.9	3596.4	-3595.5
II Non-monetary gold movement	-	-	-	-	-	-	-	-	-	-	-	-
III Invisibles	526.1	526.7	-0.6	2256.5	576.5	1680.0	899.1	566.3	332.8	1609.3	748.6	860.7
1. Travel	37.9	19.3	18.6	56.5	17.0	39.5	94.0	15.1	78.9	189.6	21.8	167.8
2. Transportation	121.7	71.0	50.7	144.0	107.4	36.6	216.3	132.6	83.7	259.9	195.8	64.1
3. Insurance	16.7	12.2	4.5	21.1	13.6	7.5	27.3	13.9	13.4	38.3	24.4	13.9
4. Investment income	29.6	285.7	-256.1	41.9	304.8	-262.9	94.1	259.3	-165.2	116.2	285.5	-169.3
5. Govt. not included elsewhere	30.9	22.7	8.2	32.8	21.9	10.9	74.6	30.2	44.4	104.3	32.6	71.7
6. Miscellaneous	60.3	84.0	-23.7	56.8	91.3	-34.5	96.2	100.0	-3.8	180.1	171.2	8.9
7. Transfer payments	63.7	20.5	43.2	1700.1	8.5	1691.6	16.7	9.0	7.7	179.7	3.9	175.8
(i) Official	165.3	11.3	154.0	203.3	12.0	191.3	279.9	6.2	273.7	541.2	13.4	527.8
(ii) Private	2421.6	2673.2	-251.6	4607.2	3305.8	1301.4	4078.8	4723.2	-644.4	5786.9	5492.7	294.2
Total Current Account (I+II+III)	2421.6	2673.2	-251.6	4607.2	3305.8	1301.4	4078.8	4723.2	-644.4	5786.9	5492.7	294.2
B. CAPITAL ACCOUNT												
1. Private	56.8	63.7	-6.9	38.6	75.8	-37.2	41.8	68.0	-26.2	49.6	103.1	-53.5
(i) Long-term	0.5	1.1	-0.6	0.6	2.4	-1.8	0.5	1.8	-1.3	1.1	1.7	-0.6
(ii) Short-term	66.2	83.7	-17.5	54.5	55.3	-0.8	107.0	154.3	-47.3	129.5	102.7	26.8
2. Banking	586.9	1.3	585.6	892.3	1.6	890.7	1557.2	3.5	1553.7	1328.3	1.9	1326.4
(i) Loans	245.4	-245.4	-	1991.8	-1991.8	-	-	237.0	-237.0	-	283.6	-283.6
(ii) Amortisation	194.7	260.1	-65.4	418.9	288.0	130.9	481.2	775.3	-294.1	395.0	840.1	-445.1
(iii) Miscellaneous	905.1	655.3	249.8	1404.9	2414.9	-1010.0	2187.7	1239.9	947.8	1903.5	1333.1	570.4
Total Capital Account (I+2+3)	-	-	-	-	-	-	-	-	-	-	-	-
C. I.M.F.	-	-	-	-	-	-	-	-	-	-	-	-
D. SDR ALLOCATION	-	-	-	-	-	-	-	-	-	-	-	-
E.	905.1	655.3	249.8	1404.9	2414.9	-1010.0	2187.7	1239.9	947.8	1903.5	1333.1	570.4
F.	3326.7	3328.5	-1.8	6012.1	5720.7	291.4	6266.5	5963.1	303.4	7897.5	6825.8	1071.7
G.	-	-	-	-	-	-	-	-	-	-	-	-
H.	-	-	-	-	-	-	-	-	-	-	-	-
E. CAPITAL ACCOUNT, IMF AND SDR ALLOCATION; F. TOTAL CURRENT ACCOUNT, CAPITAL ACCOUNT, IMF AND SDR ALLOCATION; G. ERRORS AND OMISSIONS; H. RESERVES AND MONETARY GOLD	-	-	-	-	-	-	-	-	-	-	-	-

(Contd.)

STATEMENT 1. (Concl'd.)

	1984-85			1985-86			1986-87*		
	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net
A. CURRENT ACCOUNT									
I Merchandise									
1. Private	11959.2	18680.3	-6721.1	11577.6	21163.6	-9586.0	13315.0	22668.9	-9353.9
2. Government	11959.2	7529.6	4429.6	11577.6	9641.7	1935.9	13315.0	11396.7	1918.3
II Non-monetary gold movement	20.2	11150.7	-11150.7	28.5	11521.9	-11521.9	-	11272.2	-11272.2
III Invisibles									
1. Travel	8242.9	4394.4	3848.5	7875.2	4245.0	3630.2	8274.4	4750.5	3523.9
2. Transportation	898.0	409.3	488.7	1189.1	411.6	777.5	1606.6	370.6	1236.0
3. Insurance	643.7	917.7	-274.0	603.9	816.1	-212.2	688.0	747.9	-59.9
4. Investment income	88.8	84.1	4.7	78.6	83.3	-4.7	83.1	101.6	-18.5
5. Govt. not included elsewhere	585.9	1582.0	-996.1	669.1	1619.0	-949.9	640.5	1890.0	-1249.5
6. Miscellaneous	104.7	84.2	20.5	116.4	123.8	-7.4	132.8	135.8	-3.0
7. Transfer payments	2361.8	1298.1	1063.7	2062.7	1163.8	898.9	1602.8	1485.1	117.7
(1) Official	443.8	3.8	440.0	320.0	12.6	307.4	530.0	4.7	525.3
(ii) Private	3116.2	15.2	3101.0	2835.4	14.8	2820.6	2990.6	14.8	2975.8
Total Current Account (I+II+III)	20222.3	23074.7	-2852.4	19481.3	25408.6	-5927.3	21589.4	27419.4	-5830.0
B. CAPITAL ACCOUNT									
1. Private									
(i) Long-term	1466.7	374.0	1092.7	2611.3	519.0	2092.3	3218.4	960.9	2257.5
(ii) Short-term	0.3	1.2	-0.9	5.7	6.8	-1.1	14.7	5.3	9.4
2. Banking	366.6	560.0	-193.4	754.5	568.4	186.1	375.6	445.7	-70.1
3. Official									
(i) Loans	3058.5	24.5	3034.0	3692.9	9.5	3683.4	6477.8	15.4	6462.4
(ii) Amortisation	-	726.5	-726.5	-	1152.1	-1152.1	-	2587.9	-2587.9
(iii) Miscellaneous	1007.4	823.0	184.4	971.4	886.3	85.1	1873.6	2045.5	-171.9
Total Capital Account (I+2+3)	5899.5	2509.2	3390.3	8035.8	3142.1	4893.7	11960.1	6060.7	5899.4
C. I.M.F.	216.8	152.4	64.4	-	253.0	-253.0	-	672.3	-672.3
D. SDR ALLOCATION									
E.	6116.3	2661.6	3454.7	8035.8	3395.1	4640.7	11960.1	6733.0	5227.1
F.	26338.6	25736.3	602.3	27517.1	28803.7	-1286.6	33549.5	34152.4	-602.9
G.			323.6			580.1			-129.3
H.			-925.9			706.5			732.2

E. CAPITAL ACCOUNT, IMF AND SDR ALLOCATION; F. TOTAL CURRENT ACCOUNT, CAPITAL ACCOUNT, IMF AND SDR ALLOCATION;

G. ERRORS AND OMISSIONS; H. RESERVES AND MONETARY GOLD

Note: * - Partially revised.

Source: RBI Publications.

STATEMENT 2. INDIA'S FOREIGN EXCHANGE RESERVES

Period	SDRs (in Millions)	SDRs (Rs Crore)	Gold (Rs Crore)	Foreign Currency Assets (Rs Crore)	Total (Rs Crore)	Reserves in terms of month of Imports
1948-49	-	-	40.0	973.5	1013.5	15.9
1949-50	-	-	117.8	888.8	1000.6	20.0
1950-51	-	-	117.8	911.4	1029.2	19.0
1951-52	-	-	117.8	746.6	864.4	10.8
1952-53	-	-	117.8	763.3	881.1	16.7
1953-54	-	-	117.8	792.2	910.0	18.5
1954-55	-	-	117.8	774.1	891.9	15.5
1955-56	-	-	117.8	784.6	902.4	14.0
1956-57	-	-	117.8	563.3	681.1	7.4
1957-58	-	-	117.8	303.4	421.2	4.1
1958-59	-	-	117.8	261.1	378.9	4.4
1959-60	-	-	117.8	245.1	362.9	4.7
1960-61	-	-	117.8	185.8	303.6	3.3
1961-62	-	-	117.8	179.5	297.3	3.6
1962-63	-	-	117.8	177.3	295.1	3.2
1963-64	-	-	117.8	188.0	305.8	3.0
1964-65	-	-	133.8	115.9	249.7	2.1
1965-66	-	-	115.9	182.1	298.0	2.6
1966-67	-	-	182.5	295.9	478.4	2.9
1967-68	-	-	182.5	356.0	538.5	3.1
1968-69	-	-	182.5	394.2	576.7	4.0
1969-70	122.7	92.1	182.5	546.4	821.0	6.2
1970-71	148.9	111.7	182.5	438.1	732.4	5.1
1971-72	247.7	194.0	182.5	480.4	856.9	5.2
1972-73	246.5	225.7	182.5	478.9	887.1	5.0
1973-74	244.9	229.5	182.5	580.8	992.8	4.4
1974-75	234.9	228.9	182.5	610.5	1021.9	3.0
1975-76	202.8	211.2	182.5	1491.7	1885.4	4.8
1976-77	187.4	192.0	187.8	2863.0	3242.8	8.1
1977-78	161.6	169.6	193.1	4499.8	4862.4	10.5
1978-79	364.9	381.3	219.5	5219.9	5820.7	9.4
1979-80	529.1	545.4	224.7	5163.7	5933.7	7.4
1980-81	490.5	496.7	225.6	4822.1	5544.4	5.3
1981-82	425.1	443.5	225.6	3354.5	4023.6	3.5
1982-83	270.2	290.7	225.6	4265.3	4781.5	3.8
1983-84	216.4	248.2	225.6	5497.9	5971.7	4.5
1984-85	146.5	180.5	245.6	6816.8	7243.1	4.7

Source: Various issues of RBI Bulletin.

STATEMENT 3. CURRENT ACCOUNT TRANSACTIONS AS PERCENTAGE OF GROSS DOMESTIC PRODUCT

Period	Trade			Invisibles			Current Account Deficit/ Surplus
	Exports	Imports	Deficit/ Surplus	Receipts*	Payments	Net	
1950-51	6.76	6.80	-0.04	1.46	1.02	0.44	0.41
1951-52	7.29	9.61	-2.32	1.78	1.07	0.71	-1.62
1952-53	6.17	6.49	-0.32	1.98	1.05	0.94	0.62
1953-54	5.16	5.66	-0.50	1.82	0.87	0.95	0.45
1954-55	6.16	7.12	-0.96	2.11	1.09	1.02	0.06
1955-56	6.24	7.53	-1.29	2.49	1.13	1.36	0.07
1956-57	5.38	9.33	-3.95	2.25	1.94	1.30	-2.64
1957-58	5.58	10.29	-4.71	2.08	0.97	1.11	-3.60
1958-59	4.29	7.66	-3.37	1.88	0.94	0.94	-2.43
1959-60	4.49	6.67	-2.18	1.82	1.01	0.81	-1.33
1960-61	4.20	7.34	-3.14	1.71	1.16	0.55	-2.59
1961-62	4.18	6.29	-2.11	1.47	1.27	0.20	-1.92
1962-63	3.98	6.41	-2.43	1.66	1.30	0.36	-2.07
1963-64	4.08	6.33	-2.26	1.66	1.18	0.48	-1.78
1964-65	3.47	6.16	-2.69	1.76	1.10	0.66	-1.96
1965-66	3.25	5.67	-2.42	1.43	1.13	0.30	-2.12
1966-67	3.93	7.20	-3.27	1.66	1.44	0.22	-3.05
1967-68	3.90	6.37	-2.47	1.34	1.37	-0.03	-2.50
1968-69	4.11	5.23	-1.12	1.39	1.37	0.02	-1.10
1969-70	3.81	4.29	-0.48	1.19	1.29	-0.10	-0.59
1970-71	3.48	4.27	-0.79	1.18	1.25	-0.07	-0.82
1971-72	3.59	4.60	-1.01	1.25	1.16	0.08	-0.93
1972-73	3.96	4.48	-0.52	1.10	1.10	-	-0.52
1973-74	3.99	4.63	-0.64	3.83	0.98	2.85	2.21
1974-75	4.56	5.96	-1.40	1.29	0.81	0.48	-0.92
1975-76	5.62	6.38	-0.76	2.17	1.01	1.16	0.40
1976-77	6.40	6.01	0.39	2.68	1.18	1.50	1.90
1977-78	6.05	6.17	-0.12	3.12	1.07	2.04	1.93
1978-79	5.68	7.57	-1.89	3.19	1.16	2.03	0.18
1979-80	5.77	8.91	-3.14	4.23	1.32	2.91	-0.22
1980-81	5.16	9.84	-4.68	4.62	1.24	3.38	-1.30
1981-82	5.26	9.40	-4.14	3.94	1.36	2.58	-1.57
1982-83	5.53	9.03	-3.50	3.70	1.59	2.11	-1.39
1983-84	5.24	8.27	-3.03	3.55	1.69	1.86	-1.17
1984-85	5.58	8.71	-3.13	3.85	2.05	1.80	-1.33

* - Inclusive of official grants assistance.

Note: 1. Gross Domestic Product at market prices have been taken from *National Accounts Statistics, 1987*, Central Statistical Organisation, Government of India. 2. - Indicates Deficit. 3. + Indicates Surplus.

STATEMENT 4. INDIA'S EXPORTS, IMPORTS AND TRADE BALANCE

Period	Exports (Rs. Crore)	Imports (Rs. Crore)	Trade Balance (Rs. Crore)	Percentage Increase(+)/Decrease(-) over the previous Year		Annual Compound Growth Rate	
				Exports	Imports	Exports (Per cent)	Imports (Per cent)
1948-49	482.5	766.3	-283.8				
1949-50	514.0	603.9	-89.9	6.5	-22.2		
1950-51	646.8	650.5	-3.5	28.8	7.7		
1951-52	730.1	962.9	-232.8	12.9	48.0		
1952-53	601.9	633.0	-31.1	-17.6	-34.3		
1953-54	539.7	591.8	-52.1	-10.3	-6.6	-0.2	3.5
1954-55	596.6	689.7	-93.1	10.5	16.6		
1955-56	640.3	773.1	-132.8	7.3	12.1		
1956-57	635.2	1102.1	-466.9	-0.8	42.6		
1957-58	668.6	1233.2	-564.6	5.3	11.9		
1958-59	576.3	1029.3	-453.0	-13.8	-16.5	-0.3	7.4
1959-60	627.4	932.3	-304.9	8.9	-9.4		
1960-61	630.0	1102.4	-471.9	0.4	18.2		
1961-62	668.3	1006.0	-337.7	6.1	-8.7		
1962-63	680.9	1096.8	-415.9	1.9	9.0		
1963-64	801.6	1245.0	-443.4	17.7	13.5	4.5	4.3
1964-65	800.9	1420.8	-619.9	-0.1	14.1		
1965-66	784.5	1367.9	-583.4	-2.0	-3.7		
1966-67	1086.5	1991.1	-904.6	38.5	45.6		
1967-68	1257.9	2055.7	-797.8	15.8	3.2	20.3	8.4
1968-69	1367.4	1740.5	-373.1	8.7	-15.3		
1969-70	1403.9	1582.3	-178.4	2.7	-9.1		
1970-71	1402.7	1720.4	-317.7	-0.1	10.8		
1971-72	1555.4	1993.6	-438.2	10.9	15.9	11.4	9.4
1972-73	1895.5	2146.5	-251.0	21.7	7.7		
1973-74	2350.7	2729.3	-378.6	24.0	27.2		
1974-75	3179.7	4156.9	-977.2	35.3	52.3		
1975-76	4177.6	4744.1	-566.5	31.4	14.1		
1976-77	5133.3	4816.9	316.4	22.9	1.5	18.8	22.1
1977-78	5433.5	5441.1	-107.6	5.8	13.0		
1978-79	5554.9	7397.5	-1842.6	2.3	36.0		
1979-80	6201.4	9575.7	-3374.3	11.6	29.4		
1980-81	6576.4	12543.6	-5967.2	6.0	31.0		
1981-82	7765.5	13886.5	-6121.0	18.1	11.5		
1982-83	9137.1	14913.2	-5776.1	17.7	7.4	14.0	14.3
1983-84	10168.5	16039.3	-5870.8	11.3	7.6		
1984-85	11959.2	18680.3	-6721.1	17.6	16.5		

Source: Basic Statistics relating to Indian Economy, CMIE.

STATEMENT 5A. INDIA'S EXPORT IMPORT UNIT VALUE INDEX AND NET TERMS OF TRADE

Period	Export Unit Value Index	Import Unit Value Index	Net Terms of Trade	Period	Export Unit Value Index	Import Unit Value Index	Net Terms of Trade
1952-53 = 100				1968-69 = 100			
1947-48	60	37	162	1969-70	104	100	104
1948-49	85	73	116	1970-71	106	100	106
1949-50	87	71	122	1971-72	108	93	116
1950-51	102	78	131	1972-73	120	97	124
1951-52	146	99	147	1973-74	146	138	106
1952-53	100	100	100	1974-75	183	239	77
1953-54	91	84	109	1975-76	197	280	70
1954-55	100	91	110	1976-77	210	278	76
1955-56	90	87	103	1977-78	236	249	95
1956-57	94	98	96	1978-79	234	260	90
1957-58	93	96	97	1979-80	236	360	66
1958-59	91	91	100				
1959-60	91	90	101				
1958 = 100				1978-79 = 100			
1960-61	110	96	115	1980-81	109	134	81
1961-62	109	98	111	1981-82	124	133	93
1962-63	106	94	113	1982-83	132	136	97
1963-64	105	97	108	1983-84	151	126	120
1964-65	107	99	108	1984-85	169	162	105
1965-66	113	104	109				
1966-67	169	150	113				
1967-68	169	136	124				
1968-69	166	141	118				

$$\text{Net terms of trade} = \frac{\text{Overall export unit value index}}{\text{Overall import unit value index}} \times 100$$

Source: Basic Statistics relating to Indian Economy, CMIE.

STATEMENT 5B. INDIA'S EXPORT IMPORT QUANTUM INDEX AND GROSS TERMS OF TRADE

Year	Export Quantum Index	Import Quantum Index	Gross Terms of Trade	Year	Export Quantum Index	Import Quantum Index	Gross Terms of Trade
(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
1958 = 100				1978-79 = 100			
1957	105	131	144	1972-73	120	99	83
1959	107	110	103	1973-74	125	114	91
1960	101	107	106	1974-75	133	100	75
1960-61	100	128	128	1975-76	147	99	67
1961-62	105	121	115	1976-77	174	99	57
1962-63	112	131	117	1977-78	168	130	78
1963-64	126	135	107	1978-79	180	140	78
1964-65	132	146	111	1979-80	199	135	68
1965-66	124	154	124				
1966-67	119	149	125	1980-81	108	138	128
1967-68	122	166	136	1981-82	110	151	137
1968-69	142	151	106	1982-83	117	155	132
1969-70	100	84	84	1983-84	113	185	164
1968-69 = 100				1984-85	121	156	129
1970-71	106	87	82				
1971-72	107	105	98				

$$\text{Gross Terms of Trade} = \frac{\text{Overall Import Quantum Index}}{\text{Overall Export Quantum Index}} \times 100$$

Source: Basic Statistics relating to Indian Economy, CMIE.

STATEMENT 6A. INDIA'S MAJOR ITEMS OF EXPORTS

(Rs Crore)

	1950-51	1960-61	1970-71	1980-81	1984-85
Food, beverages and tobacco	142	214	445	1846	2618
of which :					
Tea	81	124	148	426	767
Rice	-	-	5	224	169
Fish and fish preparations	2	5	31	213	381
Tobacco, unmanufactured	14	15	31	124	151
Cashew Kernels	13*	19	52	140	180
Vegetables & fruits (other than cashew kernel)	5*	7	13	80	180
Coffee	1	9	25	214	210
Spices	26	17	39	111	207
Meat and meat preparations	-	1	5	56	82
Oil cakes	-	-	55	155	137
Crude materials, fuels, animal and vegetable oils	151	129	272	862	2881
of which:					
Iron ore and concentrates	2	17	117	303	459
Petroleum, Petroleum products and related materials	2	4	5	8	1818
Ores and concentrates of base metals	9	24	17	42	69
Crude animal and vegetable materials	20	21	43	150	239
Cotton	17	12	16	177	63
Chemicals and related products	6	7	36	235	478
of which :					
Essential oils, perfume materials and toilet and clean- ing preparations	-	4	4	74	70
Medicinal and pharmaceutical products	2	1	8	67	233
Engineering goods	3	19	202	782	929
of which:					
Electrical and non-electrical machinery	0.7	4	44	330	465
Transport equipment	0.7	3	39	196	190
Metal manufactures	0.2	2	28	186	198
Iron and steel	1	10	91	70	76
Other manufactured goods	299	273	580	2986	4949
of which:					
Pearls and precious stones	0.1	0.2	42	602	1153
Articles of apparel & clothing accessories	1	1	13	481	983
Leather & leather manufactures (including footwear)	27	28	83	377	627
Cotton fabrics	119	56	75	276	450
Jute manufactures	118*	135	190	330	341
Floor coverings	9	9	16	186	300
Works of art, collectors pieces and antiques	-	-	15	119	165
Total	601	642	1535	6711	11855

Source: Basic Statistics relating to Indian Economy, CMIE.

* - Relates to 1955-56.

STATEMENT 6B. INDIA'S MAJOR ITEMS OF IMPORTS

(Rs Crore)

	1950-51	1960-61	1970-71	1980-81	1984-85
Food, beverages and tobacco	135	215	272	380	736
of which:					
Wheat	53	153	173	77	130
Sugar	4	-	1	88	96
Milk and cream	4	5	8	41	129
Fruits and nuts including cashew kernels	14	20	43	34	74
Crude materials, fuels and animal and vegetable oils	221	230	374	6567	7595
of which					
Crude petroleum & products	55	79	137	5266	5409
Vegetable oils (edible oils)	3	4	22	683	1008
Metalliferous ores and metal scrap	2	3	11	116	185
Synthetic & other man made fibres	2	0.2	7	97	60
Sulphur and unroasted iron pyrites	-	3	12	86	202
Rock phosphates	-	3	12	79	128
Crude rubber including synthetic & reclaimed	3	11	4	31	87
Pulp and waste paper	1	7	12	18	176
Wool, raw	6	10	16	51	
Chemicals and related products	53	86	192	1325	2431
of which:					
Fertilisers	12	10	61	652	1007
Organic chemicals	4	25	53	202	443
Inorganic chemicals	5	15	15	156	414
Artificial resins & plastic materials, etc	-	-	8	121	223
Medicinal & pharm. products	10	11	24	85	137
Chemical materials & products	4	10	19	72	135
Engineering goods	159	478	511	2762	4110
of which:					
Non-electrical machinery	68	203	258	1089	2108
Electrical machinery	24	57	70	260	551
Transport equipment	41	72	67	472	369
Manufactures of metals	10	23	9	89	141
Iron and steel	16	123	147	852	941
Other manufactured goods	82	113	245	1515	2301
of which:					
Pearls and precious stones	1	1	25	417	1032
Paper, paper board and articles thereof	10	12	25	187	195
Textile yarn, fabrics and madeup articles	21	18	8	59	113
Non-metallic mineral manufactures	2	6	9	138	24
Professional, scientific, controlling instruments, photographic and optical goods, watches and clock	9	11	24	176	287
Non-ferrous metal	26	47	119	477	412
Total	650	1122	1634	12549	17173

Source: Basic Statistics relating to Indian Economy, CMIE.

STATEMENT 7. OVERALL EXTERNAL ASSISTANCE

(Rs Crore)

	Loans	Grants	Total	PL480/665, etc. Assistance		Grand Total
				Repayable in Rupees	Repayable in Convertible Currency	
A. Authorisation						
UP TO THE END OF						
FOURTH PLAN	9665.3	753.1	10418.4	2307.1	330.4	13055.9
1974-75	1481.4	189.8	1671.2	-	-	1671.2
1975-76	2192.8	440.7	2633.5	-	20.0	2653.5
1976-77	806.7	386.1	1192.8	-	93.6	1286.4
1977-78	1536.6	337.6	1874.2	-	22.8	1897.0
1978-79	1894.6	441.1	2335.7	-	-	2335.7
1979-80	1295.1	564.4	1859.5	-	-	1859.5
1980-81	3771.2	75.7	3846.9	-	-	3846.9
1981-82	2633.0	207.4	2840.4	-	-	2840.4
1982-83	2525.5	423.3	2948.8	-	-	2948.8
1983-84	1692.2	386.9	2079.1	-	-	2079.1
1984-85	4221.3	470.7	4692.0	-	-	4692.0
TOTAL	33715.7	4676.8	38392.5	2307.1	466.8	41166.4
B. Utilisation						
UP TO THE END OF						
FOURTH PLAN	8572.6	712.7	9285.3	2312.2	324.6	11922.1
1974-75	1220.4	93.9	1314.3	-	-	1314.3
1975-76	1464.9	283.3	1748.2	-	92.3	1840.5
1976-77	1285.3	245.8	1531.1	-	67.8	1598.9
1977-78	1007.5	260.6	1268.1	-	21.9	1290.0
1978-79	942.3	273.3	1215.6	-	-	1215.6
1979-80	1048.6	304.5	1353.1	-	-	1353.1
1980-81	1765.3	396.4	2161.7	-	-	2161.7
1981-82	1519.3	350.6	1869.9	-	-	1869.9
1982-83	1910.4	339.4	2249.8	-	-	2249.8
1983-84	1964.2	303.4	2267.6	-	-	2267.6
1984-85	1963.3	390.4	2353.7	-	-	2353.7
Total	24664.1	3954.3	28618.4	2312.2	506.6	31437.2

Source: Economic Surveys, Government of India.

STATEMENT 8. EXTERNAL DEBT SERVICING (GOVT. AND NON-GOVT.)

(Rs Crore)

Period	Amortisation	Interest Payments	Total Debt Servicing
FIRST PLAN	10.5	13.3	23.8
SECOND PLAN	55.2	64.2	119.4
THIRD PLAN	305.6	237.0	542.6
1966-67	159.7	114.8	274.5
1967-68	210.7	122.3	333.0
1968-69	236.2	138.8	375.0
1969-70	268.5	144.0	412.5
1970-71	289.5	160.5	450.0
1971-72	299.3	180.0	479.3
1972-73	327.0	180.4	507.4
1973-74	399.9	195.9	595.8
1974-75	411.0	215.0	626.0
1975-76	395.4	205.3	600.7
1976-77	428.1	225.8	653.9
1977-78	487.6	241.5	729.1
1978-79	524.7	271.3	796.0
1979-80	503.8	296.9	800.7
1980-81	517.8	286.1	803.9
1981-82	538.0	311.1	849.1
1982-83	587.1	360.4	947.5
1983-84	615.6	416.9	1032.5
1984-85	647.4	528.8	1176.2

Source: Economic Surveys, Government of India.

STATEMENT 9. INDIA'S EXTERNAL DEBT ON GOVERNMENT AND NON-GOVERNMENT ACCOUNT

(Rs Crore)

Period	External Debt Disbursed and Outstanding	Amortisation	Interest Payments	Total Debt Servicing
<i>On Government Account</i>				
1980-81	13479.3	462.0	252.2	714.2
1981-82	15444.8	481.6	276.1	757.7
1982-83	17577.3	537.3	319.9	857.2
1983-84	20213.5	556.8	368.7	925.6
1984-85	24004.4	554.5	470.1	1024.6
<i>On Non-Government Account</i>				
1980-81	485.9	55.8	33.8	89.6
1981-82	578.3	56.4	35.0	91.4
1982-83	659.8	49.8	40.5	90.3
1983-84	707.9	58.7	48.3	107.0
1984-85	758.4	92.9	58.7	151.6

Note: The data exclude disbursement and debt service payment on suppliers credit, commercial borrowings and IMF credits (other than IMF Trust fund loans).

Source: Economic Surveys, Government of India.

STATEMENT 10. DRAWINGS AND REPURCHASES FROM IMF AND SDR ALLOCATION

(Rs Crore)

Period	Drawings from the IMF	Repurchases from the IMF	SDR Allocation
1948-49	23.9	-	-
1949-50	14.3	-	-
1950-51	-	-	-
1951-52	-	-	-
1952-53	-	-	-
1953-54	-	-17.2	-
1954-55	-	-17.2	-
1955-56	-	-7.1	-
1956-57	60.7	-6.0	-
1957-58	34.5	-	-
1958-59	-	-	-
1959-60	-	-23.8	-
1960-61	-	-10.7	-
1961-62	119.1	-60.7	-
1962-63	11.9	-	-
1963-64	-	-23.8	-
1964-65	47.6	-47.6	-
1965-66	65.5	-35.7	-
1966-67	89.3	-43.1	-
1967-68	67.6	-43.2	-
1968-69	-	-58.5	-
1969-70	-	-125.4	94.5
1970-71	-	-154.0	75.4
1971-72	-	-	74.7
1972-73	-	-	-
1973-74	62.0	-	-
1974-75	484.8	-	-
1975-76	207.1	-	-
1976-77	-	-302.8	-
1977-78	-	-288.9	-
1978-79	-	-206.3	125.6
1979-80	-	-83.5	126.3
1980-81	274.3	-12.6	120.5
1981-82	636.8	-34.5	-
1982-83	1892.9	-	-
1983-84	1410.5	-72.0	-
1984-85	216.8	-152.4	-

Source: Economic Surveys, Government of India.

STATEMENT 11. DETAILS OF INDIA'S EXTERNAL DEBT AND DEBT SERVICE PAYMENTS

(US \$ millions)

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987
I. SUMMARY DEBT DATA										
DEBT STOCKS (EDT)			19,250	21,106	25,627	28,796	31,272	36,625	41,311	46,370
Long-Term Debt	7,937	12,448	17,998	18,938	20,924	23,073	25,597	30,819	34,717	40,767
Public and Publicly										
Guaranteed	7,837	12,171	17,662	18,065	19,685	21,306	22,986	27,726	32,119	37,325
Private Nonguaranteed	100	277	336	873	1,239	1,767	2,611	3,093	2,598	3,442
Use of IMF Credit	0	807	327	964	2,876	4,150	3,932	4,290	4,291	3,653
Short-Term Credit	..	..	926	1,204	1,827	1,573	1,743	1,516	2,303	1,950
TOTAL LONG-TERM										
DEBT FLOWS										
Debt Outstanding and										
Disbursed	7,937	12,448	17,998	18,938	20,924	23,073	25,597	30,819	34,717	40,767
Disbursements	908	1,901	2,878	2,401	3,104	3,204	4,386	4,421	4,090	6,191
Principal Repayments	314	540	761	744	910	1,034	1,030	1,583	2,242	2,680
Net Flows	594	1,361	2,117	1,657	2,194	2,170	3,355	2,838	1,848	3,511
Interest Payments	193	264	420	443	601	780	851	1,129	1,314	1,517
Net Transfers	401	1,098	1,697	1,214	1,593	1,390	2,505	1,709	534	1,994
Total Debt Service	506	804	1,181	1,187	1,510	1,814	1,881	2,712	3,556	4,197
TRANSACTIONS WITH THE IMF										
Purchases	0	241	342	692	1,968	1,376	201	0	0	0
Repurchases	205	0	9	40	0	70	134	209	521	930
II. MAJOR ECONOMIC AGGREGATES										
Gross National Product (GNP)	53,440	85,728	172,681	178,923	184,157	200,474	192,266	213,110	227,803	247,092
Export of Goods and Services (XGS)	2,207	6,276	15,018	14,631	14,255	15,304	16,160	15,463	16,735	19,459
Import of Goods and Services (MGS)	2,817	6,322	17,876	17,779	17,089	17,921	19,105	20,742	20,896	23,501
International Reserves (RES)	1,023	2,064	12,010	8,109	8,242	8,216	8,536	9,493	10,480	11,512
Current Account Balance	-386	277	-2,168	-2,658	-2,453	-2,244	-2,475	-4,942	-3,717	-3,750
III. PUBLIC AND PUBLICLY GUARANTEED LONG-TERM DEBT BY SOURCE										
Debt Outstanding Including Undisbursed	9,531	15,817	25,565	27,079	30,026	32,223	34,495	42,467	50,558	58,918
Official Creditors	9,010	15,326	23,985	25,231	26,986	28,170	30,019	36,489	43,148	49,982
Multilateral	1,885	5,065	11,783	13,650	15,405	16,358	18,225	22,057	25,082	29,240
IBRD	591	711	1,763	2,433	3,471	3,882	5,139	7,426	9,346	11,713
IDA	1,294	4,354	9,089	10,347	11,028	11,522	12,174	13,704	14,624	16,133
Bilateral	7,125	10,261	12,203	11,581	11,581	11,812	11,794	14,432	18,066	20,742
Private Creditors	521	491	1,580	1,848	3,039	4,053	4,476	5,978	7,410	8,936
Suppliers	446	386	176	166	147	415	555	614	579	519
Financial Markets	76	105	1,404	1,682	2,892	3,638	3,921	5,364	6,831	8,417
Debt Outstanding and Disbursed (DOD)	7,837	12,171	17,662	18,065	19,685	21,306	22,986	27,726	32,119	37,325
Official Creditors	7,507	11,871	16,986	17,257	18,399	19,550	20,029	23,561	27,164	30,763
Multilateral	1,562	3,245	6,720	7,801	9,126	10,354	10,977	12,932	14,757	16,975
IBRD	496	436	827	1,181	1,395	1,779	1,688	2,396	3,475	4,661
IDA	1,065	2,809	5,142	5,906	6,983	7,820	8,545	9,750	10,529	11,615
Bilateral	5,946	8,626	10,266	9,456	9,273	9,196	9,052	10,629	12,407	13,788
Private Creditors	330	300	675	808	1,287	1,756	2,957	4,165	4,955	6,562
Suppliers	283	270	151	120	88	91	237	411	435	435
Financial Markets	47	30	525	688	1,198	1,665	2,720	3,754	4,519	6,126

(Contd.)

STATEMENT 11. (Contd.)

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987
Commitments	954	2,432	5,606	3,363	4,043	3,314	4,730	5,508	5,887	7,931
Official Creditors	892	2,334	4,499	2,960	2,646	2,053	3,910	4,220	4,390	6,162
Multilateral	208	917	3,254	2,128	1,946	1,130	2,651	2,882	2,047	3,889
IBRD	40	100	555	740	1,113	500	1,721	1,924	1,493	2,478
IDA	168	817	1,948	1,388	776	572	929	958	296	1,014
Bilateral	684	1,417	1,245	833	701	923	1,259	1,338	2,343	2,273
Private Creditors	62	99	1,107	403	1,396	1,261	820	1,287	1,497	1,769
Suppliers	62	25	17	43	22	303	180	70	0	0
Financial Markets	0	73	1,090	359	1,374	958	640	1,218	1,497	1,769
Disbursements	883	1,789	2,593	1,979	2,519	2,565	3,551	3,286	3,241	5,391
Official Creditors	842	1,678	2,215	1,735	1,932	1,895	2,096	2,103	2,247	3,415
Multilateral	100	531	1,544	1,231	1,452	1,362	1,143	1,403	1,336	2,265
IBRD	41	39	174	421	288	471	291	328	641	1,295
IDA	60	491	652	786	1,109	874	823	1,047	656	907
Bilateral	741	1,148	671	504	480	533	953	700	911	1,149
Private Creditors	41	111	378	244	587	670	1,454	1,182	994	1,976
Suppliers	25	103	13	19	3	35	177	188	62	60
Financial Markets	16	8	365	225	584	635	1,278	994	932	1,916
Principal Repayments	289	479	670	659	691	773	725	930	1,469	2,049
Official Creditors	236	418	582	575	599	599	543	693	971	1,348
Multilateral	40	63	86	86	100	122	132	217	368	646
IBRD	40	57	71	66	72	87	87	104	174	430
IDA	0	6	15	20	26	33	41	53	61	69
Bilateral	196	355	496	489	499	477	412	476	602	702
Private Creditors	53	61	87	84	92	174	182	238	499	700
Suppliers	43	53	47	37	33	29	22	31	54	70
Financial Markets	10	8	40	47	58	146	160	207	445	630
Net Flows	594	1,310	1,923	1,320	1,828	1,792	2,825	2,356	1,772	3,342
Official Creditors	606	1,260	1,632	1,161	1,333	1,296	1,553	1,411	1,277	2,066
Multilateral	60	467	1,457	1,145	1,352	1,240	1,011	1,187	967	1,619
IBRD	1	-17	103	356	216	384	203	224	467	865
IDA	60	485	637	766	1,084	841	782	994	595	838
Bilateral	545	793	175	15	-19	57	542	224	309	447
Private Creditors	-12	50	291	160	495	496	1,272	945	495	1,276
Suppliers	-18	50	-34	-18	-30	7	154	157	8	-10
Financial Markets	6	0	325	178	525	489	1,118	788	487	1,286
Interest Payments (INT)	187	247	390	406	465	580	623	864	1,070	1,247
Official Creditors	164	230	348	348	363	433	446	565	706	821
Multilateral	34	50	102	114	150	220	242	285	391	480
IBRD	27	32	66	71	100	158	169	209	295	378
IDA	7	18	35	40	46	58	68	71	90	97
Bilateral	130	180	246	234	213	213	204	281	315	341
Private Creditors	22	16	42	58	101	147	177	298	364	426
Suppliers	19	15	11	7	7	9	4	27	39	40
Financial Markets	3	2	31	51	95	139	173	271	325	386
Net Transfers	407	1,064	1,533	914	1,363	1,212	2,203	1,492	702	2,095
Official Creditors	441	1,030	1,284	813	969	863	1,107	845	571	1,245
Multilateral	26	417	1,355	1,031	1,202	1,020	770	902	577	1,139
IBRD	-26	-50	37	285	116	225	34	15	172	487
IDA	52	467	602	726	1,037	783	714	923	505	741
Bilateral	415	613	-71	-218	-233	-156	337	-57	-6	106
Private Creditors	-34	34	249	102	394	349	1,096	647	131	850
Suppliers	-37	35	-45	-25	-36	-2	151	130	-31	-50
Financial Markets	3	-2	294	127	430	351	945	516	162	900
Total Debt Service (TDS)	475	726	1,060	1,065	1,155	1,353	1,348	1,794	2,539	3,296
Official Creditors	400	648	930	923	962	1,032	989	1,258	1,676	2,170
Multilateral	74	113	189	200	250	342	374	501	759	1,126
IBRD	67	89	137	137	172	246	257	313	469	808
IDA	7	24	50	60	72	91	109	124	152	166
Bilateral	326	535	742	722	712	689	616	757	917	1,043
Private Creditors	75	77	129	142	193	321	359	536	863	1,126
Suppliers	63	67	58	44	40	37	26	58	93	111
Financial Markets	13	10	71	98	153	284	333	478	770	1,016

(Contd.)

STATEMENT 11. (Contd.)

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987
IV. AVERAGE TERMS OF NEW COMMITMENTS										
All Creditors										
Interest (%)	2.5	2.5	4.8	4.7	7.3	6.7	6.7	5.8	5.5	5.7
Maturity (years)	34.4	29.5	30.5	34.2	25.6	23.0	26.9	25.2	21.0	23.3
Grace Period (years)	8.2	7.5	7.2	7.8	6.1	5.6	6.4	6.1	5.7	6.8
Grant Element (%)	61.1	57.6	44.6	46.5	23.3	26.9	28.1	32.3	30.1	31.5
Official Creditors										
Interest (%)	2.2	2.3	2.2	3.8	6.0	4.8	6.1	5.0	5.1	5.4
Maturity (years)	35.7	30.2	35.7	37.6	32.1	31.3	30.2	29.9	24.8	26.8
Grace Period (years)	8.5	7.7	8.0	8.3	7.4	7.1	7.2	7.0	6.0	6.6
Grant Element (%)	63.8	59.5	62.6	54.0	34.6	42.8	33.3	40.0	34.8	35.6
Private Creditors										
Interest (%)	6.3	7.9	15.5	11.3	9.7	9.6	9.4	8.3	6.5	7.0
Maturity (years)	16.4	12.8	9.5	9.4	13.2	9.5	10.8	9.8	9.7	11.2
Grace Period (years)	4.5	2.3	3.9	3.7	3.8	3.2	2.6	3.0	4.8	7.4
Grant Element (%)	21.0	11.1	-28.5	-8.8	1.8	0.9	3.1	7.2	16.4	17.2
MEMORANDUM ITEMS										
Concessional/Public DOD (%)	88.4	93.9	91.3	88.8	86.1	82.7	77.2	73.7	71.4	68.0
Variable Rate/Public DOD (%)	0.0	0.0	2.6	3.2	4.6	5.3	8.6	9.5	10.1	13.1
V. PRIVATE NONGUARANTEED DEBT										
Debt Outstanding And Disbursed	100	277	336	873	1,239	1,767	2,611	3,093	2,598	3,442
Official Creditors	..	..	..	..	..	..	..	..	..	..
Private Creditors	..	..	..	..	..	..	..	..	..	..
Foreign Parents	..	..	..	..	..	..	..	..	..	..
Financial Markets	..	..	..	..	..	..	..	..	..	..
Suppliers	..	..	..	..	..	..	..	..	..	..
Disbursements	25	112	285	422	585	639	835	1,135	849	800
Official Creditors	..	..	..	..	..	..	..	..	..	..
Private Creditors	..	..	..	..	..	..	..	..	..	..
Foreign Parents	..	..	..	..	..	..	..	..	..	..
Financial Markets	..	..	..	..	..	..	..	..	..	..
Suppliers	..	..	..	..	..	..	..	..	..	..
Principal Repayments	25	61	91	85	219	261	305	653	773	631
Official Creditors	..	..	..	..	..	..	..	..	..	..
Private Creditors	..	..	..	..	..	..	..	..	..	..
Foreign Parents	..	..	..	..	..	..	..	..	..	..
Financial Markets	..	..	..	..	..	..	..	..	..	..
Suppliers	..	..	..	..	..	..	..	..	..	..
Net Flows	0	51	194	337	366	378	530	482	76	169
Official Creditors	..	..	..	..	..	..	..	..	..	..
Private Creditors	..	..	..	..	..	..	..	..	..	..
Foreign Parents	..	..	..	..	..	..	..	..	..	..
Financial Markets	..	..	..	..	..	..	..	..	..	..
Suppliers	..	..	..	..	..	..	..	..	..	..
Interest Payments	6	17	30	37	136	200	228	265	244	270
Official Creditors	..	..	..	..	..	..	..	..	..	..
Private Creditors	..	..	..	..	..	..	..	..	..	..
Foreign Parents	..	..	..	..	..	..	..	..	..	..
Financial Markets	..	..	..	..	..	..	..	..	..	..
Suppliers	..	..	..	..	..	..	..	..	..	..
Net Transfers	-6	34	164	300	230	178	302	217	-168	-101
Official Creditors	..	..	..	..	..	..	..	..	..	..
Private Creditors	..	..	..	..	..	..	..	..	..	..
Foreign Parents	..	..	..	..	..	..	..	..	..	..
Financial Markets	..	..	..	..	..	..	..	..	..	..
Suppliers	..	..	..	..	..	..	..	..	..	..

(Contd.)

STATEMENT 11. (Concl'd.)

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987
Total Debt Service	31	78	121	122	355	461	533	918	1,017	901
Official Creditors	..	..	..	..	..	..	..	..	..	..
Private Creditors	..	..	..	..	..	..	..	..	..	..
Foreign Parents	..	..	..	..	..	..	..	..	..	..
Financial Markets	..	..	..	..	..	..	..	..	..	..
Suppliers	..	..	..	..	..	..	..	..	..	..
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997

VI. DEBT SERVICE PROJECTIONS

PROJECTED PUBLIC DEBT SERVICE	3,777	4,005	4,345	4,177	4,390	4,268	4,380	3,955	3,665	3,304
Principal	2,209	2,349	2,644	2,487	2,761	2,752	2,995	2,710	2,555	2,329
Interest	1,568	1,656	1,700	1,690	1,629	1,516	1,386	1,244	1,110	974
Official Creditors	2,373	2,628	2,907	2,924	3,099	3,144	3,115	3,065	2,955	2,902
Principal	1,319	1,466	1,658	1,634	1,818	1,910	1,945	1,966	1,940	1,983
Interest	1,054	1,162	1,248	1,290	1,281	1,234	1,170	1,099	1,015	919
Private Creditors	1,404	1,377	1,438	1,254	1,291	1,124	1,265	889	711	402
Principal	890	883	986	853	943	842	1,049	744	616	346
Interest	514	494	452	400	349	282	215	145	95	56
PROJECTED NONGUARANTEED DEBT SERVICE	849	823	718	543	487	460	390	357	0	0
Principal	586	546	471	425	393	385	325	311	0	0
Interest	263	277	247	118	94	75	65	46	0	0
PROJECTED TOTAL LONG-TERM DEBT SERVICE	4,626	4,828	5,063	4,720	4,877	4,728	4,771	4,312	3,665	3,304
Principal	2,795	2,895	3,115	2,912	3,154	3,137	3,320	3,021	2,555	2,329
Interest	1,831	1,933	1,947	1,808	1,723	1,591	1,451	1,290	1,110	974

VII. PRINCIPAL RATIOS

Total External Debt										
EDT/XGS (%)	..	..	128.2	144.3	179.8	188.2	193.5	236.9	246.9	238.3
EDT/GNP (%)	..	..	11.1	11.8	13.9	14.4	16.3	17.2	18.1	18.8
RES/EDT (%)	..	..	62.4	38.4	32.2	28.5	27.3	25.9	25.4	24.8
RES/MGS (months)	4.4	3.9	8.1	5.5	5.8	5.5	5.4	5.5	6.0	5.9
Public and Publicly Guaranteed Debt										
DOD/XGS (%)	355.1	193.9	117.6	123.5	138.1	139.2	142.2	179.3	191.9	191.8
DOD/GNP (%)	14.7	14.2	10.2	10.1	10.7	10.6	12.0	13.0	14.1	15.1
TDS/XGS (%)	21.5	11.6	7.1	7.3	8.1	8.8	8.3	11.6	15.2	16.9
TDS/GNP (%)	0.9	0.8	0.6	0.6	0.6	0.7	0.7	0.8	1.1	1.3
INT/XGS (%)	8.5	3.9	2.6	2.8	3.3	3.8	3.9	5.6	6.4	6.4
INT/GNP (%)	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5
RES/DOD (%)	13.1	17.0	68.0	44.9	41.9	38.6	37.1	34.2	32.6	30.8

Note:

EDT/XGS = Total external debt to exports of goods and services

EDT/GNP = Total external debt to gross national product

RES/EDT = International reserves to total external debt

RES/MGS = International reserves to imports of goods and services

DOD/XGS = Debt outstanding and disbursed to exports of goods and services

DOD/GNP = Debt outstanding and disbursed to gross national product

TDS/XGS = Total debt service to exports of goods and services = the debt-service ratio.

TDS/GNP = Total debt service to gross national product

INT/XGS = Interest payments to exports of goods and services = the interest-service ratio.

INT/GNP = Interest payments to gross national product

RES/DOD = International reserves to debt outstanding and disbursed

Source: World Debt Tables, World Bank, 1988-89.

NOTES ON STATEMENTS

1. The data used in the article are published data.
2. For the preparation of Statement 1, data for 1948-49 to 1960-61 have been taken from India's Balance of Payments 1948-49 to 1961-62 published by the Reserve Bank in 1963. For the subsequent period various issues of the RBI Bulletin as also Report on Currency and Finance have been used.
3. The latest format of the BOP statement as available in the RBI Bulletin has been used and data for previous period have been rearranged accordingly.
4. No adjustments have been made in the published data.
5. Some of the figures quoted in the text matter have been taken from various RBI publications

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RATE OF INFLATION AND DIFFERENT SECTIONS OF THE POPULATION : RURAL AND URBAN INDIA

L.R. Jain

Based on conceptually appropriate retail price relatives data, this study presents for the first time fractile-group-specific consumer price indices for sixteen fractile groups, separately for rural and the urban population and covering five rounds of the National Sample Survey: 1970-71, 1972-73, 1973-74, 1977-78 and 1983.

The major conclusion of this study is that each fractile group of the population experienced both the progressive and the regressive rates of inflation. In contrast to the usual impression, inflation was not always regressive in nature nor was it always higher for the urban than for the rural population.

1. Introduction

The impact of price inflation on different segments of the population is usually not uniform. There is, therefore, an evident need to measure the differential impact of inflation on different levels of living. This has been attempted in the past by computing a set of consumer price indices for different sections of the population.¹

There are two essential ingredients of a consumer price index: the budget pattern or weighting diagram in the reference period and the price ratios (or relatives) of the various items of consumption forming the budget in the current period. Specific family living surveys were conducted in 1958-59 by the official agencies with a view to obtaining the weighting diagrams of the consumer price indices for the specific occupational classes, viz., non-manual employees and industrial workers. Such a procedure, however, is not feasible for the various segments of the population enjoying different levels of living. As such, the usually available National Sample Survey (NSS) data on consumer expenditure have been utilised by the researchers for obtaining the weighting diagram of a specific segment (or fractile group) of the population. Two steps are involved in working out the budget pattern in the reference period for a specific section of the population: (i) to work out the average level of monthly per capita total expenditure (MPCTE) for the specific fractile group in the reference period, and (ii) at this mean MPCTE

of the specific fractile group, to work out the expenditure on the various items of consumption forming the consumption basket. For working out the mean MPCTE of a specific fractile group, the earlier studies postulated some specific form of size distribution for MPCTE in the reference period. Some studies adopted the two-parameter lognormal specification² whereas others used the three-parameter lognormal.³ Step (ii) requires postulating some specific form of the system of Engel functions. The form of the Engel functions system postulated by these studies was linear Engel curves system, linear expenditure system, and the system of indirect addi-log Engel curves, respectively.⁴ However, in respect of price data, all these studies used the all-India average wholesale price indices, instead of the separate consumer retail price indices for the rural and the urban population of India.

In the present study, we shall use the appropriate consumer price indices of various item-groups separately for the rural and the urban areas. Furthermore, the present study does not postulate a specific density function characterising the entire size distribution of MPCTE, as was done in the earlier studies for working out the mean MPCTE for a specific fractile group.⁵ It makes a more general stipulation which consists of postulating a separate density function within each class-interval of MPCTE. The Engel curves system postulated for working out the weighting diagram at the fractile group specific mean MPCTE is the system of indirect addi-log Engel

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curves.

The paper is organized as follows. The method of estimation is outlined in Section 2, whereas the data used are described in Section 3. Section 4 presents the comparative picture of the consumer price index across different sections of the population at the same time and the movement of inflation across time for specific sections of the population. Concluding remarks form the last Section 5.

2. Method of Estimation

Let us denote by y_{it} the monthly per capita expenditure on the i -th item-group and $x_t = (\sum_{i=1}^m y_{it})$

the monthly per capita total expenditure (MPCTE) of a household in the period 't' ($t = 0, 1, 2, \dots, T$). Let r_{it} denote the ratio of the price of the i -th item-group in the current period 't' to its price in the reference period 'O'. Then the consumer price index in Laspeyre's form in period 't' with period 'O' as the base is given by

$$(2.1) \quad I_{t,0} = 100 \sum_{i=1}^m w_{i0} r_{it}$$

where $w_{i0} = y_{i0}/x_0$ and $\{w_{i0}\} = (w_{10}, \dots, w_{m0})$ are the budget weights in the base period and relate to x_0 , the level of MPCTE in the base period. For a group of households, price index is usually obtained at \bar{x}_0 , the mean MPCTE of the group and it is given by (2.1) where w_{i0} is replaced by $\bar{w}_{i0} = (\bar{y}_i/\bar{x}_0)$. Thus, in order to work out the consumer price index for a given fractile group of the population, one needs to know in the base period: (1) \bar{x}_0 , the mean MPCTE of the fractile group and (2) the budget weights $(\bar{w}_{10}, \dots, \bar{w}_{m0})$ corresponding to \bar{x}_0 . The observed (NSS) size distribution of MPCTE gives the mean MPCTE for various unequal class intervals in respect of MPCTE. With a view to obtaining \bar{x} , the mean MPCTE of a specific fractile group, researchers in the past had approximated the NSS observed size distribution of MPCTE (or x) by fitting two-parameter or three-parameter log-normal distribution.⁶ The present study, however, does not stipulate a specific distributional law for x . It

employs the general interpolation device of Kakwani which consists of fitting non-linear concentration curve within each class interval of MPCTE [Kakwani, 1976 Pp. 483-496]. Tabulated NSS grouped data provide, say, $(k+1)$ fixed points corresponding to the 'k' number of MPCTE class intervals, viz., $(P_0, Q_0) = (0, 0), (P_1, Q_1), \dots, (P_{k-1}, Q_{k-1})$ and $(P_k, Q_k) = (1, 1)$, on the Lorenz curve which is represented by the functional relationship between Q and P . The values of these points can be derived from

$$P_i = \sum_{j=1}^i p_j, \quad Q_i = \sum_{j=1}^i p_j \bar{x}_j / \bar{x}, \text{ where } \bar{x} = \sum_{i=1}^k p_i \bar{x}_i, \quad p_i \text{ is the}$$

proportion of the persons in the i -th class interval of x and \bar{x}_j is the mean MPCTE for the j -th class.

If Q_f is known corresponding to the various preassigned fractile values of P_f e.g. .01, .05, .10, .20, ..., .80, .95, and .99, then mean MPCTE for the f -th fractile group is given by the relation $\bar{x}_f = \bar{x}(Q_f - Q_{f-1})/(P_f - P_{f-1})$. Use of linear interpolation to the observed data in terms of Q and P obviously involves over-estimation of Q_f corresponding to the given P_f . Therefore, following Kakwani, we have fitted third degree polynomial concentration curve within each class interval of MPCTE, except the first and the last open-ended intervals where Pareto-type curves are fitted. The fitted third degree polynomial concentration curve for the i -th MPCTE class ($i = 2, \dots, k-1$) is given by

$$Q = \sum_{j=0}^3 \alpha_j (P - P_{i-1})^j$$

where the parameters $\alpha_0, \alpha_1, \alpha_2, \alpha_3$ are obtained as

$$\alpha_0 = Q_{i-1}, \quad \alpha_1 = x_{i-1}/\bar{x}, \quad \alpha_2 = (3\delta_i - 1)\Delta x_i/(p_i \bar{x}),$$

$$\alpha_3 = (1 - 2\delta_i)\Delta x_i/(p_i^2 \bar{x}), \quad \delta_i = (\bar{x}_i - \bar{x}_{i-1})/\Delta x_i, \quad \Delta x_i = x_i - x_{i-1},$$

and x_i the upper terminal value of the i -th class interval of MPCTE.

In the first and the last MPCTE classes, the fitted Pareto-type curves are, respectively, given by

$$P = A_1 Q^{\alpha_1} \quad \text{and} \quad 1 - P = A_k (1 - Q)^{\alpha_k},$$

$$\text{where } A_1 = p_1 [\bar{x}/(\bar{x}_1 p_1)]^{\alpha_1}, \alpha_1 = \bar{x}_1/x_1,$$

$$A_k = p_k [\bar{x}/(\bar{x}_k p_k)]^{\alpha_k} \text{ and } \alpha_k = \bar{x}_k/x_{k-1}.$$

Notice that for fitting a concentration curve within each MPCTE class interval except the first and the last, Kakwani suggested four alternative functional forms, viz. third degree polynomial, fourth degree polynomial, linear density function, and quadratic density function. Empirically he found that in the case of the third degree polynomial, the estimates of Gini coefficient were the closest to those calculated from the raw data. Furthermore, as Kakwani's procedure followed in this paper consists of postulating separate density function implicit in the fitted concentration curve within each class interval of MPCTE, it can be regarded more general than the one postulating a density function characterizing the entire size distribution of MPCTE.

For obtaining the fractile group specific budget shares on different items of consumption in the base year, we use the indirect addi-log system (IALS) fitted to the observed NSS consumer expenditure grouped data on various items of consumption for 1970-71.⁷ In a cross-sectional situation, where the prices of different items can be regarded as constant, IALS takes the form of the indirect addi-log Engel functions system, represented by

$$(2.2) \quad y_i = a_i x_i^{1+b_i} / \sum_{j=1}^m a_j x_j^{b_j}, i = 1, 2, \dots, m$$

where (a_i, b_i) 's are the constant parameters. Thus, in the present context the system (2.2) has been used for working out the weighting diagrams of the various fractile groups. (2.2) is expressible in the alternative form

$$(2.3) \quad y_i = x_i / \sum_{j=1}^m a_{ji} x_j^{b_{ji}}, i = 1, 2, \dots, m$$

where $a_{ji} = a_j/a_i$ and $b_{ji} = b_j - b_i$ for i and $j = 1, 2, \dots, m$. For estimating the parameters of (2.3), we express it in a simpler form in terms of log variables as:

$$(2.4) \quad \log(y/y_i) = \log a_{ji} + b_{ji} \log x$$

where j is any fixed number and i takes any value from $1, 2, \dots, m$, except j . These $(m-1)$ independent linear relations can be estimated by introducing an additive error term to each relation obeying the well-defined properties of the weighted least squares method and applying SURE method of estimation [Zellner 1962]. However, as the independent variables present in all the relations (2.4) are the same, Zellner's SURE method reduces to ordinary weighted least squares estimation.

Weighted least squares estimates $\log a_{ij}$'s and \hat{b}_{ij} 's ($i, j = 1, 2, \dots, m$) have been obtained in a simpler way as follows [Jain, 1976]:

It can be easily proved that

$$\log^{\wedge} a_{ij} = \log^{\wedge} a'_i - \log^{\wedge} a'_j \quad \text{and} \quad \hat{b}_{ij} = \hat{b}'_i - \hat{b}'_j$$

where $\log^{\wedge} a'_i$ and \hat{b}'_i are the weighted least squares estimates of the parameters of log-linear Engel curves

$$(2.5) \quad \log y_i = \log a'_i + b'_i \log x, i = 1, 2, \dots, m.$$

Using thus estimated indirect addi-log Engel functions system (2.4), the budget weights $(\bar{w}_1, \bar{w}_2, \dots, \bar{w}_m)$ corresponding to \bar{x}_i , the fractile group-specific mean MPCTE, are given by

$$(2.6) \quad \bar{w}_i = 1 / \sum_{j=1}^m \exp[\log^{\wedge} a_{ji} + \hat{b}_{ji} \log \bar{x}_j]$$

We have assumed the estimated parameters of IALS based on the entire size distribution of MPCTE in the base year to be applicable to different fractile-groups of the population. This may not be unreasonable in view of the non-linear character of the Engel curve system.

3. Data Used

This study constructs consumer price indices for the various fractile groups of the rural as well as the urban population of India for four recent survey periods of the National Sample Survey (NSS), viz. October 1972 - September 1973, October 1973 - June 1974, July 1977 - June 1978 and January-December 1983 with the survey period July 1970 to June 1971 as the base. These

five survey periods refer respectively to the NSS rounds 27th, 28th, 32nd, 38th and 25th and will, hereafter be referred by years 1972-73, 1973-74, 1977-78, 1983 and 1970, respectively. This study, therefore, makes use of the retail price ratios or relatives of the current years 1972-73, 1973-74, 1977-78, and 1983 with 1970-71 as the base for the following twelve composite item groups of household expenditure: (1) Cereals and Cereal products; (2) Pulses and pulse products, (3) Milk and milk products, (4) Edible oils, (5) Meat, fish and eggs, (6) Fruits and vegetables, (7) Condiments and spices, (8) Other food, (9) Pan, Supari, tobacco and intoxicants, (10) Fuel and light, (11) Clothing, bedding and footwear, and (12) Other non-food, separately for the rural and the urban India.

The rural retail price indices for various years with 1970-71 = 100, for twelve composite item groups at the all India level, have been derived from the corresponding indices for each of the 15 major States, using the aggregate consumer expenditure for 1970-71 for each State as weights. These all-India indices for twelve composite item groups have been assumed to be the same for all the fractile groups. The State level basic data on rural retail price relatives are the same as those used in the construction of Consumer Price Index for Agricultural Labourers (CPIAL). [For details, Minhas et.al. 1989]. In the present context, we may mention that for an item in the fuel and light group, namely, firewood, CPIAL uses unity as a price relative in all the States and for all the months and the years since 1960-61. This has been presumably done under the premise that in rural areas, firewood is obtained by agricultural labourers free of cost from the nearby jungle so that its price-relative can be taken to be invariant across States and over time. However, the all-India average rural retail price series published monthly by the Central Statistical Organization (CSO) in their Monthly Abstract of Statistics (MAS) indicates a fairly steep and continuous rise in the average all-India rural retail price of firewood. The procedure used in CPIAL would thus impart a downward bias in the retail price index with the bias progressively rising over time. For correcting this bias, we could not use MAS data which are available only at the all-India level and

not for different States. At the State level, price relatives are available for two other items of fuel and light, namely, kerosene and matchbox but *not* for firewood. The following indirect procedure has been used to correct the downward bias. We derive price relatives for a given year (with 1970-71 = 100) for firewood, kerosene and matchbox at all-India level from MAS. Let them be denoted as $p(I,f)$, $p(I,k)$, and $p(I,m)$, respectively. Let $p(S,k)$ and $p(S,m)$ denote the price relative for State 'S' in the given year for kerosene and matchbox, respectively. For each State we obtain two independent estimates for the price-relative for firewood $p_1(S,f)$ and $p_2(S,f)$, using the state-specific price-relatives for kerosene and matchbox. In other words,

$$p_1(S,f) = p(I,f) \times p(S,k)/p(I,k)$$

$$p_2(S,f) = p(I,f) \times p(S,m)/p(I,m)$$

We use the combined estimate

$$\bar{p}(S,f) = [p_1(S,f) + p_2(S,f)]/2$$

In this procedure, we implicitly assume that the ratio of state-specific price relative to all-India price relative for firewood would be the same as the corresponding ratio for kerosene or matchbox. The derived state-specific price relatives for firewood have been then aggregated to the all-India level by using the state-specific aggregate consumer expenditure as weights.

For urban India, Minhas et.al. have worked out consumer price indices for seventeen item-groups for the same four NSS survey years subsequent to the base year 1970-71 [Minhas et.al., 1988 Pp.1-23]. The price data used in this study were the centre-wise monthly retail price indices, with 1960 as base, for 17 item groups and 50 centres of the consumer price index for industrial workers (CPIIW) series, and for 22 item-groups and 45 centres of the consumer price index for non-manual employees (CPINM) series. 22 item-groups of the CPINM series were aggregated into 17 item-groups of the CPIIW series. State-specific price indices for each item-group were then obtained by taking simple average of the monthly price indices of the centres (in both the series) belonging to a particular state and over

the months belonging to a given current period. The price indices were then converted to the base 1970-71 by dividing them with the corresponding price indices for 1970-71. All-India index for each item-group was obtained by taking the weighted average of the State-specific price indices for the item-group across States, weights being the total consumption expenditure on the item-group in different States taken from the NSS data on consumer expenditure for 1970-71. These all-India urban price indices for seventeen item-groups have been combined in the present study, wherever found necessary, with a view to obtaining consumer price indices for the above listed twelve item-groups. For doing so, the requisite weights are obtained from the readily available NSS consumption pattern by twenty-one item-groups in 1970-71, given in NSS printed report No. 231. These items group-wise price data, separately for the rural and the urban areas, constitute an essential ingredient of this study and may be regarded valuable from the user's point of view. They are, therefore, presented in Appendix-Table A.1.

25th NSS round grouped data according to fixed MPCTE class-intervals on the various items of

expenditure and the total expenditure are available, separately for the rural and the urban India in NSS report No.231. These data refer to our base year 1970-71 and form the basis of estimating the parameters $\log a'_j$ and b'_j of double-log Engel curve relationship (2.6) of Section 2 which when used in relation (2.7), provide the budget pattern for a fractile group in the base year 1970-71. Estimates of the parameters $\log a'_j$ and b'_j alongwith \bar{R}_j , the adjusted multiple correlation coefficient ($j=1,2,\dots,12$) for the twelve item-groups are given in Table 1. High values of \bar{R} for all item-groups indicate that double-log fit at the item-group level is quite satisfactory for both the rural and the urban areas. As the indirect addi-log model is equivalent to the system of double-log Engel curves, fitted to each item-group where correction has been made so as to satisfy the budget constraint, the satisfactory fit of the indirect addi-log model gets ensured both for the rural and the urban areas. The budget weights for the various fractile groups are presented in Appendix-Table A.2.

TABLE 1. LEAST SQUARES ESTIMATES OF ($\log a'_j, b'_j$) FOR VARIOUS ITEM-GROUPS OF EXPENDITURE, RURAL AND URBAN INDIA, 1970-71.

Sl. No.	Name of the Item-group	Rural			Urban		
		$\log a'_j$	b'_j	\bar{R}_j	$\log a'_j$	b'_j	\bar{R}_j
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Cereals and cereal products	0.8589	0.5117	0.9666	1.5896	0.2353	0.8063
2.	Pulses and pulse products	-2.9570	0.9584	0.9802	-1.7673	0.5995	0.9477
3.	Milk and milk products	-6.6127	2.1061	0.9809	-4.6651	1.5574	0.9760
4.	Edible oils	-3.5986	1.0743	0.9861	-2.6943	0.9074	0.9701
5.	Meat, fish and eggs	-4.6479	1.3010	0.9861	-3.7590	1.1078	0.9859
6.	Fruits and vegetables	-3.1803	1.0394	0.9954	-3.1854	1.1043	0.9926
7.	Condiments and spices	-2.2726	0.7008	0.9880	-1.4114	0.4663	0.9648
8.	Other food	-4.3483	1.4014	0.9902	-3.7364	1.3690	0.9936
9.	Pan, supari, tobacco and intoxicants	-3.2724	0.9545	0.9781	-3.4119	0.9774	0.9952
10.	Fuel and light	-1.5703	0.6608	0.9965	-1.6823	0.7223	0.9932
11.	Clothing, bedding and footwear	-7.1501	2.1900	0.9843	-7.5384	2.1033	0.9892
12.	Other non-food	-5.6685	1.8545	0.9956	-4.3658	1.6550	0.9956

4. Main Results

Estimated fractile group-specific budget weights in the base year and consumer price relatives of various item-groups in a current year, as obtained above, have been combined so as to provide the fractile group-wise general consumer price indices for the year 1972-73, 1973-74, 1977-78 and 1983 (with 1970-71 = 100), separately for the rural and the urban population of India. The following points emerge from the examination of these price indices, given in Table 2:

(1) We first note the general feature of monotonicity in the price-rise (with base 1970-71 = 100) with reference to the size of MPCTE. There are two categories. The first category is that of inverse monotonicity or progressive character of price-rise. In other words, the consumer price index tends to go down with an increase in the

size of MPCTE. To this category belong the rural and the urban populations for the years 1972-73 and 1973-74 and only the urban population in the year 1983. The second category is that of direct monotonicity or regressive character of price rise compared to the base year. In this category we have the rural as well as the urban population for the year 1977-78 and the rural population for the year 1983.

(2) Given the monotonicity, we can summarise the extent of progressivity or regressivity by looking at the difference between the price index for the bottom fractile group (bottom 30, 20 and 5 per cent) and the top fractile group (top 10, 5 and 1 per cent). This measure is presented in lines 18 to 20 in Table 2. Notice that the price-rise is *less* progressive (for 1972-73 and 1973-74) and *more* regressive (for 1977-78) for the rural population than for their urban counterparts. The price rise was also regressive for the rural population in 1983 whereas it was progressive for

TABLE 2. ALL-INDIA RURAL AND URBAN CONSUMER PRICE INDICES FOR 17 FRACTILE GROUPS AND FOR FOUR SELECTED NSS SURVEY PERIODS

(1970-71=100)									
Sl. No.	Fractile Group (%)	Rural				Urban			
		72-73	73-74	77-78	1983	72-73	73-74	77-78	1983
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	0 - 1	122.76	151.92	169.73	272.14	122.96	149.56	171.98	281.82
2	0 - 5	122.69	151.39	170.90	273.72	122.53	148.48	172.70	282.71
3	0 - 20	122.57	150.71	172.30	275.65	121.96	147.05	173.39	283.38
4	0 - 30	122.52	150.45	172.83	276.38	121.72	146.49	173.61	283.52
5	0 - 10	122.64	151.08	171.54	274.61	122.27	147.83	173.03	283.07
6	10 - 20	122.53	150.44	172.86	276.41	121.73	146.49	173.65	283.60
7	20 - 30	122.45	150.06	173.61	277.45	121.39	145.68	173.94	283.73
8	30 - 40	122.37	149.70	174.30	278.39	121.10	144.99	174.14	283.73
9	40 - 50	122.29	149.37	174.93	279.25	120.79	144.28	174.32	283.65
10	50 - 60	122.20	149.04	175.55	280.07	120.50	143.63	174.46	283.48
11	60 - 70	122.10	148.67	176.21	280.95	120.18	142.92	174.59	283.22
12	70 - 80	121.95	148.22	177.03	282.02	119.80	142.09	174.71	282.78
13	80 - 90	121.73	147.59	178.13	283.42	119.30	141.03	174.85	282.03
14	90 - 100	120.95	145.92	180.98	286.67	118.19	139.01	175.27	279.66
15	95 - 100	120.65	145.34	181.95	287.73	117.86	138.45	175.42	278.88
16	99 - 100	119.77	144.06	184.18	289.58	117.29	137.90	176.32	277.34
17	0 - 100	122.12	148.76	176.05	280.75	120.14	142.81	174.61	283.17
18	Bottom 30% minus Top 10%	1.57	4.53	-8.14	-10.29	3.54	7.48	-1.65	3.86
19	Bottom 20% minus Top 5%	1.92	5.37	-9.65	-12.08	4.10	8.61	-2.03	4.50
20	Bottom 5% minus Top 1%	2.92	7.32	-13.29	-15.86	5.24	10.59	-3.63	5.38

the same year for the urban population. However, in 1983, the extent of regressive price-rise for the rural population was more compared to the extent of progressive price-rise for the urban population.

(3) Compared to 1970-71, the extent of price-rise was *uniformly* higher for the rural than for the urban population for *every* (comparable) fractile group in the years 1972-73 and 1973-74. It was the other way round again *uniformly* for the year 1983. This uniform behaviour is absent for the remaining year 1977-78. In this year the bottom 20 per cent of the population experienced slightly a lower price-rise, the middle 20 to 50 per cent roughly the same and the top 50 per cent a greater price-rise in the rural areas than their counterparts in the urban areas.

If $I_f(t)$ and $I_f(t+r)$ denote the general consumer price indices for the f -th fractile group in the years 't' and 't+r' then $R_f(r)$, the annual inflation rate (in percentage) for the f -th fractile group over the period of r years between the years 't' and 't+r', will be given by

$$R_f(r) = 100 [I_f(t+r)/I_f(t)]^{1/r}.$$

These annual rates of inflation over the four successive and the combined NSS years, viz., 1970-71 to 1972-73, 1972-73 to 1973-74, 1973-74 to 1977-78, 1977-78 to 1983 and 1970-71 to 1983 (denoted by the periods I, II, III, IV and V, respectively) are presented in Table 3 for the various fractile groups of the rural and the urban population of all-India. A close examination of Table 3 suggests the following notable regularities about year-to-year annual rates of inflation:

(1) The results on monotonicity with respect to the size of MPCTE and the consequent extent of progressivity and regressivity noted in the context of Table 2 with respect to the base year 1970-71, apply also to the annual rate of inflation.

(2) The highest rate of inflation of higher than 21 per cent was recorded between the drought-year of 1972-73 and the subsequent year 1973-74. Relatively it was higher for the rural than for the urban population. The lowest rate of inflation was obtained between 1973-74 and 1977-78.

TABLE 3. ANNUAL INFLATION RATES (%) OVER FOUR SUCCESSIVE AND COMBINED NSS PERIODS:
ALL-INDIA RURAL AND URBAN

Sl. No.	Fractile Group (%)	Rural					Urban				
		I	II	III	IV	V	I	II	III	IV	V
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	0 - 1	9.54	27.58	2.90	8.96	8.34	9.62	25.09	3.67	9.40	8.64
2	0 - 5	9.51	27.16	3.18	8.94	8.39	9.45	24.55	3.98	9.38	8.67
3	0 - 20	9.47	26.64	3.52	8.92	8.45	9.22	23.85	4.34	9.34	8.69
4	0 - 30	9.45	26.45	3.64	8.91	8.47	9.13	23.57	4.48	9.33	8.69
5	0 - 10	9.49	26.92	3.33	8.93	8.42	9.35	24.23	4.15	9.36	8.68
6	10 - 20	9.45	26.44	3.65	8.91	8.47	9.13	23.57	4.49	9.33	8.70
7	20 - 30	9.42	26.16	3.83	8.90	8.51	9.00	23.18	4.68	9.30	8.70
8	30 - 40	9.39	25.91	4.00	8.89	8.54	8.88	22.85	4.84	9.28	8.70
9	40 - 50	9.36	25.68	4.16	8.88	8.56	8.76	22.52	5.00	9.26	8.70
10	50 - 60	9.32	25.47	4.31	8.86	8.59	8.64	22.22	5.15	9.23	8.69
11	60 - 70	9.28	25.24	4.48	8.85	8.62	8.51	21.89	5.30	9.19	8.68
12	70 - 80	9.22	24.97	4.69	8.84	8.65	8.36	21.53	5.48	9.15	8.67
13	80 - 90	9.13	24.63	4.97	8.81	8.69	8.16	21.08	5.70	9.08	8.65
14	90 - 100	8.82	23.92	5.71	8.72	8.79	7.71	20.38	6.16	8.87	8.58
15	95 - 100	8.70	23.71	5.97	8.69	8.82	7.57	20.21	6.30	8.79	8.55
16	99 - 100	8.35	23.50	6.55	8.58	8.88	7.34	20.32	6.55	8.58	8.50
17	0 - 100	8.29	25.30	4.44	8.86	8.61	8.50	21.85	5.32	9.19	8.68

Note: Periods I, II, III, IV and V refer to the periods from 1970-71 to 1972-73, 1972-73 to 1973-74, 1973-74 to 1977-78, 1977-78 to 1983 and 1970-71 to 1983, respectively.

(3) The rural population as also each one of its comparable fractile groups experienced higher rate of inflation between 1970-71 and 1973-74 than their urban counterparts. The situation was reversed between 1973-74 and 1983.

(4) Even though progressive as well as regressive rates of inflation took place in the intervening period as noted earlier in commenting on Table 2, a comparison between the terminal year 1983 and the base year 1970-71 indicates that the rates of inflation were mildly progressive and not very dissimilar for the rural and the urban population. The annual rate of inflation between these two time points, twelve and half years apart, was around 8.5 per cent per annum - by no means an insignificant rate.

5. Concluding Remarks

This study presents for the first time fractile-group-specific consumer price indices based on conceptually appropriate retail price relatives in contrast to the earlier studies which utilised more readily available but less appropriate wholesale price relatives. The consumer price indices have been given separately for sixteen fractile groups, each of the rural and the urban population and covering five rounds of the National Sample Survey : 1970-71, 1972-73, 1973-74, 1977-78 and 1983.

While monotonicity with respect to the size of MPCTE was observed within each given year and for each segment of the population, there was no uniform pattern across years or across population segments. Each population segment experienced higher rates of inflation in some years and lower in others than the other segment. Each population segment had a share of both the progressive and the regressive rates of inflation. In contrast to the usual impression, inflation was not *always* regressive in nature nor was it *always* higher for the urban than for the rural population. How do these inflation rates affect the real levels of living of different fractile-groups of the population? This question is taken up in a companion paper [See Jain and Tendulkar, 1989].

FOOTNOTES

1. The notable studies are those of (i) Radhakrishna and Sarma, 1975 Pp.30-31, (ii) Radhakrishna and Sarma, 1976, (iii) Iyengar and Jain, 1976, Pp. 69-83 and (iv) Murthy and Murty, 1977 Pp. 169-179. Other related studies are those of (i) Mahalanobis, 1962 Pp. 53-76, (ii) Iyengar and Bhattacharya, 1965 Pp. 47-56, (iii) Chatterjee and Bhattacharya, 1974 Pp. 183-214, (iv) Vaidyanathan, 1974 Pp. 215-241, and (v) Iyengar, 1967 Pp. 177-198.
2. See (i) Radhakrishna and Sarma, 1976 and (ii) Radhakrishna and Sarma, 1975 Pp. 30-31.
3. See (i) Murthy and Murty, 1977 Pp. 169-179 and (ii) Iyengar and Jain, 1976 Pp. 69-83.
4. See (i) Radhakrishna and Sarma, 1975 Pp. 30-31, (ii) Murthy and Murty, 1977 Pp. 169-179 and (iii) Iyengar and Jain, 1976 Pp. 69-83.
5. See (i) Iyengar and Jain, 1976 Pp. 69-83, (ii) Murthy and Murty, 1977 Pp. 169-179, (iii) Radhakrishna and Sarma, 1975 Pp. 30-31 and (iv) Radhakrishna and Sarma, 1976.
6. See (i) Iyengar and Jain, 1976 Pp. 69-83, (ii) Murthy and Murty, 1977 Pp. 169-179, (iii) Radhakrishna and Sarma, 1975 Pp. 30-31.
7. The indirect addi-log system was developed originally by Leser, 1941 Pp. 40-57, and then by Houthakker, 1960 Pp. 248-257. It was further developed and applied by Somermeyer, Hilhorst and Wit, 1962 and Parks, 1969 Pp. 629-650.

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APPENDIX-TABLE A.1. ALL-INDIA RURAL AND URBAN CONSUMER PRICE INDICES FOR THE VARIOUS ITEM-GROUPS FOR THE SELECTED NSS SURVEY PERIODS

(1970-71 = 100)

Sl. No.	Name of the Item-group	Rural				Urban			
		1972-73	1973-74	1977-78	1983	1972-73	1973-74	1977-78	1983
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	Cereals and cereal products	125.67	158.16	160.39	260.97	125.38	155.62	160.69	268.11
2.	Pulses and pulse products	143.21	158.41	239.59	347.43	148.28	156.74	236.38	343.65
3.	Milk and milk products	114.13	140.89	175.05	276.41	113.49	137.90	171.92	261.28
4.	Edible oils	126.50	170.76	190.11	301.90	127.20	163.38	174.79	287.67
5.	Meat, fish and eggs	115.37	138.77	190.89	356.81	118.98	148.01	194.73	344.16
6.	Fruits and vegetables	123.43	156.96	198.21	310.07	114.34	136.23	171.53	287.67
7.	Condiments and spices	83.66	107.75	155.77	185.40	100.89	133.13	200.43	253.65
8.	Other food	142.62	147.43	167.34	266.83	129.36	140.43	176.05	297.02
9.	Pan, tobacco and intoxicants	108.32	120.01	168.43	244.68	114.32	129.95	176.80	292.73
10.	Fuel and lights	111.78	133.47	194.01	333.70	116.15	141.03	191.07	356.87
11.	Clothing, bedding and footwear	119.08	148.19	203.98	289.76	121.25	153.66	202.37	298.97
12.	Other non-food	116.86	131.66	184.69	318.40	110.85	123.73	160.91	251.44

APPENDIX: TABLE A.2. FRACTILE GROUP-WISE PERCENTAGE SHARES OF VARIOUS GROUPS OF CONSUMER ITEMS IN TOTAL CONSUMER EXPENDITURE FOR THE ALL-INDIA RURAL AND URBAN POPULATION: 1970-71

Sl. No.	Fractile group (%)	Cereals and cereal products	Pulses and pulse products	Milk and milk products	Edible oils	Meat, fish and eggs	Fruits and vegetables	Salt and spices	Other food	Intox-icants, etc	Fuel and light	Clothing, etc	Other non-food	AMPCTE (Rs.)
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Rural														
1	0-01	67.2	3.8	1.1	2.6	1.5	3.6	4.4	2.4	2.8	8.1	0.8	1.7	8.29
2	0-05	63.1	4.2	1.8	2.9	1.8	4.1	4.4	3.0	3.0	8.0	1.3	2.5	11.61
3	05-10	59.0	4.4	2.6	3.2	2.1	4.4	4.3	3.7	3.2	7.8	1.9	3.4	15.45
4	00-10	61.0	4.3	2.2	3.1	1.9	4.2	4.4	3.4	3.1	7.9	1.6	2.9	13.53
5	10-20	55.9	4.5	3.4	3.4	2.3	4.6	4.2	4.1	3.3	7.6	2.5	4.2	18.65
6	20-30	53.1	4.6	4.2	3.5	2.5	4.8	4.1	4.5	3.3	7.4	3.1	4.9	21.95
7	30-40	50.4	4.7	4.9	3.6	2.6	4.9	4.0	4.9	3.4	7.2	3.8	5.6	25.27
8	40-50	48.0	4.7	5.7	3.7	2.7	5.0	3.9	5.2	3.4	7.0	4.4	6.3	28.59
9	50-60	45.7	4.7	6.5	3.7	2.9	5.0	3.8	5.5	3.4	6.7	5.1	7.0	32.12
10	60-70	43.0	4.7	7.5	3.8	3.0	5.0	3.7	5.7	3.4	6.5	5.9	7.8	36.30
11	70-80	39.8	4.7	8.8	3.8	3.1	5.0	3.5	6.1	3.3	6.1	7.0	8.8	42.04
12	80-90	35.4	4.5	10.7	3.8	3.2	5.0	3.3	6.4	3.2	5.6	8.7	10.2	51.07
13	90-100	24.7	3.9	16.3	3.4	3.3	4.5	2.5	6.9	2.8	4.2	13.8	13.7	83.45
14	90-95	30.4	4.3	13.1	3.7	3.3	4.8	2.9	6.7	3.1	5.0	10.9	11.8	63.99
15	95-100	20.5	3.6	18.7	3.2	3.3	4.2	2.1	6.9	2.6	3.6	16.2	15.1	102.90
16	99-100	12.2	2.7	24.8	2.5	2.8	3.2	1.4	6.4	1.9	2.3	22.3	17.5	169.48
17	00-100	43.7	4.7	7.3	3.8	2.9	5.0	3.7	5.7	3.4	6.5	5.7	7.6	35.30
Urban														
1	0-01	57.6	4.9	2.8	4.1	2.3	4.0	5.0	4.4	2.4	7.2	0.6	4.7	11.43
2	0-05	51.7	4.9	3.7	4.5	2.7	4.7	4.8	5.6	2.6	7.4	0.9	6.5	15.35
3	05-10	45.8	4.8	4.7	4.8	3.0	5.3	4.6	6.7	2.9	7.5	1.4	8.5	20.19
4	00-10	48.8	4.8	4.2	4.6	2.8	5.0	4.7	6.2	2.8	7.5	1.1	7.5	17.77
5	10-20	41.7	4.7	5.5	4.9	3.2	5.7	4.3	7.6	3.0	7.5	1.8	10.1	24.39
6	20-30	37.9	4.5	6.3	5.0	3.4	6.0	4.1	8.4	3.1	7.4	2.2	11.7	29.02
7	30-40	34.7	4.3	6.9	5.1	3.5	6.2	3.9	9.0	3.2	7.3	2.7	13.2	33.47
8	40-50	31.5	4.2	7.6	5.1	3.6	6.4	3.7	9.7	3.2	7.1	3.2	14.7	38.77
9	50-60	28.7	4.0	8.3	5.1	3.7	6.5	3.4	10.3	3.2	6.9	3.7	16.2	44.40
10	60-70	25.7	3.7	9.0	5.0	3.8	6.6	3.2	10.9	3.2	6.6	4.4	17.9	51.59
11	70-80	22.2	3.5	9.9	4.9	3.8	6.7	2.8	11.5	3.2	6.2	5.3	20.0	61.79
12	80-90	17.8	3.0	11.0	4.6	3.8	6.7	2.4	12.3	3.1	5.7	6.8	22.8	79.12
13	90-100	9.4	2.0	13.3	3.7	3.5	6.1	1.5	13.1	2.6	4.1	11.5	29.2	147.61
14	90-95	13.7	2.6	12.1	4.3	3.7	6.5	2.0	12.8	2.9	5.0	8.6	25.8	103.18
15	95-100	6.9	1.6	13.9	3.3	3.2	5.7	1.2	13.1	2.3	3.4	13.9	31.5	192.03
16	99-100	3.2	1.0	14.6	2.3	2.6	4.5	0.6	12.2	1.7	2.1	20.3	34.9	353.75
17	00-100	25.1	3.7	9.1	5.0	3.8	6.7	3.1	11.0	3.2	6.6	4.5	18.2	52.79

Note: AMPCTE refers to average monthly per head total expenditure.

INTER-TEMPORAL AND INTER-FRACTILE-GROUP MOVEMENTS IN REAL LEVELS OF LIVING FOR RURAL AND URBAN POPULATION OF INDIA : 1970-71 TO 1983

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This paper takes a comprehensive examination of different facets of the fractile-group-wise distribution of the real levels of living of the rural and the urban population in India from 1970-71 to 1983. These facets include, among others, (a) summary measures of mean level of living and relative disparity; (b) directional changes in fractile-graphs; (c) directional changes in Lorenz curves; and (d) magnitude of changes in real levels of living for different sections of the population. Most of the analysis is undertaken both in real and nominal terms and using two-point comparisons in irreversible time so as to be able to rank the selected time points with respect to each other.

I. Introduction

Researchers in the past have noted that the impact of price inflation differs for different sections of the population located along the scale of level of living measured by the monthly per capita total expenditure (MPCTE)¹. Adjustment for the differential price-rise enables one to compare real and nominal levels of living for different sections of the population at the same time and those of each section over time. In addition, it is possible to examine nominal and real relative disparities at the same point of time or their movements over time.

In a recent study, one of the authors has worked out representative general cost of living indices for different fractile groups of the rural and the urban population [Jain, 1989]. This study utilises the raw data on retail price relatives which provide primary input into the compilation of the three existing consumer price indices, i.e. those for agricultural labourers, those for industrial workers and those for non-manual urban employees. These price relatives have been combined with the fractile-group-specific weighting diagram to derive the fractile-group-specific retail price indices. This study is a major improvement over the earlier ones in so far as it uses appropriate retail price relatives in contrast with the earlier studies which combined the wholesale price relatives with the weighting diagram estimated from the National Sample Surveys (NSS) on consumer

expenditure. The fractile-group-specific consumer price indices have been generated for the five recent rounds of the National Sample Surveys covering roughly the thirteen years period from 1970-71 to 1983. These have been used in the present study to derive fractile-group-specific real levels of living so that inter-temporal and inter-fractile-group movements in the real levels of living can be examined separately for the rural and the urban population. With this objective, Section II is devoted to the discussion of the analytical issues in comparing real levels of living. Data sources and computation procedures are discussed in Section III. Empirical results are presented in Section IV. Recapitulation appears in Section V.

We may note that our primary focus in this paper is on comprehensively examining different facets of the size distribution of levels of living of the rural and the urban population. These include, among others, assessment of different size distributions on the basis of (a) summary measures of mean level of living and relative disparity; (b) directional changes in fractile-graphs (defined in Section II); (c) directional changes in Lorenz curves; and (d) magnitude of changes in real levels of living for different sections of the population. These assessments have been made mostly in real terms. Sometimes, a comparative picture is presented in both real and nominal terms to bring out lack of consistency or otherwise in conclusions. Two point comparisons are undertaken in irreversible time *i.e.* a later time-point is

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compared with *each* of the earlier time points with reference to a selected facet of the size distribution of levels of living. All these comparisons are presented separately for the rural and the urban population. We may emphasize that we have *not* attempted a comparison between rural and urban levels of living.

II. Analytical Issues in Comparing Real Levels of Living

As mentioned in the Introduction, levels of living are defined in this study in terms of monthly per capita total consumer expenditure (MPCTE). Size distribution of the population ranked according to MPCTE at current prices and grouped in terms of MPCTE class-intervals are available from the published reports of the NSS on consumer expenditure. These size distributions are converted into twelve fractile groups (using certain interpolation procedures to be explained in the next section) where the population is divided into eight deciles from the second to the ninth decile with the top and the bottom deciles split into two five per cent fractile groups. This exercise yields the fractile-group-specific mean MPCTE at current prices prevailing during the survey period of each NSS round. These fractile-group-specific mean MPCTEs in a given year are deflated by a fractile-group-specific retail-price-index (alternatively referred to as cost of living index) to derive the real mean MPCTEs (alternatively referred to as real levels of living). It may be noted that the fractile-group-specific retail-price-index uses the weighting diagram applicable to that group in the base year.

It is worth emphasizing at the outset that our comparisons of real levels of living over time for the same fractile-group do not refer to the *identical* set of households at two time points. This is not possible because NSS is not a panel survey. Even if it were, for two time points far apart, there is a possibility of certain households getting split or going out of panel because of migration or certain single member families disappearing altogether because of death of the single member. Consequently, ensuring the identity of the population covered at two time-points is not possible even in a small panel survey. It is much more difficult in a large-scale survey involving a single visit to each household with a reference period of

30 days preceding the date of interview and the universe of all households being covered on a sample basis over each sub-round (extending over 3 months) or over the entire survey period [Chatterjee and Bhattacharya, 1975. Pp. 97-109].

A question may then be raised as to whose real levels of living are being compared. We are, in effect, comparing over time, the real levels of living in average terms of the same rank-order situated population which happens to be located in a given fractile group. Their *identifying characteristic* in terms of their rank-order position is fixed over time but not the *identity* of those who are being compared. Thus, our comparisons refer to the movements in the real levels of living of the population in a given fractile-group at two points of time.

One more conceptual point with reference to available data may be noted at this stage. In the Indian surveys on consumer expenditure (including NSS), the basic unit of observation is not an individual but a household which is defined as "a group of persons normally living together and taking food from a common kitchen". In working out per capita consumer expenditure of a given household, each household member is given equal weight. This has two consequences. First, the differences in the age-sex composition within the household are not taken into account. Secondly, the procedure ignores the issues connected with the intra-household disparities in levels of living [Sen, 1983. Pp. 14-26]. Regarding the first, an earlier study by Visaria pointed out that the inequality indices based on adult equivalent scale adjustment were not much different from those based on per capita ranking [Visaria, 1979. Pp. 289-320]. With the Indian adult equivalent scale, he found that for the two States of Maharashtra and Gujarat in 1972-73, between 58 to 73 per cent of the households (accounting for 61 to 76 per cent of the population) fell in the same deciles according to the two criteria. On this basis, it appears that the distortion introduced by our inability to correct the first consequence may not be very serious. As regards the second, we assume that this source would not vitiate the comparisons undertaken in this study.

The objective of our subsequent empirical analysis is to rank different years with respect to given criteria or to undertake pair-wise two-point comparisons in irreversible time *i.e.* to compare

a given year with each of the preceding years. The criteria chosen refer to different facets of the size distribution of levels of living. Some criteria may yield complete ranking whereas others may provide only incomplete ranking. An effort is also made to compare the results emerging from the application of different criteria and their mutual compatibility. This section is devoted to the discussion of various criteria used for assessing the movements in the size distribution of households by levels of living. It may be noted at this point that in the subsequent discussion involving comparisons over time, we undertake these comparisons in real terms, that is at constant prices.

Before proceeding further, we may define certain terms which we use in our subsequent discussion. We use the term 'real' or 'price-adjusted' to indicate level variables or derived summary indicators which are measured in terms of constant prices of 1970-71. Thus, real levels of living are always taken to refer to mean MPCTE measured at 1970-71 prices whether for a given fractile group or for the population as a whole. Price-adjusted or real Lorenz curve is derived from the fractile-group-specific shares in total consumer expenditure at 1970-71 prices. These shares, in turn, are based on fractile group-specific and overall mean MPCTEs at 1970-71 prices. Real or price-adjusted Gini coefficient is derived from the real or price-adjusted Lorenz curves. On the other hand, nominal levels of living (or nominal mean MPCTE), Lorenz curves and Gini coefficients are measured at current prices prevailing over the survey period of each round.

We start with summary measures characterising the observed size distribution. The usual measure of central tendency relates to the level of mean MPCTE (\bar{x}). The distributional aspect characterised by relative inequality is usually captured in the widely used measure of Gini coefficient (G). It is related to the well-known measure of dispersion, viz. the relative mean difference. Hence (\bar{x}) and (G) broadly capture the central tendency and relative dispersion characterising the size distribution. Sen has suggested an interesting method of combining the two criteria into a single indicator [Sen, 1973(b). Pp. 1-9]. He shows that if MPCTE of each individual is given

weight that is inversely proportional to the rank order position, then the distributionally weighted mean MPCTE (\bar{x}_g) is given by

$$\bar{x}_g = (1 - G)\bar{x}$$

It can be easily seen that when the levels of living are absolutely equally distributed (i.e. $G = 0$), $\bar{x}_g = \bar{x}$. The higher the relative inequality as captured by the Gini-coefficient, the lower is \bar{x}_g relative to \bar{x} . We call \bar{x}_g as inequality-adjusted or Gini - adjusted mean MPCTE. These three criteria provide complete ranking of different years which will be examined in the next section.

The summary indicators considered above conceal the detailed fractile-group-specific movements over time in the real or nominal levels of living. It would, therefore, be desirable to examine directly the movements in the size distributions of households by levels of living. This can be done in two ways. First, we can compare the Lorenz curves for the two distributions at two points of time. These would reflect the changes in the relative shares of different fractile groups in aggregate consumer expenditure between two points of time. Second, we may compare what Mahalanobis called fractile graphs at two points of time [Mahalanobis, 1960. Pp. 325-351]. If the entire population is ranked according to the size of MPCTE and divided into f fractile-groups of given sizes, and if \bar{x}_i denotes the mean MPCTE for the i -th fractile group, then the fractile graph consists of plotting the curve $[(i, \bar{x}_i); i = 1 \text{ to } f]$. Two fractile graphs at two points of time can be compared to examine the fractile-group-specific movements in the absolute levels of living. This requires that fractile-groups are defined in an identical fashion at two points of time.

In the present context, it is possible to apply a standard theorem on Lorenz dominance [Sen, 1973(a). Ch.3]. For this purpose, let us define x_1 and x_2 as two distributional situations at two time points 1 and 2. Let \bar{x}_1 and \bar{x}_2 be the corresponding means. Lorenz dominance denoted as $x_2 L x_1$ means that the Lorenz curve (LC) of x_2 lies nowhere outside that of x_1 and at some place at least, it lies strictly inside the latter. The theorem

on Lorenz dominance states that if $x_2 L x_1$ and $\bar{x}_2 \geq \bar{x}_1$, then $W(x_2) > W(x_1)$ where W represents a general class of social welfare functions satisfying certain plausible properties. In other words, the distributional situation x_2 is strictly socially preferred to x_1 under the stated conditions. It follows that if $x_2 L x_1$ but $\bar{x}_2 < \bar{x}_1$, the theorem does not apply. Similarly, if *not* $x_2 L x_1$, i.e., the Lorenz curves intersect at one or more points, the theorem does not apply even if $\bar{x}_2 \geq \bar{x}_1$.

If $x_2 L x_1$, i.e. the two Lorenz curves are non-intersecting in the sense defined above, then the information contained in the entire Lorenz curve can be summarised in the corresponding Gini coefficients G_1 and G_2 , respectively, for the purpose of applying the theorem on Lorenz dominance. In other words, $x_2 L x_1$ can be replaced by $G_2 < G_1$ for $W(x_2) > W(x_1)$ to hold, provided $\bar{x}_2 \geq \bar{x}_1$.

The above theorem on Lorenz dominance is based on a comparison of two distributions captured in the Lorenz curves combined with the direction of change in real MPCTE. This need not necessarily guarantee that the absolute levels of living in real terms of every fractile group (i.e. fractile-group-specific real mean MPCTE) would improve or remain unchanged. This aspect can be studied directly by means of the technique of fractile-graphs developed by Mahalanobis [Mahalanobis, 1960. Pp. 325-351]. Mahalanobis developed this technique to assess the sampling error of the estimated fractile-group-specific mean MPCTE and test the difference between fractile graphs at two points of time or for two segments of the population. Mahalanobis used the fractile-graphs for two sub-samples from the same round in this connection. In this paper, we use the fractile-graph as a descriptive device for assessing changes in fractile group-specific real levels of living. In a descriptive sense, it is possible to define a fractile-graph dominance analogous to the concept of Lorenz dominance. If (i_1, \bar{x}_{i1}) and (i_2, \bar{x}_{i2}) with $i = 1$ to f , denote the fractile-graphs in real terms at time points 1 and 2, then fractile-graph dominance may be taken to be indicated by $\bar{x}_{i2} \geq \bar{x}_{i1}$ for all i and $\bar{x}_{i2} > \bar{x}_{i1}$ for at

least one i . In other words, there is no deterioration in the levels of living of any fractile-group and some improvement for at least one fractile group.

A question arises regarding the welfare interpretation of the non-intersecting real fractile graphs and their relationship, if any, with the theorem on Lorenz dominance involving non-intersecting Lorenz curves.

Descriptively, it should be obvious that if there is an upward shift in the fractile graph involving equi-proportionate rise in the levels of living of every fractile-group, the Lorenz curve would remain unchanged and each fractile group would experience an improved level of living. In this case, there is no Lorenz dominance but only fractile graph dominance. In the second case, we consider equal absolute increments in the real levels of living of each fractile-group. It can be shown that in this case, there exist *both* the fractile graph dominance and the Lorenz dominance (see Appendix-A). Apart from these two cases, the fractile-group dominance and the Lorenz dominance may turn out to be independent of each other. In other words, one may be obtained but not the other. Thus, it is possible to visualise non-parallel and non-intersecting upward shifts in the fractile graphs with corresponding Lorenz curves intersecting. This can be shown by considering two cases, involving a given rise, say, k per cent in the overall mean MPCTE. In case (a), the upper fractile-groups experience a growth rate higher than k per cent and the lower fractile-groups, smaller than k per cent but positive increases. In case (b), the situation could be reversed with reference to the growth rates experienced by the upper and the lower fractile-groups. It can be easily seen that in both cases (a) and (b), fractile-group dominance is obtained (by construction). However, the Lorenz curves under (a) and (b) would intersect. Similarly, it is possible to construct a situation where two Lorenz curves are non-intersecting but the corresponding fractile-graphs may turn out to be intersecting. This need not come as a surprise because fractile-graphs depict movements in absolute levels of living whereas Lorenz curves capture movements in cumulative shares. Since they focus attention on different and independent

aspects of the levels of living, there is no necessary reason to expect any systematic relationship between the movements in fractile-graphs and those in the corresponding Lorenz curves. In section IV, we empirically examine the consistency or otherwise between these two phenomena.

Is it possible to provide a welfare interpretation to the non-intersecting fractile graphs? Intuitively, if (a) welfare function of each individual household depends only on its own level of living as measured by MPCTE and (b) social welfare function is separable in individual-household-specific-welfare functions, then an upward non-intersecting shift in real fractile graphs would signify an unambiguous improvement in social welfare. In line with the empirical tenor of this paper, we have not explored this aspect rigorously.

Notice that in the above discussion, fractile graph dominance has been defined with reference only to the *direction* of change. In the final aspect of the comparisons of real levels of living, we propose to examine not just the direction but inter-fractile-group differences in the *magnitude* of change. For this purpose, we use as a standard of comparison, the growth rate in real levels of living for the entire population between any two time points. Fractile-group-specific growth rates in real levels of living are compared with this standard of comparison. If r_{i_t} and r_t denote, respectively, the compound annual growth rates of the i -th fractile-group-specific and of the overall real MPCTE over a given time interval t , we examine whether r_{i_t} is greater than, or equal to, or less than r_t for each i , where $i = 1$ to f . We may mention that in the planning exercises undertaken by the Planning Commission for the Fifth and the Sixth Five Year Plans, the assumption $r_{i_t} = r_t$ for all i , was used as a standard against which the incidence of postulated redistribution on different classes was compared. It has been suggested that in the *ex ante* planning context, $r_{i_t} = r_t$ could be interpreted as distributionally neutral growth in the sense that the relative inequalities as captured in the Lorenz curve remain unchanged during the future growth process [Sundaram and Tendulkar, 1983]. In fact, it would be tempting to interpret *ex post* realized

growth rates r_{i_t} greater than, or equal to, or less than r_t in terms of the actual percolation of the overall economic growth process. This would be so if the overall average growth rate *as well as* the fractile-group-specific growth rates were determined by the overall growth process. This, in turn, would be so if the levels of living can be uniquely determined by incomes which are generated in the growth process. There are several reasons why this is not so. First, the levels of living at the household level are known to be determined by factors other than incomes generated in the growth process, such as, inter-household transfers, transfer from government to the household in the form of subsidised consumption, and so on. Secondly, demographic factors specific to the household would further generate a gap between incomes earned in the growth process and the levels of living that can be afforded. In other words, ratio of earners to dependents would differ from household to household even though each household may have benefitted to the same extent from economic growth in terms of earnings per worker. Thirdly, adjustment in real consumption in response to exogenous changes in income have not been observed to be always proportional. In fact, the modes of adjustment in real consumption in response to a decline in income have been found to differ depending on the location of the household along the scale of levels of living. At very low levels of living, there is not much scope for squeezing real consumption standards. Consequently, efforts are made to maintain real consumption level by drawing on accumulated savings, resorting to consumption loans or sale of productive assets. Real consumption falls only when none of these options is available or works. Above a certain minimum subsistence level of living, there exists scope in varying degrees for tightening the belts. In such cases, it has been found that in response to a downward decline in income, real consumption level is allowed to decline in absolute terms in order to protect the productive asset-base. Dreze provides evidence from micro-studies in this connection [Dreze, 1988, Pp. 79-83]. He finds that during droughts, well-off households have been observed to reduce their per capita consumption of such necessities

as cereals in order to protect their production base. The important point that emerges is that movements in incomes generated during the growth process do not transmit themselves uniformly in the corresponding adjustments in real levels of living. This phenomenon gets reflected in the widely observed stylised fact that the size-distribution of savings is considerably more skewed than that in consumption. Consequently, relative inequality in the size-distribution of income is always observed to be greater than that in the size distribution of levels of living. In view of the foregoing considerations, it would not be valid to interpret movements in r_a relative to r_t in terms of the extent of percolation of the growth process. We may also caution that the observed

r_t we have calculated is based on end-point comparisons. Because of the year-specific fluctuations in levels of living in an agrarian economy, these growth rates cannot be interpreted as trend growth rates. Transitory elements may be expected to exist in any two-point comparison. However, it would still be valid to examine how well or badly different fractile-groups have done in relation to the overall growth rate in the mean MPCTE. This is the focus of our empirical results in Section IV.

This completes the discussion of the analytical issues in comparing real levels of living. We now turn to the discussion of data sources and computational procedures.

TABLE 1. DETAILS OF NSS ROUNDS USED IN THE PRESENT STUDY

NSS Round	Survey Period	Abbreviation for Survey Period	Data Source
(1)	(2)	(3)	(4)
25th	July 1970 - June 1971	1970-71	NSS Report No. 231
27th	Oct. 1972 - Sept. 1973	1972-73	Sarvekshana, Vol.II, No. 3, Jan. 1979
28th	Oct. 1973 - June 1974	1973-74	Sarvekshana, Vol.I, No. 1, July, 1977
32nd	July 1977 - June 1978	1977-78	Sarvekshana, Vol.IX, No. 3, Jan. 1986
38th	Jan. 1983 - Dec. 1983	1983	Sarvekshana, Vol.IX, No. 4, April 1986

III. Data Sources and Computational Procedures

This study uses the data available from the five rounds of the NSS on Consumer Expenditure from 1970-71 to 1983. Table 1 gives the NSS rounds, survey period of each round, the published sources from which the data have been drawn, along with the abbreviation used for each survey period.

The present study requires derivation of two basic variables, namely: (1) Fractile-group-specific mean MPCTE at current prices for each round. (2) Fractile-group-specific retail price index. Dividing nominal MPCTE by the appropriate retail price index would give us real MPCTE or real level of living.

In this section, we briefly describe how (1) has

been derived. The details regarding (2) are discussed in the companion paper [Jain, 1989, Pp. 303-312]. In addition, we discuss one specific data problem relating to the 32nd round for the year 1977-78 and the adjustment we have made for the same. In Section IV on empirical results as well as in Appendix-B, we provide results for 1977-78 both with and without adjustment in view of somewhat arbitrary nature of the data adjustment. While our preference is for the adjusted results, readers who think otherwise may draw their inferences from results without adjustment.

The first part of Section II has already described the fractile groups into which the population has been divided along with the important conceptual issues in connection with the inter-temporal and inter-fractile group comparisons of levels of living.

We have used the general interpolation procedure suggested by Kakwani to derive the fractile-group-specific MPCTE for each round of NSS [Kakwani, 1976].

The fractile-group-specific mean MPCTE for 1970-71 have been used along with Indirect Addi-log Engel Curve Specification to derive the budget shares for each fractile-group. These budget shares have been used as weights along with appropriate retail price relatives for twelve composite item groups of household budget to derive fractile-group-specific retail price index, separately for the rural and the urban population. This has been obtained for the four subsequent rounds with 1970-71 base. These price indices are given in Appendix-Table A.1 [For details, see Jain 1989].

The fractile-group-specific retail price indices have been used to get price adjusted MPCTE for

each fractile-group for each of the five rounds mentioned above. These are presented in Appendix - Tables A.2 and A.3 for the rural and the urban population, respectively.

We may mention that for the computation of the Gini coefficient in nominal and real terms, we have generated a more detailed size distribution according to 24 fractile-groups in percentage units, namely 0.0 - 1.0, 1.0 - 2.5, 2.5 - 5.0, 5-10, 10-15, .. 85-90, 90-95, 95.0 - 97.5, 97.5 - 99.0, 99.0 - 100.0. For each of these fractile-groups, we have generated nominal mean MPCTE, retail price index and real mean MPCTE. These have been used to construct the Lorenz curves in nominal and real terms. Gini-coefficients are obtained by applying trapezoidal rule to Lorenz curves based on 24 fractile-groups. This is done to minimise the extent of under-estimation that is implicit in the use of trapezoidal rule.

TABLE 2. PERCENTAGE SHARE OF TOTAL EXPENDITURE SPENT ON DURABLES (D) AND FOOD (F) FOR THE TOP FRACTILE GROUP CORRESPONDING TO THE LAST OPEN-ENDED CLASS IN 1977-78 FOR THE RURAL AND URBAN POPULATION

Sl. No.	Year	NSS Round	Rural Population		Urban Population	
			D	F	D	F
1	1972-73	27	11.02	49.21	11.58	35.95
2	1977-78	32	42.66	25.09	19.69	30.78
3	1983	38	15.68	42.23	12.72	30.17

Note: Top fractile group corresponding to the open ended class in 1977-78 contained 1.74 and 2.03 per cent of the rural and the urban population, respectively. The estimates for D and F for 1972-73 and 1983 have been derived for the same fractile groups. For this purpose, mean MPCTE (denoted by \bar{x}_p) for 1972-73 and 1983 were estimated using the interpolation method suggested by Kakwani [Kakwani, 1976, Pp. 483-492]. On the basis of the earlier studies, we postulated log-inverse Engel curve for food and log-linear for durables for both the rural and the urban population for the 27th and the 38th rounds. Using these along with the estimated \bar{x}_p , we derived the per capita expenditure on food and durables for each round from which F and D given in the table are obtained.

We now discuss the specific data problem relating to the top end of the MPCTE scale in the 32nd round of NSS, for 1977-78. In Table 2, we provide a comparison of the 32nd round with the 27th and the 38th round in terms of the percentage share of total expenditure spent on durables and on food by the top fractile group corresponding to the open ended MPCTE class in 1977-78. We find that the 32nd round (1977-78), compared to the 27th (1972-73) and 38th (1983) rounds reports an unusually high proportion of total expenditure spent on durables and an equally unusually low proportion spent on food at the top-end of the MPCTE scale. This phenomenon is much sharper for the rural than for the urban population. Under

the plausible assumption of a broad stability of the consumption patterns over time, Table 2 clearly brings out the unusual nature of the results of the 32nd round. This would affect (a) mean MPCTE for the top fractile-group; (b) the mean MPCTE for the entire population and (c) the Gini coefficients for the size distribution of MPCTE. Appendix-Tables A.2 and A.3 bring out the fact that the nominal Gini coefficient for the 32nd round turns out to be the highest among the five rounds considered, whether rural or urban. In addition, rural and urban Gini coefficients for the 32nd round turn out to be about equal whereas for *all* the other rounds (including those not covered in this study), the Gini coefficient for the rural

population has *always* been distinctly lower than that for the urban population. We have not been able to figure out the reasons for this phenomenon. In our view, the 32nd round at the top-end appears to be such an outlier as to deserve some correction. There are several possible methods, all arbitrary in varying degrees, that suggest themselves in this connection. Five possible methods and their results are discussed in the Appendix-B. For reasons spelt out there, we have preferred an estimate of the mean MPCTE at the top end based on the assumption that the percentage share spent on durables increased monotonically, between 1972-73 and 1983. As mentioned earlier, we provide in Section IV, the results for the 32nd round both with and without adjustment.

IV. Empirical Results

In this Section, we present the empirical results emerging from the inter-temporal and inter-fractile group comparisons of real levels of living, for the rural and the urban population separately. The study covers five time-points relating to the latest five rounds of the NSS on consumer expenditures. The details are given in Section III (Table 1). In effect, we undertake comparisons over six points because as explained in Section III, we have presented the results for the 32nd round (1977-78) both with and without adjustment.

We may make two general points at the outset. As regards inter-temporal comparisons, we indicate a complete ranking of the five time-points whenever the chosen criteria permit it. We provide incomplete ranks in other cases. We have also undertaken a two-point comparison in irreversible time. In other words, a later time-point is compared with *each* of the earlier time points with reference to any given criterion. Secondly, our data contain sampling and non-sampling errors. Consequently, it would not be valid to take the level variable or growth rate in that level variable as an absolutely accurate measure in ranking different years. We have, somewhat arbitrarily, defined a certain pre-specified range around a given point estimate. Any variability within that range is deemed not to be significant

and the variable is deemed to have remained unchanged in inter-temporal comparisons. We have adopted different "tolerance bands" in the case of different variables. These are mentioned at the bottom of each relevant table. While we do not claim these as being sacrosanct, the detailed tables given in the Appendix would enable the adoption of alternative different "tolerance bands" than those used in this paper. Needless to add, some of our conclusions may be sensitive to these arbitrarily chosen tolerance bands.

The discussion of the empirical results is organised into the following sub-sections. Section IV.1 provides the ranks of different years based on summary indicators of the over-all level of living. Section IV.2 undertakes a comparison of real fractile graphs. Lorenz dominance comparisons are presented in Section IV.3. Section IV.4 explores empirical inter-connections between the fractile-graph dominance and the Lorenz dominance. Comparisons of fractile-group-specific growth rates in relation to overall growth rate in real levels of living are attempted in Section IV.5.

IV.1. Ranking of Different Years according to Summary Indicators

In this sub-section, we examine how different years are placed in relation to the following summary indicators

- (a) mean MPCTE (\bar{x}),
- (b) Gini coefficient (G), summarising the relative inequality from the Lorenz curve,
- (c) Gini-adjusted mean MPCTE, given by $\bar{x}_g = \bar{x}(1 - G)$.

Since G is usually available in nominal terms and often-times inter-temporal comparisons are confined to nominal G , the ranks for different years are given using both the conceptually appropriate real indicators and the usually available nominal indicators. This is done to emphasize the fact that the inferences drawn from the conceptually valid comparisons may differ from or accidentally coincide with those drawn from nominal comparisons.

Table 3 presents a comparison of the absolute magnitudes of nominal and price-adjusted averages and relative disparity measures for various

years and for the rural and the urban population separately. A ranking of years according to alternative summary measures is presented in Table 4.

The following conclusions emerge:

1. On two criteria, namely, mean MPCTE and Gini-adjusted MPCTE (columns (4) and (8)), 1983 turns out to be the best followed by 1977-78 in nominal or price-adjusted terms, (with or without data adjustment for the year 1977-78) and also both for the rural and the urban population.

2. In terms of relative disparity indicators, the ranks remain unchanged whether we use Gini

coefficient or inter-decile ratio.

3. 1973-74 happens to be the year with the lowest relative disparity in nominal or real terms as also for both the rural and the urban population.

4. When we compare the ranks for the nominal and real mean MPCTE (\bar{x}) (columns (3) and (4)), 1973-74 turns out to be worse than 1972-73 in real terms but the ranking gets reversed in nominal terms, for the rural population. For the urban population, 1973-74 turns out to be worse than 1972-73 which, in turn, is inferior to 1970-71, in real terms. Complete reversal is observed in nominal terms.

TABLE 3. COMPARISON OF NOMINAL AND PRICE-ADJUSTED AVERAGES AND DISPARITY MEASURES FOR VARIOUS YEARS AND FOR RURAL AND URBAN POPULATION

Sl. No.	Particulars	Unit	1970-71	1972-73	1973-74	1977-78	1983
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rural							
1	Mean MPCTE: Nominal	Rs.	35.30	43.97	53.06	68.83 (65.95)	112.43
2	Mean MPCTE: Price-adjusted	Rs.	35.30	36.09	35.79	38.85 (37.24)	39.91
3	Gini coefficient: Nominal	Ratio	0.2871	0.3055	0.2811	0.3397 (0.3114)	0.2996
4	Gini coefficient: Price-adjusted	Ratio	0.2871	0.3080	0.2868	0.3301 (0.3025)	0.2927
5	Inequality-adjusted Mean MPCTE: Nominal	Rs.	25.17	30.54	38.14	45.45 (45.41)	78.75
6	Inequality-adjusted Mean MPCTE: price-adjusted	Rs.	25.17	23.88	24.43	25.97 (25.94)	27.85
7	Inter-decile Ratio: Nominal	Per cent	16.21	14.41	16.95	11.96 (13.98)	15.03
8	Inter decile Ratio: Price-adjusted	Per cent	16.21	14.23	16.36	12.64 (14.76)	15.69
Urban							
9	Mean MPCTE: Nominal	Rs.	52.79	63.36	70.77	96.11 (94.27)	164.00
10	Mean MPCTE: Price-adjusted	Rs.	52.79	52.90	49.73	55.03 (53.98)	58.12
11	Gini coefficient: Nominal	Ratio	0.3443	0.3443	0.3164	0.3490 (0.3368)	0.3326
12	Gini coefficient: Price-adjusted	Ratio	0.3443	0.3499	0.3263	0.3471 (0.3349)	0.3352
13	Inequality-adjusted Mean MPCTE: Nominal	Rs.	34.61	41.55	48.38	62.57 (62.52)	109.45
14	Inequality-adjusted Mean MPCTE: price-adjusted	Rs.	34.61	34.39	33.50	35.94 (35.91)	38.64
15	Inter-decile Ratio: Nominal	Per cent	12.04	12.18	14.33	11.48 (12.28)	12.98
16	Inter-decile Ratio: Price-adjusted	Per cent	12.04	11.77	13.47	11.63 (12.46)	12.82

Notes: 1. Price-adjusted figures are based on the fractile-group-specific price indices (1970-71 = 100) given in Appendix-Table A.1. 2. Figures in brackets in column (7) are based on the adjustment in the top open-ended MPCTE class. For details, see Appendix-B. The adjustment applies only to the 32nd NSS round (1977-78). 3. Inequality-adjusted mean MPCTE is derived by multiplying the mean MPCTE by $(1-G)$ where G is the Gini coefficient. Line 5 is derived from lines 1 and 3; line 6 from lines 2 and 4; line 13 from lines 9 and 11; line 14 from 10 and 12. 4. Inter-decile ratio is the ratio of the mean MPCTE for the bottom decile to that of the top decile, and is expressed in percentage terms.

Sources: Appendix-Tables A.2 and A.3.

5. We turn to the ranks with reference to the nominal and price-adjusted Gini-coefficient (columns (5) and (6)). With data adjustment for 1977-78 and price-adjustment, ranks undergo several changes as compared to those without data and price-adjustment. This applies to both the rural and the urban population.

IV.2. Inter-temporal Comparisons of Fractile Graphs

This sub-section undertakes an inter-temporal

comparison of real levels of living in terms of price-adjusted fractile graphs separately for the rural and the urban population. While complete details appear in Appendix-Tables A.2 and A.3, Table 5 presents a summary involving 14 pair-wise comparisons in irreversible time. For this purpose, total population is divided into three broad groups, viz. those fractile-groups which experienced uniform improvement, no change and uniform deterioration in real levels of living over the two time points being compared.

TABLE 4. RANKS OF DIFFERENT YEARS ACCORDING TO ALTERNATIVE SUMMARY INDICATORS FOR RURAL AND URBAN POPULATION

Sl. No.	Year	Nominal mean MPCTE	Price-adjusted mean MPCTE	Nominal Gini Coefficients	Price-adjusted Gini Coefficients	Nominal Gini-adjusted mean MPCTE	Price-adjusted Gini-adjusted mean MPCTE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rural							
1	1970-71	5	5	2	2	5	3
2	1972-73	4	3	4	4 (5)	4	5
3	1973-74	3	4	1	1	3	4
4	1977-78	2	2	5	5 (4)	2	2
5	1983	1	1	3	3	1	1
Urban							
6	1970-71	5	4	3 (4)	3 (4)	5	3
7	1972-73	4	3	3 (4)	5	4	4
8	1973-74	3	5	1	1	3	5
9	1977-78	2	2	4 (3)	4 (2)	2	2
10	1983	1	1	2	2 (3)	1	1

Notes: 1. Ranks have been worked out on the basis of Table 3. 2. Ranks are in descending order for columns (3), (4), (7) and (8) and in ascending order for columns (5) and (6). 3. Whenever the ranks for the five years differ when unadjusted 1977-78 is replaced by adjusted 1977-78, only the changed ranks are given in the brackets. 4. Column (7) is based on nominal mean MPCTE and Gini coefficient in nominal terms without price adjustments. Column (8) is based on price-adjusted mean MPCTE and price-adjusted Gini coefficient.

Following points emerge from the examination of Table 5.

1. There are nine cases out of fourteen pair-wise comparisons for the rural population (lines 2 to 5, 7 to 9, 12 and 14) and six out of fourteen for the urban population (lines 3, 5, 7, 9, 12 and 14) where there is either an improvement or unchanged situation in the levels of living for different fractile groups of the population compared to an earlier year. These are clear cases of fractile-graph dominance. In all the remaining cases, real fractile-graphs intersect in binary comparisons.

2. In particular, 1983 turns out to be uniformly better in all pair-wise comparisons with the previous years, with the exception of 1977-78 (adjusted as well as unadjusted) for the rural and 1977-78 (unadjusted) for the urban population.

3. Fractile-group (5-90) per cent of both the rural and the urban population experienced uniform improvement in their levels of living in the year 1977-78 (adjusted as well as unadjusted) and 1983 compared to each of the previous years. This turns out to be the intersection set in columns (3) and (6) of Table 5 for the relevant comparisons in lines 3 to 5, 7 to 9 and 10 to 14.

4. It is worth noting that top 5 per cent of both the rural and the urban population experienced deterioration in 1983 compared to 1977-78 (unadjusted). After data adjustment in 1977-78 this gets reversed for the urban and moderated for the rural population.

5. The worst year for the rural population appears to be 1972-73. Barring top 20 per cent, the rest of the population experienced unchanged

or deteriorated real levels of living in comparison with 1970-71 (line 1, columns (3) to (5)).

6. The worst year for the urban population turns out to be 1973-74 in terms of the deterioration in real levels of living for a sizeable section of the population. It was worse than 1970-71 for the top 90 per cent of the population and worse than 1972-73 for all except the lowest and the highest decile (Lines 2 and 6, column (8)).

TABLE 5. COMPARISON OF PRICE-ADJUSTED FRACTILE GRAPHS FOR RURAL AND URBAN POPULATION

Sl. No.	NSS Survey Year	Rural			Urban		
		Fractile Groups (%age) experiencing			Fractile Groups (%age) experiencing		
		UNI-IMP	UNCHD	UNI-DET	UNI-IMP	UNCHD	UNI-DET
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	1972-73	80-100	20-30, 60-80	0-20, 30-60	90-100	0-40, 70-90	40-70
2	1973-74	0-100	-	-	0-5	5-10	10-100
3	1977-78(unadjusted)	0-100	-	-	0-100	-	-
4	1977-78(adjusted)	0-100	-	-	0-95	-	95-100
5	1983	0-100	-	-	0-100	-	-
6	1973-74	0-80	-	80-100	0-5	5-10	10-90
7	1977-78(unadjusted)	0-100	-	-	0-90, 95-100	90-95	-
8	1977-78(adjusted)	0-100	-	-	0-90	90-95	95-100
9	1983	0-100	-	-	0-100	-	-
10	1977-78(unadjusted)	5-100	-	0-5	5-100	-	0-5
11	1977-78(adjusted)	5-100	-	0-5	5-100	-	0-5
12	1983	0-100	-	-	0-100	-	-
13	1983	0-95	-	95-100	0-95	-	95-100
14	1983	0-95	95-100	-	0-100	-	-

Notes: 1. Notation in columns (3) to (8) is as follows: UNCHD: Unchanged (if mean MPCTE growth rate is within $\pm 0.3\%$ p.a. band); UNI-IMP: Uniform improvement in mean MPCTE; UNI-DET: Uniform deterioration in mean MPCTE

2. Fractile groups of population are arranged in ascending order of MPCTE. For example, 0-80 denotes bottom 80 per cent, 95-100 denotes top 5 per cent and so on.

Source: Appendix-Tables A.2 and A.3.

IV.3. Lorenz Dominance Criterion : Inter-temporal Comparisons

In this sub-section, we apply the Lorenz dominance criterion discussed in Section II to pairwise comparisons of different years. These

comparisons are undertaken in the conceptually appropriate price-adjusted terms as well as more easily available nominal terms. The discussion aims at highlighting the differences in conclusions in the presence of appropriate price-adjustments.

Lorenz curves were constructed using the data given in the Appendix-Tables A.2 and A.3. It was ascertained whether they intersect or not in each of the fourteen pair-wise comparisons summarised in Tables 6 and 7. The tables giving the cumulative shares of the various fractile-groups for depicting Lorenz curves are not given to save space.

For purposes of empirical examination, whenever Lorenz curves do not intersect, the Lorenz dominance theorem can be re-cast into the following two-way table with nine cells with respect to movement in price-adjusted \bar{x} and G between two given points of time.

Using the scheme of classification, Tables 6 and 7 provide the necessary information for the rural and the urban population respectively, for drawing inferences regarding welfare changes based on the theorem on Lorenz dominance. In each table, we present information for comparisons in real as well as in nominal terms. As mentioned earlier, the objective is to assess if the appropriate inferences based on movements in \bar{x} and G in real terms agree with inferences drawn on the basis of readily available movements in \bar{x} and G in nominal terms.

An examination of Tables 6 and 7 suggests the following conclusions:

TWO-WAY TABLE ON LORENZ DOMINANCE
(IN CASES OF NON-INTERSECTING LORENZ CURVES)

Movements in G	Movements in \bar{x}		
	Fall	Unchanged	Rise
Fall	-	WI	WI
Unchanged	WD	Unchanged	WI
Rise	WD	WD	-

Notes: 1. WI and WD refer to welfare improvement and welfare deterioration, respectively. 2. '-' denotes that inference is not possible.

1. We first note the cases involving intersecting Lorenz curves based on columns (5) and (9) of Tables 6 and 7. Lorenz curves are found to intersect in only one case (line 2) out of fourteen binary comparisons in real terms and in no case in nominal terms for the rural population. In the case of urban population, two cases (lines 7 and 14) in real terms and one case (line 1) in nominal terms indicate intersecting Lorenz curves.

2. Using the two-way scheme indicated above, we next examine column (6) of Tables 6 and 7 to detect cases where valid welfare inferences are not possible, based on conceptually appropriate price-adjusted \bar{x} and G . Such cases are ten out of fourteen for the rural population and seven out of fourteen binary comparisons for the urban population.

3. We turn now to the specific inferences of Lorenz dominance in real terms for the rural population and their consistency with inferences based on nominal comparisons. We note four cases of welfare improvement (Table 6, column (6), lines 8, 9, 13 and 14). Thus, 1983 recorded

welfare improvement in comparison with 1972-73 as well as 1977-78 (with or without adjustment). Only adjusted size distribution for 1977-78 was found to Lorenz dominate 1972-73. In three out of these four cases, the same inference happens to emerge on the basis of the application of the Lorenz dominance theorem to movements in \bar{x} and G in nominal terms (Table 6, columns (6) and (10), lines 9, 13 and 14). In the remaining case (line 8), no statement is possible because of the rise in both \bar{x} and G in nominal terms between 1972-73 and 1977-78 (adjusted), but welfare improvement is suggested as a reduction in G in real terms takes place along with a rise in \bar{x} in real terms. In addition there are two other cases (lines 2 and 6) where welfare improvement is incorrectly indicated by nominal comparisons whereas no statement is possible on the basis of the more appropriate comparisons in real terms. In the remaining eight out of fourteen cases, no statement is possible regarding welfare changes whether in terms of real or nominal comparisons.

TABLE 6. WELFARE IMPROVEMENT (WI) OR DETERIORATION (WD), IN REAL AND NOMINAL TERMS, IN A YEAR RELATIVE TO AN EARLIER YEAR AMONG THE FIVE NSS SURVEY YEARS: RURAL INDIA

Sl. No.	NSS Survey Year	Real term				Nominal term			
		Movement in		Do LC intersect?	WI/WD	Movement in		Do LC intersect?	WI/WD
		\bar{x}	G	(Yes/No)		\bar{x}	G	(Yes/No)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Relative to 1970-71									
1	1972-73	Rise	Rise	No	-	Rise	Rise	No	-
2	1973-74	Rise	Unchd	Yes	-	Rise	Fall	No	WI
3	1977-78(unadjusted)	Rise	Rise	No	-	Rise	Rise	No	-
4	1977-78(adjusted)	Rise	Rise	No	-	Rise	Rise	No	-
5	1983	Rise	Rise	No	-	Rise	Rise	No	-
Relative to 1972-73									
6	1973-74	Fall	Fall	No	-	Rise	Fall	No	WI
7	1977-78(unadjusted)	Rise	Rise	No	-	Rise	Rise	No	-
8	1977-78(adjusted)	Rise	Fall	No	WI	Rise	Rise	No	-
9	1983	Rise	Fall	No	WI	Rise	Fall	No	WI
Relative to 1973-74									
10	1977-78(unadjusted)	Rise	Rise	No	-	Rise	Rise	No	-
11	1977-78(adjusted)	Rise	Rise	No	-	Rise	Rise	No	-
12	1983	Rise	Rise	No	-	Rise	Rise	No	-
Relative to 1977-78 (unadjusted)									
13	1983	Rise	Fall	No	WI	Rise	Fall	No	WI
Relative to 1977-78 (adjusted)									
14	1983	Rise	Fall	No	WI	Rise	Fall	No	WI

Note: 1. \bar{x} and G are taken to be (arbitrarily) unchanged (unchd.) if their compound growth rates over the underlying period lies within ± 0.3 per cent per annum. LC denotes Lorenz curve.

Source: Table 3.

4. The picture is more complex for the urban population (Table 7). Comparisons in real terms indicate that there are six cases of welfare improvement and one case involving welfare deterioration. 1983 and 1977-78 (adjusted) are found to be welfare superior to 1970-71 as well as 1972-73. 1983 also turns out to be better than 1977-78 (unadjusted) which in turn, was an improvement over 1970-71. A singular case of welfare deterioration takes place in 1972-73 in comparison with 1970-71. Out of the foregoing seven cases, nominal and real comparisons happen to agree in six cases (Table 7, columns (6) and (10), lines 3, 4, 5, 8, 9 and 13). It is worth noting that in the remaining one case (line 1), Lorenz curves intersect in nominal terms but *not* in real terms thereby indicating uniform welfare deterioration. There are two other cases (lines 2 and 6) where the inference regarding welfare improvement on the basis of nominal comparisons turns out to be incorrect. In the remaining

five cases, no inference is possible whether in terms of real or nominal comparisons.

5. Pooling the inferences from comparisons in real terms for the rural and the urban population, we find that both 1983 and 1977-78 (adjusted) are welfare superior to 1972-73 and so is 1983 in relation to 1977-78 (unadjusted).

IV.4. Comparison between Fractile Graph Dominance and Lorenz Dominance

In the previous two sub-sections, we noted those cases where different years in binary comparisons can be unambiguously ranked in relation to each other with reference to the fractile-graph dominance criterion and the Lorenz dominance criterion each applied singly and independently. We have already argued in Section II that these are two completely independent criteria and that in general one may not necessarily imply the other. It is, however, of empirical interest to examine

mutual consistency or divergence between these two criteria in binary comparisons in real terms. Table 8 presents a summary picture for the following three categories:

TABLE 7. WELFARE IMPROVEMENT (WI) OR DETERIORATION (WD), IN REAL AND NOMINAL TERMS, IN A YEAR RELATIVE TO AN EARLIER YEAR AMONG THE FIVE NSS SURVEY YEARS: URBAN INDIA

Sl. No.	NSS Survey Year	Real term				Nominal term			
		Movement in		Do LC intersect? (Yes/No)	WI/WD	Movement in		Do LC intersect? (Yes/No)	WI/WD
		\bar{x}	G			\bar{x}	G		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
				Relative to 1970-71					
1	1972-73	Unchd	Rise	No	WD	Rise	Unchd	Yes	-
2	1973-74	Fall	Fall	No	-	Rise	Fall	No	WI
3	1977-78(unadjusted)	Rise	Unchd	No	WI	Rise	Unchd	No	WI
4	1977-78(adjusted)	Rise	Fall	No	WI	Rise	Fall	No	WI
5	1983	Rise	Fall	No	WI	Rise	Fall	No	WI
				Relative to 1972-73					
6	1973-74	Fall	Fall	No	-	Rise	Fall	No	WI
7	1977-78(unadjusted)	Rise	Unchd	Yes	-	Rise	Rise	No	-
8	1977-78(adjusted)	Rise	Fall	No	WI	Rise	Fall	No	WI
9	1983	Rise	Fall	No	WI	Rise	Fall	No	WI
				Relative to 1973-74					
10	1977-78(unadjusted)	Rise	Rise	No	-	Rise	Rise	No	-
11	1977-78(adjusted)	Rise	Rise	No	-	Rise	Rise	No	-
12	1983	Rise	Rise	No	-	Rise	Rise	No	-
				Relative to 1977-78 (unadjusted)					
13	1983	Rise	Fall	No	WI	Rise	Fall	No	WI
				Relative to 1977-78 (adjusted)					
14	1983	Rise	Unchd	Yes	-	Rise	Unchd	No	WI

Source and Notes: As for Table 6.

(a) Fractile-graph-dominance and Lorenz dominance go together. There are three cases each out of fourteen binary comparisons for the rural and the urban population belonging to this category. Out of these, one case, namely, 1983 in comparison with 1972-73, is common for both the rural and the urban population.

(b) Fractile-graph-dominance unaccompanied by Lorenz dominance. In this category, we may note that the theorem on Lorenz dominance breaks down for two reasons, (i) there is intersection of real Lorenz curves irrespective of the movements in real mean MPCTE, (ii) the Lorenz curves may not intersect but both real mean MPCTE and G may either fall or rise as should be clear from the two-way table given earlier in sub-section IV.3. There are six cases out of fourteen (rural) and three out of fourteen (urban) where the fractile-graph dominance has been observed. Among these cases, those belonging to sub-category (i) are one for the rural population namely, 1973-74 in relation to 1970-71 and two

for the urban population, namely 1977-78 (unadjusted) in relation to 1972-73 and 1983 in relation to 1977-78 (adjusted). The remaining cases noted in panel (b) of Table 8 belong to sub-category (ii). In the entire set (panel (b) of Table 8), there are two common cases for both the rural and the urban population i.e. 1983 in comparison with 1973-74, and 1977-78 (unadjusted) in relation to 1972-73. The first of these two cases belongs to sub-category (i) and the second to (ii).

(c) Lorenz-dominance unaccompanied by fractile-graph-dominance. One out of fourteen (rural) and four out of fourteen (urban) are in this category with no common case for both the rural and the urban population. In this category we may note one special case, namely, 1972-73 in relation to 1970-71 for the urban population. In this case, there has been welfare deterioration under the Lorenz dominance criterion combined with intersection of price-adjusted fractile-graphs. In contrast to this case, all other cases mentioned in Table 8 relate to improvement either in terms of

Lorenz-dominance or fractile-graph-dominance or both.

Apart from the cases noted in Table 8 belonging to the above three categories, the remaining four out of the fourteen cases, both for the rural and the urban population, are those involving neither Lorenz-dominance nor fractile graph-dominance.

There is no case among them where both fractile graphs as well as Lorenz curves, in real terms, intersect.

In summary, we observe that empirically speaking, fractile graph-dominance appears to be more frequent than Lorenz dominance.

TABLE 8. COMPARATIVE PICTURE OF REAL LORENZ DOMINANCE AND REAL FRACTILE GRAPH DOMINANCE IN A YEAR RELATIVE TO AN EARLIER YEAR AMONG FIVE NSS SURVEY YEARS: RURAL AND URBAN INDIA

Rural	Urban
(a) Occurrence of both Lorenz-dominance and Fractile Graph-dominance	
1977-78 (adj.) relative to 1972-73	1977-78 (unadj.) relative to 1970-71
1983 relative to 1972-73	1983 relative to 1970-71
1983 relative to 1977-78 (unadj.)	1983 relative to 1972-73
(b) Fractile Graph-dominance occurs but not Lorenz-dominance	
1973-74 relative to 1970-71*	1977-78 (unadj.) relative to 1972-73*
1977-78 (adj.) relative to 1970-71	1983 relative to 1973-74
1977-78 (unadj.) relative to 1970-71	1983 relative to 1977-78 (adj.)*
1977-78 (unadj.) relative to 1972-73	
1983 relative to 1970-71	
1983 relative to 1973-74	
(c) Lorenz-dominance occurs but not Fractile Graph-dominance	
1983 relative to 1977-78 (adj.)	1972-73 relative to 1970-71
	1977-78 (adj.) relative to 1970-71
	1977-78 (adj.) relative to 1972-73
	1983 relative to 1977-78 (unadj.)

Note: * refers to those cases where price-adjusted Lorenz curves have been observed to intersect each other.

Source: Tables 5, 6 and 7.

IV.5. Magnitude of Changes in Fractile-Group-Specific Real Levels of Living in Relation to that for the Entire Population

Our empirical analysis so far has been confined to ordinal ranking of different years with respect to summary indicators or to directional changes in the real fractile graph or in the real Lorenz curves using the theorem on Lorenz dominance. In this section, we wish to focus attention on the magnitude of changes in fractile-group-specific real levels of living. We measure the magnitude of change in real level of living in terms of the compound growth rate per annum for a given fractile group between given two time-points and compare it with the compound growth per annum for the entire population. For reasons mentioned

in Section II, these two-point growth rates should not be interpreted as trend growth rates. They reflect estimates of observed changes in real levels of living between two time-points under consideration and include trend as well as transitory elements specific to the two time-points. If r_{it} and r_t denote, respectively, the annual growth rates of the i -th fractile-group-specific and the over-all real MPCTE over a given time interval t , we summarise the information in terms of the following three-categories:

Category A : $r_{it} > r_t$

Category B : $r_{it} \doteq r_t$

Category C : $r_{it} < r_t$

TABLE 9. FRACTILE GROUPS CLASSIFIED INTO CATEGORIES ACCORDING TO WHETHER THEY EXPERIENCED LOWER THAN, EQUAL TO OR GREATER THAN AVERAGE GROWTH RATE FOR THE ENTIRE POPULATION

Sl. No.	Period of comparison	Category			Average growth rate for entire population
		A	B	C	
(1)	(2)	(3)	(4)	(5)	(6)
Rural					
1	1970-71 to 1972-73	0-90	Nil	90-100	1.00
2	1972-73 to 1973-74	90-100	Nil	0-90	-0.95
3	1973-74 to 1977-78(unadj.)	0-95	Nil	95-100	2.13
4	1973-74 to 1977-78(adj.)	0-90	Nil	90-100	1.04
5	1977-78(unadj.) to 1983	95-100	Nil	0-95	0.49
6	1977-78(adj.) to 1983	90-100	Nil	0-90	1.26
7	1970-71 to 1983	30-90	0-30	90-100	0.99
Urban					
8	1970-71 to 1972-73	0-5, 10-80	Nil	5-10, 80-100	0.09
9	1972-73 to 1973-74	80-100	Nil	0-80	-6.82
10	1973-74 to 1977-78(unadj.)	0-80, 90-95	80-90	95-100	2.65
11	1973-74 to 1977-78(adj.)	0-50	50-70	70-100	2.14
12	1977-78(unadj.) to 1983	95-100	Nil	0-95	1.00
13	1977-78(adj.) to 1983	30-70, 90-95	10-30, 95-100	0-10, 70-90	1.35
14	1970-71 to 1983	95-100	40-70	0-40, 70-95	0.77

Notes: 1. Categories A, B and C refer to those fractile groups whose levels of living experienced growth rate lower than, equal to and greater than that for the entire population, respectively. 2. Definition of Category B: Category B is defined as the range between $0.95r$ and $1.05r$ where r is the average growth rate for the entire population. This is to allow (somewhat arbitrarily) for the errors of measurement.

Source: Appendix-Table A.4.

Table 9 presents the summary picture in terms of the above mentioned three categories for the rural and the urban population and for different periods of comparison. We have confined the comparisons to survey years of the successive rounds of NSS and also to the end-points 1970-71 and 1983. The growth rates for each fractile-group and for each period of comparison are given in the Appendix-Table A.4, separately for the rural and the urban population.

Categories A, B and C are broadly designed to indicate whether a given fractile-group experiences respectively, improvement, an unchanged situation and a worsening compared to the entire population in respect of the growth rate (per cent per annum) in real level of living. It may be noted that the growth rate may be positive or negative.

The salient points emerging from Table 9 are as

follows:

1. In the seven comparisons each for the rural and the urban population, the average growth rate for the entire population (Table 9, column (6)) was around one per cent or more per annum (in absolute terms) in all the cases except one for the rural population (line 5) and two for the urban population (lines 8 and 14). There is one case, namely, from 1972-73 to 1973-74 where there has been an absolute decline in the overall average level of living for both the rural and the urban population.

2. The period between 1970-71 and 1972-73 and that between 1973-74 and 1977-78 (both adjusted and unadjusted) were marked by the fact that the top 5 per cent of both rural and the urban population experienced a proportionately higher increase (compared to the entire population) in

their real levels of living than those at the lower end (Notice that this is the intersection set of lines 1, 3, 4 and 8, 10, 11 with column 5 in Table 9).

3. During the period between 1977-78 (adjusted or unadjusted) and 1983, bottom 90 to 95 per cent of the rural population experienced more than proportionate growth in their real levels of living, whereas it was the other way round for the top 5 to 10 per cent of the rural population. The urban pictures for this period was mixed.

4. In the singular case of an absolute decline in the overall average real level of living, namely, between 1972-73 and 1973-74, the average decline was much sharper for the urban population. It is interesting to note that during this period the bottom 80 per cent of the rural population experienced a positive growth rate ranging between 0.7 to 9.6 per cent per annum. There was an absolute reduction for most of the urban population (except bottom 5 per cent) but it was less sharp for the bottom 80 per cent than for the entire population (Appendix-Table A.4). Steeper than average reductions in real levels of living were observed for the top decile of the rural and top two deciles of the urban population.

5. We turn finally to the end-point comparison over the period between 1970-71 and 1983. On the average, the growth rate was somewhat higher for the rural than for the urban population. While the top decile of the rural population experienced a more than proportionate improvement in their real levels of living, the rest of the population had to be content with unchanged or less than proportionate growth in their real levels of living. The urban picture was mixed. However, one contrast is worth noting. The top 5 per cent of the urban population reported a lower than proportionate growth in their real levels of living whereas their rural counterparts had a more than proportionate growth.

Overall, it appears that there is no unique or monotonic pattern in the growth rates of real levels of living with reference to the locational position of the fractile-groups. Over some periods, the top fractile-groups have benefitted more than in proportion to the average growth rate for the entire population. In these periods, those in the lower fractile-groups had lower than average increase in their real levels of living. In some other periods, the situation has been reversed. We also have situations where some fractile-groups experienced an absolute decline (rise) in their real

levels of living whereas the average for the entire population rose (declined). For the rural population, fractile-group-specific growth rates in real levels of living are broadly monotonic with respect to the position of the fractile-group. The urban picture is mixed. Thus, over the period covered in this study, we find no generalisable pattern in the differential impact of the observed movements in retail price indices on the real levels of living of the different fractile-groups of the population.

V. Recapitulation

In this study, we have taken a comprehensive view of the inter-temporal and inter-fractile-group movements in the real levels of living, separately for the rural and the urban population of India, from 1970-71 to 1983, based on five rounds of the National Sample Survey of Consumer Expenditure. This has been made possible by the availability of appropriately computed cost of living indices for different fractile-groups of the population [Jain, 1989].

We may recapitulate major conclusions from Section IV.

1. In terms of the summary indices of real mean MPCTE or real Gini-adjusted real mean MPCTE, 1983 turns out to be the best year for both the rural and the urban population. Using the criterion of least real relative disparity, 1973-74 turns out to be the best for both the rural and the urban population. The worst year differs according to different summary indicators. Barring Gini coefficient for the rural population, in *all* other cases, ranks of different years do not coincide in real and nominal terms (Section IV.1).

2. In terms of real fractile-graph dominance criterion, 1983 turns out to be better than all the previous years for both the rural and the urban population with the sole exception of 1977-78 (unadjusted). The worst year turned out to be 1972-73 for the rural population and 1973-74 for the urban population. Fractile-graph dominance in real terms was obtained in 9 cases out of 14 (rural) and 6 out of 14 (urban) (Section IV.2).

3. Intersecting Lorenz curve were found to be quite uncommon whether in real or nominal terms. Using the criterion in real terms, unambiguous welfare improvement was indicated in 4

out of 14 cases for the rural population and 6 out of 14 cases for the urban population. In one case for the urban population, there was unambiguous welfare deterioration. Unlike in the case of real fractile-graphs, no year could be treated as the best in terms of the real Lorenz dominance criterion (Section IV.3).

4. Empirically, it was found that the two criteria of fractile-graph dominance and the Lorenz dominance were independent of each other. This was also argued on *a priori* grounds in Section II. The fractile-graph-dominance in real terms turned out to be empirically more frequent than the Lorenz dominance in real terms (Section IV.4).

5. With reference to the magnitude of change in the fractile-group-specific real levels of living (Section IV.5), we did not detect any generalisable pattern in the differential impact of the observed movements in retail price indices on the real levels of living of the different fractile-groups of the population.

The final overall conclusion from all the sections relates to the lack of consistency in conclusions based on real and nominal comparisons. This leads to a cautionary note, namely, that one should not rush to draw inferences based on more readily available but conceptually inappropriate nominal comparisons.

FOOT NOTE

1. See (i) Iyengar, 1967 Pp. 177-198, (ii) Iyengar and Bhattacharya, 1965 Pp. 47-56, (iii) Iyengar and Jain, 1976 Pp. 69-83, (iv) Jain, 1989, (v) Murthy and Murty, 1977 Pp. 169-179, (vi) Radhakrishna and Sarma, 1975 Pp. 30-31, and (vii) Radhakrishna and Sarma, 1976.

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APPENDIX - A

To Prove that Fractile Graph Dominance would imply Lorenz Dominance in case of Equal Absolute Increments in the Real Levels of Living of various Fractile-Groups

Let p_j be the size of j -th ($j=1$ to f) fractile group, and q_j be the share of aggregate consumer expenditure accruing to the j -th fractile group. We define that

$$P_i = \sum_{j=1}^i p_j \quad \text{and} \quad Q_i = \sum_{j=1}^i q_j$$

We notice that $q_j = p_j \bar{x}_j / \bar{x}$ and $Q_i = \sum_{j=1}^i p_j \bar{x}_j / \bar{x}$, where $\bar{x} = \sum_{j=1}^f p_j \bar{x}_j$.

Let each fractile group experience an equal absolute increment 'h' in its level of living from time point '1' to '2', so that

$$\bar{x}_{2j} = \bar{x}_{1j} + h \quad (h > 0) \quad (1)$$

It follows that $\bar{x}_2 = \bar{x}_1 + h$ (2)

In this case, the fractile graph dominance is ensured by construction. Lorenz dominance in strict terms requires, apart from $\bar{x}_2 > \bar{x}_1$ (which is satisfied), that

$$Q_{2i} > Q_{1i} \quad \text{for all } i = 1, \dots, f \quad (3)$$

or
$$\sum_{j=1}^i p_{2j} \bar{x}_{2j} / \bar{x}_2 > \sum_{j=1}^i p_{1j} \bar{x}_{1j} / \bar{x}_1 \quad \text{for all } i \quad (4)$$

Notice that so long as the size of the corresponding fractile groups remain invariant over time, we have

$$p_{2j} = p_{1j} = p_j \quad \text{for all } j \quad (5)$$

Therefore, in view of (1), (2) and (5), we can rewrite (4) as

$$\sum_{j=1}^i p_j (\bar{x}_{1j} + h) / (\bar{x}_1 + h) > \sum_{j=1}^i p_j \bar{x}_{1j} / \bar{x}_1$$

or
$$\sum_{j=1}^i p_j \bar{x}_{1j} + h P_i > \sum_{j=1}^i p_j \bar{x}_{1j} + h \sum_{j=1}^i p_j \bar{x}_{1j} / \bar{x}_1$$

or
$$h(P_i - Q_i) > 0 \quad \text{for all } i.$$

This is true, as $P_i > Q_i$ for all i because of the convexity of the Lorenz curve. Hence, in this case, the Lorenz dominance is also ensured.

APPENDIX - B

Method of Adjusting the Mean MPCTE in the Top MPCTE class for the 32nd Round (1977-78)

A casual inspection of the pattern of consumer expenditure across rounds suggests that the mean MPCTE on durables in particular and the consequent mean MPCTE have been over stated in the 32nd round (1977-78) for the top open-ended MPCTE class. Table 2, in Section III in the text, brings out the unusual nature of the 32nd round with reference to the percentage shares of total food and of durables in mean MPCTE for the top open-ended MPCTE class. It clearly shows an unusual rise in the percentage share spent on durables and an equally unusual decline in the percentage share spent on total food in 1977-78 compared to either 1972-73 or 1983. The impact appears to be greater for the rural population than that for the urban population.

There are several possible methods of correcting the over-statement in the expenditure on durables (and hence in mean MPCTE) in the last MPCTE class.

Method I: Sundaram made the adjustment only for the rural population (Sundaram 1986). He assumed that the mean monthly per capita expenditure on durables in the top MPCTE class (denoted by \bar{y}_{DT}) for 1977-78 was the same in absolute amount as that observed in 1983 for the top MPCTE class. The underlying logic was that in a regime of rising prices, \bar{y}_{DT} in 1977-78 could not have been larger than \bar{y}_{DT} in 1983. The arbitrariness of this simple correction lies in the fact that the top MPCTE group comprises fractile groups of varying sizes in the two years i.e. 1.74 per cent in 1977-78 and 2.49 per cent in 1983.

Method II: The second possible method refines the Sundaram adjustment as follows: Assuming an appropriate Engel curve for the durables (to be explained shortly), one can estimate \bar{y}_{DT} for the top 1.74 per cent of the rural population in 1983 and assume that \bar{y}_{DT} in 1983 applies to the top MPCTE class in 1977-78. This yields the estimated \bar{y}_{DT} in 1983 to be Rs. 86.48 for the top 1.74 per cent of the population. The same amount can be taken to apply to the top MPCTE class in 1977-78 as an upper bound in a regime of rising prices. On the other hand, the Sundaram adjustment amounted to Rs. 52.37 for the top MPCTE class in 1977-78.

Method III: The third possible method starts with the assumption that the simple average of the estimated percentage shares spent on durables in 1972-73 and 1983 for the top appropriate fractile group in 1977-78 applies to 1977-78. The logic underlying the simple average (say \bar{D}) is given by the fact that 1977-78 is an intermediate time-point between 1972-73 and 1983. If \bar{y}_{DT} (77-78) and \bar{x}_T (77-78) denote the observed average per capita expenditure on durables and mean MPCTE for top 1.74 per cent (rural) or 2.03 per cent (urban) of the population in 1977-78, then one can determine the constant α which is required to be subtracted from \bar{x}_T (77-78) and \bar{y}_{DT} (77-78) in order to correct the over-estimation present in them such that

$$\bar{D} = \frac{\bar{y}_{DT}(77-78) - \alpha}{\bar{x}_T(77-78) - \alpha}$$

solution is given by

$$\alpha = \frac{\bar{y}_{DT}(77-78) - \bar{D}\bar{x}_T(77-78)}{(1 - \bar{D})}$$

Given that \bar{D} is 14.35 per cent (rural) and 12.15 per cent (urban), α works out to be Rs. 161.81 (rural) and Rs. 90.63 (urban). The adjusted \bar{y}_{DT} is Rs. 47.02 (rural) and Rs. 52.12 (urban). This method assumes that the percentage share spent on durables increased in a monotonic fashion between 1972-73 and 1983.

Method IV: The underlying assumption of the method III is the relative stability of percentage share spent on durables. It is possibly more plausible to assume that the percentage share spent on total food is relatively more stable and changes more steadily over time than that on durables. This method accepts this underlying premise. It estimates the percentage share spent on food (denoted by F) for the top fractile group, 1.74 per cent (rural) and 2.03 per cent (urban) in 1972-73 and 1983

and assumes that the simple average \bar{F} of these two years is applicable to the year 1977-78.

Denoting \bar{y}_{FT} to be the mean per capita expenditure on total food by the (respective) top fractile group in 1977-78, the corrected mean MPCTE \bar{x}_T is given by

$$\bar{x}_T = 100 \cdot \frac{\bar{y}_{FT}}{\bar{F}}$$

Method V: The final method consists of estimating the percentage share (q_T) of total expenditure accruing to the top 1.74 per cent (rural) and 2.03 per cent (urban) of the population in 1972-73 and in 1983. We assume the mean \bar{q}_T of 1972-73 and 1983 to apply to 1977-78. Let α_1 be the amount to be subtracted from the observed mean MPCTE \bar{x}_T (77-78) for the top MPCTE class in 1977-78. Corresponding adjustment for the overall mean MPCTE \bar{x} (77-78) would involve subtracting $p\alpha_1$ where p is the observed percentage of the total population in the top open-ended MPCTE class. Then, α_1 would be given by

$$\bar{q}_T = \frac{\bar{x}_T(77-78) - \alpha_1}{\bar{x}(77-78) - p\alpha_1}, \text{ so that } \alpha_1 = \frac{p\bar{x}_T(77-78) - \bar{x}(77-78)\bar{q}_T}{p(1 - \bar{q}_T)}$$

In the foregoing methods II to V, we are required to estimate the mean MPCTE (\bar{x}_T) for the top 1.74 per cent (rural) and 2.03 per cent (urban) for the years 1972-73 and 1983. These were estimated by using the interpolation method suggested by Kakwani (Kakwani, 1976 Pp. 483-492). In addition, we are also required to postulate in methods II to IV suitable functional forms for the Engel curves for durables and total food. On the basis of our previous work, we have chosen log-linear form for durables and log-inverse form for total food. Given these specifications and given \bar{x}_T derived earlier for 1972-73 and 1983, we use appropriate interpolation to deduce the corresponding mean per capita expenditure on total

food (\bar{y}_{FT}) and on durables (\bar{y}_{DT}) for 1972-73 and 1983. Values of D and F given by $(\bar{y}_{FT}/\bar{x}_T) \times 100$ and $(\bar{y}_{DT}/\bar{x}_T) \times 100$ are reported in Table 2, lines 1 and 3 in the text.

It may be noted that we have assumed the postulated Engel curve to apply to the top two MPCTE classes and used the interpolation method to deduce per capita expenditure on durables/total food. It can be argued that the postulated Engel curves could have been estimated from grouped data relating to the entire population and use the estimated Engel curves for 1972-73 and 1983 to deduce the mean per capita expenditure on durables/total food for the top MPCTE class in 1977-78. This procedure requires the estimated Engel curves to apply to the top extreme of the size distribution. This may not be a good approximation unless the fit of the Engel curve is exceptionally close. Consequently, we have not followed this global Engel curve procedure and instead preferred a local approximation at the top end of the size distribution.

Appendix-Table given below presents the end-result of applying the foregoing methods I to V. It presents for each method the adjusted values for 1977-78 of (a) mean per capita expenditure on durables \bar{y}_{DT} and (b) mean MPCTE (\bar{x}_T) for the top 1.74 per cent (rural) and 2.03 per cent (urban) of the total population. In contrast to the usual pattern wherein \bar{y}_{DT} (urban) > \bar{y}_{DT} (rural) for any given fractile group, we find that the direction of inequality is opposite in the unadjusted estimates given in line 1 and also in the adjusted estimates under Method II (line 3). Among the adjusted estimates, the effective choice is limited to methods III to V as they are based on using more information than method II. Method IV yields negative estimate for \bar{y}_{DT} (rural) which is absurd. Methods III and V give plausible directional results. Out of these, method V yields implausibly low estimate of \bar{y}_{DT} (rural). Consequently, we prefer the results of Method III. The adjusted estimates given in the text as well as in the Appendix-tables are based on this method.

APPENDIX - TABLE. ESTIMATES OF AVERAGE PER CAPITA EXPENDITURE ON DURABLES (\bar{y}_{DT}) AND MEAN MPCTE (\bar{x}_T) FOR THE TOP FRACTILE GROUP IN 1977-78, EMERGING FROM DIFFERENT METHODS: RURAL AND URBAN.

Method	(Rs. per capita per month)			
	\bar{y}_{DT}		\bar{x}_T	
	Rural	Urban	Rural	Urban
1. Unadjusted	208.83	142.75	489.50	519.57
2. Adjusted : Method I	52.37	-	333.04	-
3. Adjusted : Method II	86.48	60.38	367.18	437.20
4. Adjusted : Method III	43.24	52.12	323.91	428.94
5. Adjusted : Method IV	-12.06	107.12	-268.61	483.94
6. Adjusted : Method V	15.83	79.05	296.50	455.87

APPENDIX-TABLE A.1. ALL-INDIA RURAL AND URBAN CONSUMER PRICE INDICES FOR 17 FRACTILE GROUPS AND FOR FOUR SELECTED NSS SURVEY PERIODS
(1970-71=100)

Sl. No.	Fractile Group (%)	Rural				Urban			
		72-73	73-74	77-78	1983	72-73	73-74	77-78	1983
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	0 - 1	122.76	151.92	169.73	272.14	122.96	149.56	171.98	281.82
2	0 - 5	122.69	151.39	170.90	273.72	122.53	148.48	172.70	282.71
3	0 - 20	122.57	150.71	172.30	275.65	121.96	147.05	173.39	283.38
4	0 - 30	122.52	150.45	172.83	276.38	121.72	146.49	173.61	283.52
5	0 - 10	122.64	151.08	171.54	274.61	122.27	147.83	173.03	283.07
6	10 - 20	122.53	150.44	172.86	276.41	121.73	146.49	173.65	283.60
7	20 - 30	122.45	150.06	173.61	277.45	121.39	145.68	173.94	283.73
8	30 - 40	122.37	149.70	174.30	278.39	121.10	144.99	174.14	283.73
9	40 - 50	122.29	149.37	174.93	279.25	120.79	144.28	174.32	283.65
10	50 - 60	122.20	149.04	175.55	280.07	120.50	143.63	174.46	283.48
11	60 - 70	122.10	148.67	176.21	280.95	120.18	142.92	174.59	283.22
12	70 - 80	121.95	148.22	177.03	282.02	119.80	142.09	174.71	282.78
13	80 - 90	121.73	147.59	178.13	283.42	119.30	141.03	174.85	282.03
14	90 - 100	120.95	145.92	180.98	286.67	118.19	139.01	175.27	279.66
15	95 - 100	120.65	145.34	181.95	287.73	117.86	138.45	175.42	278.88
16	99 - 100	119.77	144.06	184.18	289.58	117.29	137.90	176.32	277.34
17	0 - 100	122.12	148.76	176.05	280.75	120.14	142.81	174.61	283.17
18	Bottom 30% minus Top 10%	1.57	4.53	-8.14	-10.29	3.54	7.48	-1.65	3.86
19	Bottom 20% minus Top 5%	1.92	5.37	-9.65	-12.08	4.10	8.61	-2.03	4.50
20	Bottom 5% minus Top 1%	2.92	7.32	-13.29	-15.86	5.24	10.59	-3.63	5.38

APPENDIX-TABLE A.2. ESTIMATE OF AVERAGE MONTHLY PER CAPITA TOTAL EXPENDITURE (RS.) FOR VARIOUS FRACTILE GROUPS, GINI COEFFICIENT (G) AND INTER-DECILE RATIO(R) FOR FIVE NSS SURVEY PERIODS AT CURRENT AND CONSTANT PRICE OF 1970-71: ALL INDIA RURAL

Sl. No.	Fractile Group (%)	Current Prices					Constant Prices				
		70-71	72-73	73-74	77-78	1983	70-71	72-73	73-74	77-78	1983
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	0 - 5	11.61	13.60	18.19	19.91	35.77	11.61	11.09	12.02	11.65	13.07
2	5 - 10	15.45	18.59	23.91	27.81	48.27	15.45	15.16	15.85	16.17	17.53
3	0 - 10	13.53	16.10	21.05	23.86	42.02	13.53	13.12	13.93	13.91	15.30
4	10 - 20	18.65	22.54	28.68	33.43	58.30	18.65	18.39	19.07	19.34	21.09
5	20 - 30	21.95	26.71	33.65	39.58	68.93	21.95	21.81	22.42	22.80	24.84
6	30 - 40	25.27	30.48	38.18	45.09	78.65	25.27	24.90	25.50	25.87	28.25
7	40 - 50	28.59	34.51	42.92	51.29	88.82	28.59	28.22	28.74	29.32	31.81
8	50 - 60	32.12	38.92	48.17	57.99	100.08	32.12	31.85	32.32	33.03	35.73
9	60 - 70	36.31	44.27	54.53	65.95	113.58	36.31	36.26	36.68	37.43	40.43
10	70 - 80	42.04	51.45	62.93	76.92	131.89	42.04	42.19	42.45	43.45	46.77
11	80 - 90	51.06	63.31	76.29	94.77	162.49	51.06	52.01	51.69	53.20	57.33
12	90 - 100	83.45	111.46	124.22	199.44	279.58	83.45	92.17	85.13	110.09	97.52
					(170.63)					(94.25)	
13	90 - 95	63.99	81.37	95.83	122.41	208.71	63.99	67.01	65.26	68.23	73.24
14	95 - 100	102.90	141.56	152.62	276.47	350.46	102.90	117.32	105.00	151.95	121.80
					(218.85)					(120.28)	
15	0 - 100	35.30	43.97	53.06	68.83	112.43	35.30	36.09	35.79	38.84	39.91
					(65.95)					(37.26)	
16	G	.28712	.30548	.28106	.33974	.29963	.28712	.30804	.28681	.33014	.29270
					(.31137)					(.30245)	
17	R	.1621	.1444	.1695	.1197	.1503	.1621	.1424	.1637	.1264	.1569
					(.1399)					(.1476)	

APPENDIX-TABLE A.3. ESTIMATE OF AVERAGE MONTHLY TOTAL EXPENDITURE PER CAPITA (RS.) FOR VARIOUS FRACTILE GROUPS, GINI COEFFICIENT (G) AND INTER-DECILE RATIO(R) FOR FIVE NSS SURVEY PERIODS AT CURRENT AND CONSTANT PRICE OF 1970-71: ALL INDIA URBAN

Sl. No.	Fractile Group (%)	Current Prices					Constant Prices				
		70-71	72-73	73-74	77-78	1983	70-71	72-73	73-74	77-78	1983
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	0 - 5	15.35	18.76	23.34	26.62	49.32	15.35	15.31	15.72	15.41	17.44
2	5 - 10	20.19	24.83	29.90	36.57	65.23	20.19	20.34	20.29	21.10	23.02
3	0 - 10	17.77	21.80	26.62	31.60	57.27	17.77	17.83	18.00	18.26	20.23
4	10 - 20	24.39	29.61	35.41	44.36	77.84	24.39	24.33	24.17	25.55	27.45
5	20 - 30	29.02	35.01	41.43	52.88	92.80	29.02	28.84	28.44	30.40	32.71
6	30 - 40	33.47	40.25	47.43	61.12	106.57	33.47	33.24	32.71	35.10	37.56
7	40 - 50	38.77	45.89	53.69	69.96	121.44	38.77	37.99	37.21	40.13	42.81
8	50 - 60	44.40	52.66	60.81	80.02	139.30	44.40	43.70	42.34	45.87	49.14
9	60 - 70	51.59	61.09	70.04	92.81	160.90	51.59	50.83	49.00	53.16	56.81
10	70 - 80	61.79	73.61	82.43	110.59	193.59	61.79	61.44	58.02	63.30	68.46
11	80 - 90	79.12	94.69	104.03	142.48	248.82	79.12	79.37	73.77	81.48	88.22
12	90 - 100	147.60	178.97	185.81	275.25	441.44	147.60	151.43	133.64	157.04	157.83
13	90 - 95	103.18	127.29	138.88	(256.86) 189.65	325.50	103.18	107.15	99.17	(146.56) 108.38	115.79
14	95 - 100	192.03	230.65	232.74	(189.24) 360.86	557.38	192.03	195.70	168.10	(108.15) 205.71	199.86
15	0 - 100	52.79	63.36	70.77	(324.47) 96.11	164.00	52.79	52.90	49.73	(184.97) 55.03	58.12
16	G	.34427	.34430	.31637	(94.27) 34900	.33259	.34427	.34992	.32628	(53.98) .34712	.33519
17	R	.1204	.1218	.1432	(.33677) .1148 (.1230)	.1297	.1204	.1177	.1347	(.33494) .1163 (.1246)	.1282

APPENDIX-TABLE A.4. COMPOUND RATE OF GROWTH (% PER ANNUM) OF FRACTILE-SPECIFIC MEAN MPCTE OVER FOUR SUCCESSIVE ROUNDS AND END POINTS: RURAL AND URBAN INDIA

Sl. No.	Fractile Group (%)	Rural					Urban				
		I	II	III	IV	V	I	II	III	IV	V
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	0 - 5	-2.02	9.63	-.79	2.11	.95	-.10	3.04	-.50	2.27	1.03
2	5 - 10	-.82	5.22	.51	1.49	1.02	.32	-.28	1.02	1.59	1.05
3	0 - 10	-1.33	7.08	-.05	1.75	.99	.14	1.14	.36	1.88	1.04
4	10 - 20	-.62	4.20	.37	1.59	.99	-.12	-.71	1.44	1.31	.95
5	20 - 30	-.28	3.23	.43	1.57	1.00	-.27	-1.61	1.74	1.34	.96
6	30 - 40	-.65	2.75	.37	1.62	.89	-.31	-1.80	1.83	1.24	.93
7	40 - 50	-.58	2.09	.52	1.49	.86	-.90	-2.33	1.97	1.18	.80
8	50 - 60	-.38	1.68	.57	1.44	.86	-.70	-3.55	2.09	1.26	.81
9	60 - 70	-.06	1.32	.53	1.41	.86	-.66	-4.09	2.12	1.22	.77
10	70 - 80	.16	.73	.60	1.35	.86	-.25	-6.35	2.27	1.43	.82
11	80 - 90	.82	-.70	.75	1.37	.93	.14	-8.03	2.60	1.46	.88
12	90 - 100	4.52	-8.68	6.86	-2.18	1.25	1.14	-13.31	4.25	.09	.54
13	90 - 95	2.07	-2.98	(2.66) 1.16	(0.62) 1.30	1.09	1.69	-8.47	(2.41) 2.32	(1.36) 1.21	.93
14	95 - 100	6.00	-11.91	10.01	-3.94	1.36	.85	-15.95	(2.26) 5.35	(1.25) -.52	.32
15	0 - 100	1.00	-.95	(3.57) 2.13 (1.04)	(0.23) -.49 (1.26)	.98	.09	-6.82	(2.50) 2.65 (2.14)	(1.42) 1.00 (1.35)	.77

Note: Periods I, II, III, IV and V refer to the periods of comparison 1970-71 to 1972-73, 1972-73 to 1973-74, 1973-74 to 1977-78, 1977-78 to 1983 and 1970-71 to 1983, respectively.

REVIVAL OF KAMANI TUBES LTD.-- A CASE STUDY

P.S. Palande

In the prevailing large-scale industrial sickness in the country, efforts by Kamani Employees Union to revive Kamani Tubes Ltd. stand out as unique and bold. A protracted struggle culminated in a historic judgement by the Supreme Court giving the workers ownership and management of the unit. Restarting it has meant considerable sacrifice for the workers who have also had to adjust to a new role of decision makers in the face of many odds. If this first ever experiment succeeds, it may well give a new direction to the labour movement, and will encourage other similarly placed workers to emulate the example.

A unique experiment is currently being attempted by the workers of Kamani Tubes Limited(KTL), situated at Kurla, Bombay. Nearly 600 of them, who had been rendered jobless for three years, joined together to take charge of the sick unit closed since September 1985 and, in a development which perhaps has no parallel, are busy reviving the same. If the effort succeeds, for which chances appear good, it will have created history and will open up a new phase in the labour movement in the country. It may prove that a unit considered unviable by the management, and allowed to decay, can still be revived and brought back into successful operation through a positive approach and initiative on the part of labour.

The moving force behind this development is the Kamani Employees Union (KEU) which, after a heroic and protracted struggle, was able to obtain from the Supreme Court of India (SC) a historic judgement which authorised the newly formed Workers' Co-operative Society to purchase the shares of the company at a nominal value enabling it to take over the ownership and management of the unit for its rejuvenation.

This is perhaps the first time ever that workers have been able to secure for themselves ownership and direct management of a unit which they were confident was viable and could be revived, given the will and the necessary financial and managerial inputs. The Co-operative Society took formal possession of the factory in October 1988 and after attending to the necessary repairs

and attendant items, restarted its working on April 6, 1989 when it was formally inaugurated.

Referring to their judgement in the light of the provisions of the Sick Industrial Companies (Special Provisions) Act, 1985, the Supreme Court observed : "While the Act enacted in 1985 does envisage the revival of sick units by the workers who had been rendered unemployed, it is (as far as is known) for the first time that the legislative intent reflected in the relevant provisions of the Act to encourage workers' schemes is being given a concrete shape in this manner. It is perhaps for the first time that such a scheme sponsored by the suffering employees themselves has come to be sanctioned. Under the circumstances a very heavy burden rests on the shoulders of KEU and the concerned employees. Tens of thousands of similarly situated workers would be watching with anxious eyes the outcome of this bold experiment undertaken by the workers of KTL. On their success or failure will depend the future hope and destiny of tens of thousands of similarly situated workers. Success of this venture will instil new confidence and enable the workers to try to build their own future with their own hands albeit at some initial sacrifice.....They will have an opportunity to show to the world that the workers in New India are capable of managing their own affairs, shaping their own destiny, and building their own future. They will also have an opportunity to establish that when the workers are inspired by an ideal they can produce optimum quantity as also the best quality." [SC, 1988(b)].

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Further, "Be it also realised that the Trade Union Movement, in the event of the success of this exercise, will be stepping into a new creative phase in the struggle of the working class to assert its identity." [SC, 1988(b)].

The signal experiment is, therefore, being watched with considerable curiosity by all those interested in the labour movement and in the revival of sick units, the sheer number of which is proving a source of concern to all.

Sequence of events in brief

KTL, started in 1960 by Ramji H. Kamani, and employing about 700 workers, has had mixed fortunes swinging from very successful operations to very indifferent results from year to year. At one time it was a market leader in tube making and, in fact, had a virtual monopoly. It did very well until 1975 when it ran into difficulties. One of the factors leading to the trouble was squabbles among the Kamani brothers involving a protracted legal battle. These proceedings left no scope for speedy, single-point negotiations on, and settlement of difficulties by the government or the Court when they attempted it. This added to the problems of the unit which also suffered from an acute shortage of working capital.

In the wake of continuing losses, the unit started defaulting in payment of the workers' dues as also the outstandings owed to banks and other authorities. Workers' agitations forced temporary solutions, but no serious attempts were in evidence at the level of the management, which was too busy in litigation to attend to the long-term problems. Production had come down to such a low level by October 1979, that the company could not pay the wages for the months of September and October. At this stage, the workers, who were for the first time directly affected by the fortunes of the company, had to resort to a hunger strike to compel the management to pay the arrears in November 1979. Production came to a standstill in November 1980 and it was only in May 1981 that it could be restarted. The factory faced closure of work again in September 1983 when there was a lock-out and once more in September 1985 when production had to be finally halted. The 1983 trouble arose because

production level had come down, bonus and wage payment were delayed and discussions with the Chief Executive proved abortive. Final closure in 1985 was a cumulative result of several years of deterioration in its working.

Sensing trouble, KEU had started moving in the matter way back in 1976 itself. Their efforts included approaches to the labour machinery, the State and the Central Governments, but these did not yield much result. Several meetings at the officials' levels produced some short term solutions, but nothing concrete in the shape of resolving the basic issues emerged.

The consortium of banks, comprising Bank of India and Canara Bank, therefore, temporarily stopped their facilities, which were subsequently restored for a time, but at the failure of the management to comply with certain requirements, were finally discontinued. To add to the difficulties, water and power supply of the factory were cut on account of non-payment of dues of the respective agencies, resulting in the closure of the unit in September 1985.

KEU, therefore, simultaneously persisted with its efforts with the Industrial Reconstruction Bank of India (IRBI), the Board for Industrial and Financial Reconstruction (BIFR) and also the Supreme Court (SC). It finally secured a historic decision from the SC in September 1988, authorising the KEU to purchase the shares of the company at a nominal price fixed by the BIFR and to take over the ownership and management of the unit with certain conditions. The revival scheme originally drafted by KEU itself, modified by IDBI and sanctioned by BIFR (again with some changes) and ratified by the SC involves considerable effort and sacrifice on the part of the labour which accepted this challenge. All eyes are now rivetted on the concerted efforts of the workers who have, against many odds, been able to restart the operations in April, 1989.

The Company, its products and the market.

KTL was established at Kurla (a suburb of Bombay) in 1960 by Shri Ramji H. Kamani with 91 per cent of the shareholding held by the Kamanis themselves. Pioneers in the field of specialised, non-ferrous tubes, it was possibly the

only unit of its kind in the country and flourished in the sixties. Its products were well accepted in the market and enjoyed brand image during the 1960s and in the early 1970s. It virtually had a monopoly of the market for certain kinds of tubes. For more than a decade it was a highly profitable unit.

The company produced copper and copper based alloy tubes and rods. Its major customers were the sugar industry, Ministry of Defence, thermal power stations, etc. It enjoyed an assured market for its products. In certain products, there were hardly any competitors. For example, there were only two other manufacturers of condenser tubes and both of them, situated in Rajasthan, were facing their own problems like power and water shortage. KTL also had an edge over others

in technical know-how since it had a good technical team. The benefit of foreign collaboration was also available to it and at that time, the plant and equipment were in good working condition. With its long standing in the market, it continued to enjoy a good name. Moreover, the company had also developed cupro-nickel tubes which was an item of import substitution capable of saving valuable foreign exchange.

Emergence of problems

Table 1 below gives the figures of turnover and profits and losses since 1961 which reflects the vicissitudes of the fortunes of the company particularly after 1975.

TABLE 1. KTL : TURNOVER AND RESULTS

(Rs.Lakh)

Year	Turnover	Profits before tax
1961	20.88	- 1.60
1962	44.66	6.29
1963	104.41	14.91
1964	181.44	32.69
1965	222.06	28.64
1966	225.84	20.98
1967	212.62	2.80
1968	237.89	- 2.14
1969	24.96	7.51
1970	498.01	32.50
1971	484.91	76.46
1972	492.70	71.78
1973	520.62	35.30
1974	506.41	13.32
1975	591.91	- 24.04
1976	581.66	2.11
1977	580.09	- 0.37
1978	577.22	- 33.33
1979	530.26	- 22.56
1980	219.77	- 94.72
1981	369.50	- 88.98
1982	608.18	28.42
1983	539.61	1.18
1984	508.70	- 104.52

The unit started facing problems just after 1972, when Shri P.R.Kamani expired and there was an open feud in the family on the issue of nomination of Shri Rasik R. Kamani as the next chairman. There was a steep fall in the profits from 1973 onwards and the year 1975 ended with a loss of Rs. 24.04 lakh which rose to as large a figure as Rs.94.72 lakh in 1980 when the turnover also was the lowest at Rs.219.77 lakh. It will be noticed that peculiarly enough, it started incurring

mounting losses despite an increasing turnover (excepting for the two years, 1980 and 1981). Production came to a standstill in August-September 1985.

KEU alleged that mismanagement and misappropriation were chiefly responsible for this state of affairs. 'The underhand dealings and undesirable management practices' alleged by the Union in its letter to the Prime Minister included gross under-invoicing of purchases, making

exaggerated claims of burning and melting losses, appointment of unofficial dealers, sale of first-quality material as second-quality or substandard and showing large quantities of material sold as scrap, dust and dross.

Further, according to it, funds meant for working capital were also siphoned off. The internal disputes in the family, involving protracted litigation, further compounded the problems because no decisions could be taken. The family had already seen the loss of some units controlled by it, the important among them being Kamani Engineering Corporation Ltd. (KEC) and Jaipur Metal and Electricals Ltd. (JME). Kamani Metallic Oxides Ltd. (KMO) had been closed in 1983 and KTL also faced the same prospects.

One particular litigation which proved a major stumbling block in later efforts, related to a winding-up petition filed in 1977 by Shri R.R. Kamani, Chairman of KMO, against KTL for non-repayment of a loan, (obtained by KTL from KMO) and interest accrued thereon, amounting to Rs. 37 lakh.

In 1978, on a request from Kamani for sanction of a loan for import of a tube extrusion press for making more sophisticated items, the Bank of India obtained a viability report from a leading consultant, who opined that the unit could be revived with a dose of additional funds. This was accepted and the Bank even sanctioned additional facilities subject to some conditions.¹ One of the important conditions required the company to mortgage its present and future assets to the Bank. This, the management explained, was not possible because of its undertaking to the Bombay High Court that they would not encumber any of the assets of the company till the settlement of the winding up petition filed by KMO.

The other important conditions stipulated the appointment of the Bank's nominee, appointment of professionally qualified persons in managerial positions with the approval of the Bank, introduction of various internal systems and controls considered desirable, agreement not to increase overheads and generally carrying out directions given by the Bank. The management did not avail of this facility because of its unwillingness to comply with these conditions.

During the course of finalising this arrangement, it became clear to the Bank that things were not straight and even the securities with it fell short of covering the past loans by as much as a crore of rupees. This arose out of over-valuation of hypothecated stocks-in-trade, raw materials, stores and spares, tools and dies.

Looking to this state of affairs, both the bankers of the company, viz. Bank of India (the lead bank) and the Canara Bank became wary, though they did continue their facilities thereafter. After the Bank of India discontinued its facilities in March-end 1979, the Canara Bank also wanted to withdraw. But the Government of Maharashtra was able to persuade it to extend temporary help. This became available in the form of working capital assistance on Trust Receipt basis. In fact, this 'temporary' assistance continued for almost 4 years inspite of considerable risk because of non-availability of adequate security. It was only because of this timely support that the company survived till November 1983 when the Canara Bank was compelled to discontinue its facilities because the management was unable to comply with the conditions prescribed by the Bank.

In November, 1980, the State Government appointed a committee to find out the means to help the unit and this committee submitted its report in February, 1981. It came to the conclusion that the unit was viable and in the light of this, in April 1981, a scheme of temporary assistance was worked out by the Secretary, Industries Department, under which, Canara Bank was to extend accommodation of Rs. 50 lakh, though the Bank of India kept out of this arrangement.

In the meanwhile, surprisingly, even in the face of these difficulties, the unit showed an improved performance for a while and at one stage, production came back to normal proving the viability of the unit. In fact, the year 1982 ended with a profit of Rs. 28.42 lakh.

Again, in 1982, fresh efforts were made by the State's Industries Secretary to nurse the unit back to health by common action between the government and the banks.² This met with opposition from Shri N.R. Kamani on the ground that he was personally making efforts with the banks directly. During these negotiations, the banks insisted on

certain conditions, particularly, professionalisation of management and personal guarantees of two directors. Because there was resistance to this, and the management did not comply with the conditions, finally in November, 1983, the facilities were discontinued. It was only in 1984 that the facilities were resumed after Kamani accepted the terms.

In January 1985, the Bank of India as a lead bank made fresh proposals for the rehabilitation of KTL which again required the company to submit itself to a more rigorous and detailed discipline of the Bank. In particular, the Company was asked to accept a nominee of the Bank on the Board of Directors and also ensure appointment of a professionally qualified and competent Chief Executive with the approval of the Bank. These were finally accepted by the management in March 1985.

In June 1985, the Bank also stipulated that the management should obtain No Objection Certificate (NOC) from the Competent Authority under the Urban Land Ceilings Act, and also from the Bombay Port Trust, the Dena Bank, Kamani Metals and Alloys (KMA), the New Usha Kiran Co-operative Housing Society etc. in respect of various properties in which these agencies had interest in some form or the other. The Company was able to secure an NOC only from the New Usha Kiran Cooperative Housing Society and not from the others because of its heavy dues to everyone of them. It was equally difficult to locate a suitable and competent professional to take on the responsibility as a chief executive. The two names suggested by the management for the positions of Chief Executive and Financial Controller were not approved by the Bank.

All this meant considerable waste of time and before the proposal could be finalised, the company faced a new situation when its power and water supply were cut by the respective authorities for non-payment of dues of roughly Rs. 12 lakh. There was no alternative but to halt production.

This meant loss of jobs for roughly 700 workers whose age group ranged from 35 to 40 years. On an average, each worker had put in a service of 18 years.

As noted by the Supreme Court, KTL had not

resorted to closure of the unit or to retrenchment of the workers in accordance with the relevant provisions of law. Therefore, in the eyes of law and in theory, the workers continued to be in employment of KTL. But they had not been paid wages since December 1984. As per the calculations presented in the Supreme Court, the arrears until August 1988 worked out to a staggering Rs. 6.50 crore. It was also noted that the employees' contribution to Provident Fund actually deducted from their wages to the tune of almost Rs.3.50 crore had been wrongfully retained by the management and criminal prosecutions were pending against them [SC, 1988(b)].

Efforts with the State and Central Governments

KEU had been making, since 1976, representations to various authorities, including the Prime Minister. It was their effort, on the basis of opinions of expert consultants, appointed by different financial institutions to prove that KTL was economically viable. KEU also alleged malpractices by the management, and requested for a special investigation into the affairs of the company.

In October 1979, KEU requested the Government of Maharashtra that KTL be taken over under the provisions of the Industries (Development and Regulation) Act, 1951. Or in the alternative, it suggested entrustment of the management to professionals nominated by the financial institutions and the Government together. But there was no move on the part of the Government till February, 1980 when a high-level meeting was held (after the workers resorted to a hunger strike). The main discussion was how to meet the working capital requirements of the unit which, as pointed out earlier, was not in a position to create any encumbrance on its assets in view of its undertaking given in the High Court.

KEU pressed the proposal made in an earlier meeting by the Bank of India that the State Government should give a guarantee to the Bombay High Court for Rs. 40 lakh against the claims of KMO and thus release KTL from its obligations. KMO had obtained this amount by pledging one lakh shares of KTL in KEC, which had been taken over by financial institutions in

1975 itself. It was, naturally, not possible for the State Government to accept such a proposal.

The outcome was inconclusive and therefore, KEU approached the Government of India. After a considerable effort, a meeting of Secretaries of the concerned Departments was convened in Delhi in June, 1980. As a result of this meeting, the IDBI was asked to look into the viability of the company. IDBI submitted its report in a month's time and recommended take-over of the unit by the Government.

However, changes were introduced in the meanwhile in the Industries (Development and Regulation) Act, 1951, which provided for take-overs only in certain exceptional circumstances and that too only if the State Government was prepared to take on managerial and financial responsibility of running the unit. This latter condition posed a difficulty because of the winding up petition in the High Court mentioned earlier.

There was also an additional complication in that the State Government was not in a position to raise an additional Rs. 100 lakh for buying an extrusion press which was considered essential to rejuvenate the company. The banks were willing to advance this extra amount only if the government appointed a new management and also the existing and future assets were mortgaged. The State Government was unable to fulfil this latter condition under law because even in the event of a takeover of the management, the ownership of the assets remained with the Kamanis who would not agree to mortgage them.

In the meanwhile, as mentioned earlier, the Government of Maharashtra, on the basis of the report of a committee, had, in November 1980, evolved a package of assistance with the participation of the Canara Bank. This package of assistance had unfortunately not helped. Similar efforts in 1982 at the level of the Industries Secretary, to nurse the unit back to health had come to nought.

Legal Battle

Since the workers had not received their wages from November, 1984 onwards, they had filed a complaint through the KEU in the Industrial

Court, Bombay under the Maharashtra Recognition of Trade Unions and Prevention of Unfair Labour Practices Act, 1971. It sought an order directing the KTL to make payment of the arrears of wages to the workmen and staff of KTL. The Industrial Court, by its order dated February 28, 1985, declared that the Company had engaged and was engaging in unfair labour practices and directed KTL to pay, within three weeks of the date of the order, the arrears of wages for the months of December 1984 and January 1985 and go on paying the future accruing wage [Industrial Court, 1985].

In spite of this order, not only were the arrears and accruing wages not paid, but even the statutory dues such as Provident Fund, the Employees State Insurance, Premium of Insurance etc. were not paid. These latter dues amounted to around Rs. 60 lakh, according to the KEU. No credits were made in the Gratuity Trust also. KEU calculated the liability on the gratuity to be of the order of Rs. 100 lakh [KEU, 1987].

At the time of filing a suit in the Supreme Court in 1987, several litigations among the family members were going on. In its petition the KEU said: "In fact, in the acrimonious litigation, several court orders staying implementation of family settlements and awards passed by the persons requested to intervene in the first instances are pending." Navnit R. Kamani, one of the family members of the Kamanis, had filed a special leave petition against the order passed by the Bombay High Court on August 17, 1983 and impleaded all the concerned members of the family [Arbitration Petition, 1983]. During the course of hearing of the above special leave petition, the Supreme Court impressed upon the parties that the internecine conflict between the warring factions deserved to be speedily resolved, not only in their own interest, and for saving the name and honour of the founder, but also to ensure that neither the industrial units nor the workers employed in the industries which were controlled by one or the other branch of the family, were ruined. Accordingly, the Court, appointed on April 12, 1984, Mr. Justice A.C. Gupta, a retired Judge of the Supreme Court to mediate in the disputes and differences in regard to all matters between the parties and adjourned the hearing of

the petition for a period of six months [SC, 1984].

The mediation proceedings continued for more than three years. KEU made an effort to get Justice Gupta to mediate on matters concerning payment of wages and other arrears of the workers. However, he expressed his inability to pass any orders in this behalf, since his terms of reference did not include these issues. Therefore, KEU approached the SC on 16th April 1986 to bring the said issues also within the purview of the mediation proceedings. The SC on 17th April 1986, directed that 'the learned mediator will hear the parties concerned as early as possible with regard to the grievances of the workers as regards non-payment of arrears of wages and current dues and make necessary recommendation in that behalf which shall be implemented within 30 days' [SC, 1986].

Pursuant to this order, Mr. Justice Gupta gave hearings to the parties on the subject of payment of wages. The workers made proposals for the restarting of the factory and suggested that offers may be invited through newspapers for running the concern on a business conducting basis on certain terms and conditions. Alternatively, the workers proposed that they themselves could enter into such an arrangement. However, these proposals were not accepted by the mediator who recorded his verdict as follows: "At the end of the discussions it was decided that the different groups of the family or any of them would try to find a buyer willing to buy the 90% shares held by the family in Kamani Tubes Ltd. as it is at present. The buyer will have to sit with the workers of the company to come to an agreement with them with regard to the payment of their dues. If the prospective buyer wishes to inspect the factories, no objection would be raised either by the workers or the present management of the company. Parties will report to me within six weeks any progress made in this matter" [Gupta, 1986(a)].

On behalf of the workers it was submitted that as the search for a buyer was likely to take time, they may be permitted in the meantime to try and frame a scheme of their own for restarting the factory after discussing the matter with the Banks and other authorities. This was accepted by Mr. Justice Gupta [Gupta, 1986(a)]. Accordingly, the

workers presented to the various government authorities a scheme for revival and rehabilitation of KTL through a workers' co-operative society. Again in a meeting held by Mr. Justice Gupta on December 2, 1986, the workers mentioned the steps taken by them to protect their interests; but two members of the Kamani group took exception to some of them. Mr. Justice Gupta also recorded: "In the presence of the representatives of the workers I pointed out that the action of the workers was beyond the scope of the mediation proceeding and as mediator I have no authority to register my approval or disapproval of the measures that the workers may have taken." [Gupta, 1986(b)].

After the workers left the meeting, it was agreed to appoint Shri D.H. Nanavati to protect the interest of KTL. The relevant portion of Justice Gupta's record of the meeting reads: "Then followed a discussion on the future of the company. The parties present agreed that whether ultimately 90 per cent shares of the company were to be sold or the factory was to be run by the Kamanis, it was essential that some competent person, properly authorised, should be appointed without delay to protect the interests of the company in the meantime. It was further agreed that Shri D.H. Nanavati should be entrusted with this task. Later Shri Nanavati was invited to the meeting and he agreed to accept the appointment" [Gupta, 1986(b)]. The Resolution of the Board of Directors held on 3 December 1986 also clearly mentions this.

However, in reply to an inquiry by the workers, Shri Nanavati informed them that he was neither the Chief Executive of KTL nor would he look after the day to day management [Nanavati, 1987].

With over Rs.500 lakh outstanding as debt to the banks and roughly Rs.200 lakh of unpaid dues of the workers at the time of the closure, and much more for the subsequent period, it was no surprise that there was no bidder for taking over the unit which the management had hoped for. After an exasperating waiting period of nearly one year, in their application to the Supreme Court, KEU prayed that the scheme prepared by the workers for rehabilitation be approved and appropriate orders or directions be issued for the sale of shares

of KTL to KEU on behalf of and representing the proposed society of the workers at such price and on such conditions as the Court deemed proper. In the alternative, the Government of India be directed to take steps in accordance with the provisions of the Industries (Development and Regulation) Act, 1951 to take over the unit under government management or to direct the recently formed Board for Industrial and Financial Reconstruction (BIFR) to take expeditious remedial and other measures for the revival of the factories of the KTL including directions to the said Board to consider the scheme of the applicants for revival and rehabilitation.

The Board for Industrial and Financial Reconstruction (BIFR)

The Industrial Companies (Special Provisions) Act, 1985 which received Presidential assent on January 8, 1986 provided for the formation of the BIFR which was actually constituted as late as on January 12, 1987. The Act requires the management of a company which has become sick to approach the BIFR with supporting evidence and under certain conditions, to help in devising measures for the resurrection of the unit. Apart from the Board of Directors, others entitled to approach the BIFR with a similar request include : Central and State Governments; the Reserve Bank of India; Financial Institutions; State level institutions; and scheduled commercial banks.

On receiving such a request, the Board is expected to inquire into the facts and determine whether a unit has really gone sick. For its inquiry, it can get a report prepared from an operating agency like the Industrial Development Bank of India (IDBI). This agency is required to make a report on matters pertaining to reconstruction, revival or rehabilitation of the unit; reconstitution of the Board of Directors; change in or take-over of management; amalgamation with any other viable unit; sale or lease of a part or whole of the undertaking; and measures generally to lead to an improvement of the unit.

The Board has wide powers and can suggest reduction or modification of the rights and interests of the shareholders including sale or transfer of shares. On the basis of the scheme

prepared by the operating agency, and sanctioned by the BIFR, it can also suggest appropriate action on the part of the banks and financial institutions, and consider their views after giving them a hearing. If these institutions do not approve of changes suggested by BIFR, BIFR can proceed to take other action which may even lead to winding up or liquidation of the unit in question.

Recounting the aims and objectives with which the BIFR was formed, the Supreme Court stated : " The statement of objects and reasons reveals the purpose underlying the benevolent legislation as also the anxiety of the legislature to provide for preventive, ameliorative and remedial measures essential for reviving sick or potentially sick companies and for ensuring expeditious enforcement of the measures devised by the competent authority under the Act. The statement of objects and reasons discloses the anxiety of the legislature at the alarming increase in the incidence of sickness of industrial companies and it also reveals that the legislation has been enacted with a view to :

1. affording maximum protection of employment;
2. optimising the use of funds of the companies ;
3. salvaging the production assets;
4. realising the amounts due to the banks etc.; and
5. replacing the existing time-consuming and inadequate machinery by efficient machinery for expeditious determination by a body of experts." [SC, 1988(b)].

Ruling of the BIFR

In terms of the order dated October 13, 1987, passed by the Supreme Court, the BIFR was directed to file a Feasibility Report with respect to the scheme framed by the workers for revival of KTL. The Board gave hearings to representatives of KEU, Financial Institutions, Banks, State Government, Central Government and different groups of the Kamani family and as a sequel, nominated IDBI as the operating agency . In this capacity, IDBI was entrusted with the examination of KEU's scheme particularly with regard to technical health of the plant and time required to run it, various assumptions made in respect of the parameters of costs/prices, estimates of production pattern vis-a-vis projection of future demand,

correctness of cost of production, working capital requirement, projected operating cash surplus, etc.

IDBI submitted its report which was discussed by the BIFR with the concerned parties, particularly banks, financial institutions, and the State and the Central Governments, with a view to ascertaining their commitments regarding reliefs and concessions that would be available from them. IDBI was subsequently requested to revise its projections and viability estimates. Based on these, the BIFR prepared its feasibility report and submitted it to the S C.

The scheme prepared by the KEU formed the basis of the scheme prepared by IDBI and finally sanctioned by BIFR.

After considering the report of the BIFR and hearing various parties, the SC (vide its order dated April 20, 1988) directed that the matter be placed before BIFR for consideration whether it should proceed to pass an order in terms of the proposed scheme as revised in consultation with IDBI under section 18(4) of the Sick Industrial Companies (Special Provisions) Act, 1985 [SC, 1988(a)].

Accordingly, the Board gave a hearing to all the parties on May 20, 1988, and (vide its orders dated June 2, 1988) prepared a Draft Scheme for revival of KTL. This draft scheme was circulated to all the concerned parties. Short particulars were also published in newspapers as required by law for the information of the shareholders, the creditors and the employees. The Board held a meeting on July 28, 1988 for considering the suggestions from various parties and objections from some. The suggestions /objections related to questions such as the viability of the scheme proposed by the workers, the technical and financial deficiencies of the proposed scheme, the valuation of shares at Re.1/- per share, the validity of framing such a scheme, the validity of conducting the proceedings of the Board under the sections mentioned by it, protection of the rights of the bankers and ex-employees, composition of the Board of Directors, demand projections, the market for KTL's products, and the possibility of KTL undercutting the prices and adversely affecting the other manufacturers.

The Board took into account all these suggestions, considered objections raised, modified its earlier scheme wherever it thought it fit, and overruled others. It then went on to finalise the scheme and sanctioned it [BIFR, 1988].

The main features of the scheme were as follows :

1. The plant at Kurla would be reopened and will commence production of copper/copper alloy rods and tubes, after attending to the necessary repairs.
 2. The shares of Kamanis (about 91.6 %) and others of the face value of Rs. 96 lakh will be transferred and allotted to the workers' co-operative at the reduced rate of Re. 1/- per share (against the face value of Rs. 10/- per share).
 3. The management of KTL will vest in a reconstituted Board of Directors consisting of professionally qualified / experienced persons and including two representatives of the workers' co-operative.
 4. The workers' co-operative will raise an equity capital of Rs. 70 lakh.
 5. This will be raised by the co-operative with its membership of 600 or so, by raising Rs. 12,000 each consisting of R. 2,000 from their Provident Fund Account and Rs.10,000 by taking loans individually from the Urban Co-operative Banks which have agreed to provide the necessary loan facilities to the workers.
 6. The State Government agreed that it would contribute to the share capital on a matching basis after the workers' co-operative collects its contribution.
 7. The scheme did not entail any additional long term loans from financial institutions and banks.
- The scheme of putting the plants into operation was envisaged to take about six months at an estimated cost of Rs. 60 lakh mainly required for carrying out the overhaul, repair and rectification of the equipment. It was expected that the requirement of margin money for working capital will be met from the balance of funds to the extent of Rs. 70 lakh which will be available with KTL consequent upon raising of share capital under the scheme.

The package of assistance/reliefs/concessions worked out by the BIFR enjoined on various authorities certain responsibilities as follows.

Bank of India

i) Outstanding dues in respect of the principal amounts of existing cash credit accounts, Inland Usance Bills acceptance facility etc, as on 31.12.1984 amounting to Rs. 144 lakh will be converted into working capital term loan carrying interest of 10% per annum, to be repaid in 9 years with a moratorium of 1 year.

ii) 50 per cent of the outstanding dues in interest account of the above principal amount as on 31.12.1984 (Rs. 225 lakh) will be funded into interest-free loan to be repaid in 10 years with moratorium of one year and balance 50 per cent will also be funded into interest-free loan, repayment in respect of which will be reviewed along with repayments of other deferred liabilities, after all the restructured liabilities have been liquidated and having regard to the funds position of KTL at the relevant time.

iii) No interest on the above amounts due from 1.1.85 till the commissioning of the plants, will be paid.

iv) Need-based working capital estimated at Rs. 371 lakh in the first year, Rs. 427 lakh in the second year and Rs. 441 lakh in the third year onwards would be provided on consortium basis at 13.5 per cent interest.

v) Notwithstanding the arrangement provided in this scheme for payment of the dues of the Bank of India, the Bank shall be entitled to continue its pending suit/suits or other proceedings filed against the company, the guarantors (Kamanis) and drawees in the bills and obtain decrees through consent or otherwise; the guarantors (Kamanis) shall not be entitled to raise any objections whatever in that regard in any suit or proceeding.

Canara Bank

i) Outstanding dues in respect of the principal amount as on 31.12.1984, (estimated to be Rs. 50 lakh as on 31.12.1985) will be converted into working capital term loan carrying interest of 10

per cent per annum, to be repaid in 9 years with moratorium of one year.

ii) On lines similar to those of Bank of India, 50 per cent of the outstanding dues in interest amount of the above principal amount as on 31.12.1984 will be funded as interest free loan to be repaid in 10 years with moratorium of one year and balance 50 per cent will also be funded into interest-free loan, repayment in respect of which will be reviewed along with repayments of other deferred liabilities, after all the restructured liabilities have been liquidated and having regard to the fund position of KTL at that point of time.

iii) No interest on the above amounts due from 1.1.1985 till the commissioning of the plants, will be paid.

Dena Bank

i) As debenture holder, the principal amount of debentures of Rs. 7.5 lakh (par value) will be converted into loan carrying interest of 10 per cent per annum, to be repaid in 9 years with moratorium of one year.

ii) On lines similar to other Banks, 50 per cent of the outstanding dues as interest on debentures as on 31.12.1984 will be converted into zero per cent debentures, to be repaid in 10 years with moratorium of one year and 50 per cent will also be funded into interest-free loan, repayment in respect of which will be reviewed along with repayments of other deferred liabilities, after all the restructured liabilities have been liquidated and having regard to the fund position of KTL.

iii) The Bank shall be entitled to continue its suit filed against the company / guarantors for recovery of its dues.

State Government

i) Would assist in getting the society of the workers of the KTL registered.

ii) Will provide share capital contribution to the extent of Rs. 70 lakh i.e. on a matching basis to the contribution of the workers raised through individual loans.

iii) Will defer current tax dues such as sales tax, electricity duty and turn-over tax, upto the amount of Rs. 83 lakh for one year. Deferred amount will

carry the same interest as is payable on term loans and will be repayable over 3 years in suitable instalments.

iv) Will assist KTL in the matter of getting the minimum demand charges for power and penalty thereon waived, and deferment of arrears of electricity charges by Tata Electric Company.

v) Will render assistance to KTL in the matter of getting additional power from Tata Electric Company at the appropriate time.

vi) Will convert the arrears of sales tax amounting to Rs. 5 lakh into interest bearing loan at 12.5 per cent payable in 10 years, in accordance with the scheme of the State government.

vii) Will declare the unit as Relief Undertaking (after obtaining permission from the High Court which had restrained the State Government from doing so in Writ Petition filed by Kamanis). However, the suits filed by Bank of India, and Dena Bank for recovery of their dues will be excluded from the above Relief Undertaking. If the declaration is not forthcoming for any reason, the matter will be brought before the BIFR for appropriate action.

Central Government

Would fund arrears of excise duty repayable over a period of 3 years as per the prevailing policy of Central Government.

Workers

i) Initial membership of the co-operative society would be restricted to not more than 600 numbers. This will be achieved by rationalisation of workers/staff by retiring those workers/staff who have reached the age of superannuation / retirement, and whose skills / services will not be required for the productive work of the company.

ii) Wage freeze for next three years.

iii) Payment of wages restricted to 75 per cent of the wage level as indicated by IDBI in the first year of operation and 85 per cent from second year onwards.

iv) Deferment of the annual increments for a period of two years.

v) Foregoing of workers' dues after 31.12.1985 till the commissioning of the plants i.e. during the

closure period. The dues prior to 31.12.1985 which amount to around Rs. 200 lakh will be payable only after all other dues are cleared.

Shareholders

The issued, subscribed and paid-up capital of KTL stood at Rs. 96 lakh at the time BIFR framed the scheme and was divided into 9.6 lakh shares each of the value of Rs. 10. The BIFR reduced the value of these shares to Re. 1 per share making up the reduced total share capital of Rs. 9.6 lakh. It was decided that all these shares should be transferred at the reduced value of Re. 1 per share to the workers' co-operative and to a minimum of 5 office bearers of the co-operative, individually. It was also ruled that KTL shall allot new shares of the value of Rs. 1,30,40,000 which should consist of 70,00,000 shares of the value of Re. 1 each to the State Government and the remaining 60,40,000 shares of the value of Re. 1 each to the workers' co-operative. Thus it was envisaged that the total paid-up capital of the company would amount to Rs. 140 lakh including the old equity shares, whose value had been reduced from Rs. 96 lakh to Rs. 9.6 lakh. A period of maximum six months from the date of coming into effect of the said scheme was permitted. During this time, formalities like amendment of the Memorandum and Articles of Association of the company and the Bye-laws of the Workers' Co-operative Society were to be completed.

Others

It was decided that the principal amount of liabilities to other unsecured creditors and deposit holders shall be paid in 8 equal annual instalments after a moratorium of 2 years from the date of coming into force of the scheme. This was to be done after their claims had been duly established and the audit of the company was completed. Interest on the principal amount was to be payable after the aforesaid period.

Special conditions imposed

BIFR also prescribed certain special conditions in order to ensure smooth operations of the

company after its restructuring. They were as follows:

(i) The Board of Directors of KTL would be reconstituted. The composition would be two Directors nominated by the State Government, one Director by the Banks, two Directors representing the Workers' Co-operative and 2 or 3 Directors who are professionals in the related fields and a Special Director representing the BIFR. The total number of directors shall not exceed twelve.

The Chairman of the Board of Directors would be an independent person appointed in consultation with IDBI/Banks. The Managing Director should be a professional committed to the objectives / goals of the scheme and its success. He would build up a team of senior executives in the technical/ financial/ marketing fields.

(ii) BIFR shall appoint Shri J.R. Marwah as special Director on the Board.

(iii) KTL shall constitute a Management Committee consisting of 4 members-- a representative each of the KEU, Banks, Workers' Co-operative and the Managing Director of KTL, which will oversee the functioning of plant-level Committee and monitor the implementation of the scheme and oversee the performance of the company as a whole. The Managing Director of KTL will be the Chairman of the Managing Committee also.

(iv) The Company shall appoint concurrent Auditors with the approval of the Lead Bank.

(v) The Managing Director of the company will enter into suitable agreements with the Workers' / Employees' Union covering *inter alia* package of measures relating to rationalisation of workers/ staff, wage freeze, restriction of wages, deferment of annual increments as indicated earlier besides the following:

(a) fixation of production norms and linking of salary / wages of all the supervisors and workers with each such production norms as envisaged in the IDBI report. Any reduction / increase in production will be suitably linked to the level of wages as covered vide this scheme.

(b) profit sharing to the extent of 20 per cent of net profits with the employees of KTL. 50 per cent of the funds so available shall be used and adjusted for allotment of fresh equity shares to the workers'

co-operative and the balance 50 per cent shall be utilised in liquidating the loans taken by the workers/employees from the Urban Co-operative banks for the purpose of making their contribution, as mentioned in the Order.

(c) enforcement of strict discipline through stoppage of absenteeism / overtime / gate-pass / latecoming etc.

(d) ban on strikes, go-slow etc. for the first two years.

(e) enforcement of management's right to transfer employees and workers as per requirements of the organization from one department / job to another.

(f) constitution of a Plant level committee consisting of 2 representatives of workers of KTL, Division Incharge (Personnel), Personnel Officer, Divisional Manager (Works), Manager (Rods section), Manager (Tube section). The Managing Director is to be the Chairman of this Committee. The job of the Committee is to look after the day-to-day working of the plants, supervision over the workers and ensure that the production targets are achieved as per the norms.

(vi) In order to determine productivity norms, the Managing Director shall get a study made of the productivity of each machine (after the repair / renovation is done) within one month's time in relation to the labour engaged (on these machines) keeping in view production norms of each section / unit as a whole.

(vii) At the time of the decision, the company's accounts had been audited only upto December 31, 1983 and the past liabilities had been assessed on the basis of information / data furnished by KEU. It was ordered that if any restructuring of these liabilities later becomes necessary consequent upon completion and auditing of accounts for subsequent years, the scheme can be reviewed by BIFR.

(viii) In terms of the Supreme Court order dated April 20, 1988, Bank of India would pay an amount of Rs. 11 lakh representing half of the sale proceeds of Usha Kiran flat standing to the credit of KTL, after obtaining suitable guarantees from KEU / Company.

(ix) Banks / Financial Institutions may consider at the appropriate time extending financial assistance for installation of second press in the

Tube Plant in the light of the performance achieved by the Company.

(x) KTL will arrange in consultation with IDBI/Banks for audit of all assets - fixed and current - of the Company immediately and will take all such steps as are required to reopen the plants of KTL and carry out the necessary repairs and overhaul of the plant and machinery including trial runs at the earliest.

(xi) Provision has been made under the scheme for an amount of Rs. 60 lakh for payment of retrenchment compensation and dues of ex-employees to be paid over 3 years. Claims regarding compensation for retrenchment and dues of the employees / ex-employees no longer in service of the company will be settled only after audit of the company's accounts are completed and claims of each employee are fully established.

(xii) The implementation of the scheme and the working of the KTL in all its aspects will be monitored by IDBI in consultation with the Banks participating in the scheme. KTL would submit progress reports on the implementation of the scheme through IDBI to BIFR on a half-yearly basis.

(xiii) In the event of non-deferment of arrears of electricity charges by the Power Supply Companies, KTL shall pay the arrears of these charges in reasonable instalments as may be mutually agreed upon between the KTL and Tata Hydro Electric Power Supply Co. and other companies.

(xiv) This package of revival of the KTL will be reviewed by the Banks on a yearly basis. The utilisation of sale proceeds arising as a result of sale of surplus/non-performing assets, if any, will be considered at the time of review.

(xv) The scheme shall come into force with immediate effect and IDBI as the Operating Agency, is entrusted with the responsibility of implementing the scheme and shall take all the necessary steps and measures for completing the formalities required and effectuating the various provisions of the scheme. For this purpose, it may constitute a committee consisting of a representative each from IDBI, Bank of India, KTL, State Government and a Special Director of BIFR.

(xvi) The Board also directed that the provisions

of the scheme shall be fully effective and implementable, without any further act or deed on the part of KTL, and other parties to the scheme. Such requirements or conditions under laws other than the Sick Industrial Companies (Special Provisions) Act, 1985, Foreign Exchange Regulation Act, 1973 and Urban Land (Ceiling and Regulation) Act, 1976, as are not complied with while implementing the same shall be taken to have been legally waived / not applicable and the said non-compliance shall not have the effect of vitiating the implementation of any provision of the scheme.

(xvii) A suitable declaration under the Act will "be made by the BIFR" [BIFR, 1988(a)].

The BIFR also declared that "the operation of all contracts, assurances of property, agreements, settlements, awards, standing orders or other instruments in force (other than those relating to liabilities to the banks - Bank of India and Dena Bank - which in the interest of making the scheme fully effective with their financial assistance have been permitted by BIFR to continue their suits against the company, guarantors, etc.), to which the sick industrial company is a party or which may be applicable to it, immediately before the issue of the Order, shall remain suspended for a period of two years from the date of the Order and all or any of the rights or privileges, obligations and liabilities accruing or arising thereunder before the said date shall remain suspended for the said period. However, any decree or decrees obtained by the banks in enforcement of the aforesaid liabilities shall not be executable against the Company till further orders of the Board" [BIFR, 1988(b)].

In the Supreme Court

The scheme approved by the BIFR was submitted to the Supreme Court for ratification as per its orders dated October 13, 1987. The two important questions considered by the Supreme Court were :

(1) whether the alternative scheme presented by Shri Ashish Kamani directly to the Supreme Court and not to the BIFR, deserved to be considered as preferable to the one presented by the workers and

(2) whether the workers' scheme as sanctioned by the BIFR deserved to be stamped with the imprimatur of the Court.

The scheme presented by Shri Ashish Kamani was not approved by the SC for several reasons. Firstly, it was not presented to the BIFR even though it was possible to do so in the given time. But secondly, and more importantly, the Court came to the conclusion that it did not deserve consideration even on merits. The Court felt that the said scheme suffered from some fundamental infirmities. It was pointed out that it envisaged considerable injection of funds for replacing machinery for which there was no commitment from any of the bankers even in principle. Thirdly, certain concessions were envisaged from the central and state governments as also from the banks and financial institutions. However, there was nothing to show that any of these authorities had shown any inclination to extend such concessions if the unit were to be revived by Shri Ashish Kamani. On the contrary, they were prepared to show all consideration only because the workers themselves were making an honest effort and that too at a substantial sacrifice. Workers also were not ready for any sacrifice of the type suggested by Shri Kamani. Fourthly, the applicant could not prove that he was in a financial position to undertake the proposal.³

The Court therefore ruled that "We do not have the slightest hesitation in refusing the applicant's prayer in this behalf."

As to the scheme framed by the BIFR, the Court held that the scheme was sustainable and the BIFR was right in coming to the conclusions that it did. Its ruling was: "Having given our anxious consideration to the decision rendered by BIFR sanctioning the Scheme taking into account all the factors we fully agree with the reasoning and conclusion of BIFR and hereby stamp the Scheme with the imprimatur of this Court."

On the strength of the provisions of the Act, the BIFR worked out the consideration payable for the shares as only Re.1/- per share of Rs. 10/-. This was challenged by Shri Ashish Kamani in the SC. But the Court upheld the decision of the BIFR. The reasoning given was as follows.

The Court held that the BIFR was clothed with the authority and competence to reduce the value

of the shares. It pointed out that the scheme envisaged by Section 18 of the Act inter-alia provide for the reduction of the interest or rights of the shareholders in the sick industrial companies to the extent necessary for the reconstruction, revival or rehabilitation of the sick company. There is also a very salutary provision which contemplates transfer of the shares in the sick industrial company at face value or intrinsic value (which may be discounted value or such other value as may be specified) inter-alia to the employees of the sick industrial companies. The provision for transferring the shares to the employees makes manifest the intention of the legislature to encourage the employees to take over the sick units and to clothe the competent authority with power to direct the transfer of the shares to the employees in this behalf.⁴

The Court found that the liabilities far exceeded the assets and held that the BIFR had rightly reached the conclusion that the intrinsic value of the share was zero. Even so, the Board directed that the value be reduced to Re.1/- per share. The SC was fully satisfied that the Board was perfectly right in directing the members of the Kamani family to transfer the shares at that rate in order to effectuate the Scheme for revival.

The scheme further envisaged that the liability of the guarantors under the contract of guarantee executed in favour of the concerned banks should remain unaffected by the framing of the scheme. The SC observed that the scheme was framed as per the direction and mandate of the Court in exercise of its inherent jurisdiction and its constitutional jurisdiction under Article 142 of the Constitution and therefore the framing of the scheme and the enforcement of the sanctioned scheme did not detract from or have any impact on the obligation incurred by the guarantors in regard to the debts incurred by KTL in the past.

The question of viability of the unit

Right from the beginning, KEU was quite confident that the unit was viable and that with injection of additional funds, it could be revived. In its pleas to the various authorities and the Court, KEU stressed that the unit's problems were those

of liquidity and not viability. They adduced evidence of the findings of various committees to support their claim.

For example, in 1978, R.G. Joshi and Associates appointed by the Bank of India to conduct a techno-economic viability study had concluded that the unit was viable and could generate reasonable profits. In fact, this report had been accepted by the Bank which had even sanctioned certain facilities which the management could not avail of because of its inability to pledge its assets and future stocks.

Again, in response to the workers' representation to the Central Government, IDBI had been asked to look into the unit's viability. It also came to the conclusion that the unit was viable and suggested its takeover by the government.

It has been mentioned earlier that the State Industries Secretary had persuaded the Canara Bank to advance an amount of Rs.50 lakh which the management was unwilling to accept on the ground that it was just not sufficient. KEU had pointed out how with a different product-mix, the unit could generate some surplus and subsequently this was borne out by actual experience when in 1982, the company made the best profit of Rs.28.42 lakh in several years.

Since KEU was fully convinced about the viability, it prepared a concrete scheme for revival and rehabilitation through a Workers' Co-operative Society. The workers being registered as members of the proposed society executed separate letters of understanding to contribute an amount of Rs. 2,000 each towards the share capital of the society on its registration. In fact, letters of authority were executed by them authorising the promoters to collect an amount of Rs. 2,000 from the Provident Fund of such members without any further reference to such members. However, there was no compulsion on any employee to become a member.⁵

Constructive approach of KEU

One fact that emerges clearly is that it is only the tenacity and single minded pursuit of the matter in the interest of the workers by the KEU which ultimately won. KEU has been working for

more than 35 years and has been the sole representative of all the daily rated and monthly rated workers (numbering about 4,000) of the entire Kamani group of companies. It had successfully negotiated several collective bargaining agreements with the group companies. There is also a Kamani Officers' Association. The two associations have been working in close co-operation and even have a common President. Representations have also been jointly made.

Even after KEU's efforts with various authorities had met with only partial success, it adopted a constructive approach and took the initiative to formulate a scheme and presented it to the BIFR. Essentially, the scheme aimed at purchasing the shares from the Kamanis (at a price to be fixed by the SC) and running the unit themselves with the help of professional managers. The scheme was very carefully put together and was an outcome of serious discussions with experts as well as among the members of the union itself.

The scheme involved considerable sacrifice on the part of the workers, because, as pointed out earlier, it implied the following :

- i) Rationalisation of the work force and even retirement and retrenchment of some of them.
- ii) Wage freeze for three years.
- iii) Payment of wages restricted to 75 per cent of the wage level in the first year of operation and 85 per cent from second year onwards.
- iv) Deferment of the annual increments for a period of two years.
- v) Postponement of payment of workers' dues during the closure period till after all other dues were cleared.

In addition, the following was also to be observed: linking salary/wages with certain production norms; liquidation, through profit sharing, of loans taken by workers for their contribution; stoppage of absenteeism, overtime, gate-passing and late-coming etc., ban on strikes, go- slow for three years.

The workers displayed remarkable restraint and the acceptance by them, without any demur and without any coercion or compulsion, of a sacrifice of this type and of this order, is in contrast with the normal tendency to seek only concessions and intervention by the authorities or to resort to agitational tactics.

The union could have adopted either of the two options : (i) to adopt a confrontationist stance and if that failed, to throw up its hands, and tell the members that just nothing could be done; or (ii) to relentlessly pursue the matter till justice was obtained. But KEU, instead of adopting the first, softer option, decided to select the second, harder option which in the end yielded fruitful results. This will perhaps open up a new chapter in the history of the labour movement.

KEU was arguing from a position of strength arising out of first hand knowledge of the plant and its working. Thus, when Canara Bank was ready to give a loan of Rs.50 lakh, but the management refused it saying that it was too small, KEU successfully convinced the Bank that even with this amount, the unit could make profits if a proper product-mix could be produced. The workers' confidence was not misplaced as was shown by the fact that during the year 1982, the unit could generate surpluses to meet all operational costs as per the production pattern suggested by KEU. In fact, for the first time in seven years, the company wiped out old losses and made the largest ever profit of Rs.28.42 lakh.

It is also to their credit that they were further able to persuade the Bank to advance to the company an amount equal to one month's wages--perhaps the first time that a Bank acceded to such a request, not from the management, but from the workers.

During the struggle, KEU also tried to support their members to whatever small extent they could. They distributed Rs.5 lakh from the employees' relief fund to the workers in the initial period, to be recovered in due course. The workers of other Kamani companies also expressed their solidarity with KTL workers by donating a day's wages from which each worker was paid a non-refundable Rs.175.

The SC noted : "The plight of the workers notwithstanding, they exhibited exemplary conduct on their part, and the KEU extended its hand of co-operation to the Kamani family group as has been noticed by the learned Mediator in his minutes dated July 2, 1986 : "The bona fides of the applicants would be clear from the fact that in spite of the fact that no wages have been paid to them for the last 14 months, yet, in order to

demonstrate their spirit of co-operation, the workers, through their Union, had offered in writing to co-operate with the management and accept deferred payment of unpaid wages. The applicants repeat and reiterate that offer. The workmen always were, and still are ready and willing to accept the arrears of unpaid wages with increase of production and creation of surplus" [SC, 1988(b)].

It is noteworthy that even in the face of odds at practically every stage, both before and after the judgement, the KEU unswervingly persisted in its efforts and finally secured for its members a victory which otherwise was not even imagined. It came across obstacles from various quarters at every stage and it had to find a way out with utmost patience.

Thus, while the promoters of the Society received a sanction from the Registrar of Co-operative Societies to open a bank account, the same authority, by its letter dated December 1, 1986 informed that the registration of the society could not be considered unless a No Objection Certificate was obtained from the owners/company. This condition was impossible to comply with and KEU was compelled to approach the SC for direction that the Society be registered. The BIFR put this responsibility on the State Government and it was only in April 1988 that the Society finally got its registration.

Or again, in a recorded note, Mr. Justice Gupta confirmed the acceptance by the Kamani Group that half of the sum of Rs. 22 lakh lying in deposit with the Bank of India be utilised towards the payment of dues of the workers and KEU was permitted to approach the appropriate authority for release of the said amount of Rs. 11 lakh. However, when the matter was taken up with the Bank, it declined to make the payment on the ground that the money was recovered in satisfaction of its dues through sale of securities and the workers had no stake in it. This issue had also to be taken up with the SC and the said amount was finally released by the Bank only on December 22, 1988 and that too as an interest bearing loan. Efforts are on to get it converted as a non-interest bearing loan.

The SC itself anticipated some difficulties when it mentioned that "An apprehension has been

expressed that some attempts might be made by those who are not happy with the sanctioning of the Workers' scheme to throw a spanner in the wheel and to impede the implementation of the scheme." It, therefore, sought to extend its cover to the workers against any such attempts and made it clear that "notwithstanding any order that may be secured by any party from any other forum the Scheme shall be implemented in obedience to the judicial command embodied in this order and that in case there is any problem, it may be brought to this Court for seeking appropriate directions instead of resorting to other forums to impede the implementation of this socially and economically wholesome scheme." [SC, 1988(b)].

After the verdict

The BIFR sanctioned the scheme on September 6, 1988 and the Supreme Court judgement was delivered on September 19, 1988. IDBI has been monitoring the project since then.

The Workers' Co-operative Society (Kamani Tubes Kamgar Audyogik Utpadak Sahakari Society Ltd.--KTLSS) was finally registered on April 4, 1988 and now owns the factory and its facilities.

A great responsibility came to be cast on the KEU which went about the job of meeting its obligations with full fervour.

Thus, it was able to raise Rs.11.26 lakh from the Provident Fund contribution of the employees. This was to be supplemented by a loan from Urban Co-operative banks as provided in the scheme sanctioned by BIFR. Accordingly, KEU approached the Urban Co-operative Banks for a loan of around Rs.60 lakh. However, the Banks expressed their inability to do so in view of certain restrictions imposed on them by the Reserve Bank of India. KEU was constrained to approach the Bank of India and the Canara Bank who agreed but stipulated an interest of 15 per cent which was considered too high and KEU, therefore, approached the IDBI to help it out with an interest-free or concessional loan.

The IDBI again came to its rescue and in a unique gesture of help, went a step further and agreed to subscribe to the equity to the extent of Rs.58.74 lakh on certain conditions, the chief

among them being that KTLSS will, over a period, in monthly instalments not exceeding 72, buy back the shares from the IDBI. The shares are to be bought back at their face value plus simple interest at 11.5 per cent less gross dividend received, if any. This enabled KTLSS to collect the necessary sums of money in fulfilment of its promise of raising equity of Rs.70 lakh.

The corresponding share of Rs.70 lakh from Government of Maharashtra was made available in two instalments-- the first of Rs.11.26 lakh in January 1989 and the second of Rs.58.74 lakh in March, 1989.

As seen earlier, the scheme of putting the plants into operation was envisaged to take about six months at an estimated cost of Rs. 60 lakh mainly required for carrying out the overhaul, repair and rectification of the equipment. It was expected that the requirement of margin money for working capital would be met from the balance of funds to the extent of Rs. 70 lakh which was to be available with KTL consequent upon raising of share capital under the scheme. This has now been done and the work connected with overhaul, repair etc. was concurrently undertaken; most of the plants were ready for trial runs in January 1989 itself i.e. even before the lapse of six months originally envisaged. Actual trial runs started immediately thereafter : that of Rods Extrusion Press in February and of Tube Extrusion Press in March 1989.

The factory was formally inaugurated on April 6, 1989.

KTLSS was also able to persuade the management of Tata Power Company to scale down its demand of outstanding dues from Rs.17 lakh (approximately) to a mere Rs.2.40 lakh.

The Board of Directors as envisaged in the SC judgement was reconstituted in phases from end of 1988 till February 1989 and consisted of the following :

- two representatives of the State Government;
- two from the KEU; one nominee of the BIFR;
- one nominee of the IDBI;
- one nominee from the Banks;
- two professional management experts;
- Managing Director;
- Chairman.

Proceedings of the board meetings have been

smooth and unanimous.

KEU has tried to involve some of the reputed experts in the management of the unit after its take-over. Substantial and selfless voluntary help was received from many of KTL's ex-employees just out of a desire to see that the efforts of KEU succeeded. The most valuable contribution came from Shri S.R.Gokhale, who had earlier been the Chief Executive of all the Kamani Metal Group companies, including KTL. In fact, he had been associated with KTL from its inception and had been involved in its setting up. He also helped in framing the scheme and in implementing it after it was sanctioned by the Supreme Court. The Union was also able to persuade Shri Manish Shrikant (who held a Doctorate in Business Management from Harvard University) to leave his consultancy and work full time with the workers' co-operative. In like manner, Shri J.K. Arvind, again an ex-Kamani executive, has come back and taken charge as Managing Director. He had been a Chief Executive of Mukund Iron and Steel Ltd. and was at that time a management consultant.

Different channels of monitoring have been set up in the form of Plant level committee, management committee and several others, e.g., KTLSS has constituted a committee to oversee the performance of the co-operative. This committee is composed of four workers, two members from the staff, seven members from the officers' category, besides two workers' directors on the Board. KEU has constituted its own committee to look into the grievances of workers and to counsel them on various issues. It has thirteen workers, four members from the staff and is headed by a president and a working president, both of whom are on the board of directors. All these committees are expected to provide co-ordination in day to day work.

Recruitment of workers has been completed though it created some unpleasantness. The principle followed in recruitment was 'last come, first go'. But obviously this could be applied only departmentwise/categorywise and not for the unit as such. As a result, some of the senior workers from some departments had to be left out, while some comparatively junior workers were absorbed. The younger of the workers felt that the

older ones should volunteer to retire making room for the younger ones since they have their whole life before them. This has been a delicate matter for KEU.

Various alternatives have been thought of including proposals to absorb them in other units. There is also a suggestion that a co-operative of workers should be formed to undertake the packing of KTL products. Similarly, there is a proposal to start a co-operative for transporting raw materials to the plant [Srinivas 1989, p. 1821].

The workers' leaders were honest enough to appreciate that the workers by themselves were weak in certain areas like marketing, finance and production because most of the senior personnel had left their jobs. They needed experts to assist and advise them and accordingly, a number of experts in various lines have already been recruited. These include areas like materials management, sales, quality control, maintenance, finance, secretarial, security, etc. They still need people at senior levels in personnel, finance, secretarial, tool room, production and maintenance, and action is on to make the necessary recruitment.

The new management is yet to fix the norms of work in terms of the Scheme and expects the work to be taken up after November/December 1989.

KEU is also aware that it will have to contend with many problems in days to come and has, in fact, started facing some. Thus, the suppliers of raw materials viz. Minerals and Metals Trading Corporation (MMTC) and Hindustan Copper Ltd., (HCL), both in the public sector, have been understanding, but they have their own constraints viz. availability of material. Moreover, the credit available from HCL carries an interest higher than that charged by the banks and therefore is of no practical use.

Fortunately, the KTL Brand still enjoys a good name in the market, which has thus far responded well and according to the information given by KEU, the Company has already secured more than 40 per cent of 70/30 Brass Sugar tube market with sales commitment of around 80/100 tonnes per month. Very active inquiries have also been received for more than 600 tonnes of admiralty and aluminium condensor tubes to be delivered

over the next 8-10 months.

All told, the company had received about 200 inquiries totalling about 1,000 tonnes. After initial supplies, the company envisages no marketing difficulties. The projections foresee a rising demand for tubes as replacement in power sector from an initial 1200 tonnes to 2400 tonnes by 1990. The demand, during this time, from new power projects is expected to be 3000 tonnes a year. The petro-chemicals and refineries sector are expected to generate a demand of about 1500 tonnes and the ship-building industry may create a demand of 2800 tonnes of tubes a year.

Simultaneously, however, the company is also facing a very fierce competition from the two units from Rajasthan who have reduced their sales prices by around Rs.20,000 per tonne. This will certainly create difficulties for KTL since its original calculations of sales proceeds are likely to go wrong.

Another reason advanced is that in Maharashtra, non-ferrous products attract a sales tax of four per cent whereas in Rajasthan it is only one per cent and the major competitors are in that State. It is stated that a co-operative sugar factory withdrew

its order worth Rs. 8.50 lakh because the tax made a difference of Rs.36,000. Similarly, against a turnover tax of two per cent in Maharashtra, other States do not have such a tax. The matter has been taken up with the Government [Srinivas 1989, p.1821].

KTL cannot assume the supremacy in the market that it had in the early seventies. It is clear that the same old products cannot obviously be continued indefinitely and a search must be on for introduction of new products which are sophisticated and possibly import-substituting.

As per the projections presented in the Operational Plan made by KEU, the break-even point is at 100 tonnes of tubes and 140 tonnes of rods per month. This break-even point was expected to be realised and stabilised by the sixth or seventh month from the start. From eighth month onwards, production level of 110 tonnes tubes and 150 tonnes rods was expected to be achieved, yielding a working profit of Rs.2.5 lakh per month i.e. Rs.30 lakh per year. This level of production is yet to be reached and the actual production has been as follows (table 2):

TABLE 2. MONTHLY PRODUCTION OF TUBES AND RODS IN 1989

Month	Tubes	Rods
April	21.07	9.01
May	61.86	8.34
June	92.70	42.77
July	89.83	57.17
August	95.94	40.26

This production has generated a modest surplus.

In the first year it is estimated that there will be an outlay of Rs.50 lakh. During the second and third year, a capital outlay of about Rs.200 lakh on adding balancing equipment and modernisation is proposed. It will make it possible for the company to venture into the manufacture of sophisticated 90/10 and 70/30 cupro nickel condenser tubes and refrigeration copper tubes in coils and substantially improve the product mix to increased levels of manufacture of admiralty brass and aluminium brass condenser tubes. It will also be possible to step up rods plant output by increased production of larger diameter rods

and specialised sections. As a result, the production per month will go up to 165 tonnes tubes and 200 tonnes rods yielding a monthly profit of around Rs.10 lakh i.e. Rs.110 lakh to 120 lakh per annum, within a period of 2 to 3 years.

By the end of the seventh year, it is visualised that after recovering the capital outlay of Rs.250 lakh and providing Rs.126 lakh margin for working capital, more than Rs.200 lakh will be available for repayment of outstanding liabilities particularly against the dues of employees.

Cash credit limit of Rs. 50 lakh pending formal sanction of working capital finance facilities has been sanctioned by the Bank of India. The

Company has already utilised working capital facilities to the extent of Rs. 195.18 lakh for procurement of raw materials and Rs. 27.32 lakh for bank guarantees against the currently sanctioned limit of Rs. 296.80 lakh equivalent to 80 per cent share on notional working capital stipulated in the BIFR scheme. Rs. 74.20 lakh, representing the balance 20 per cent share of Canara Bank, is expected to be released soon. Need-based working capital requirements have been worked out as Rs. 465 lakh and are under consideration of the banks.

The experiment has evoked tremendous interest and has special relevance in present day industrial relations context. To quote from the Supreme Court judgement: "Tens of thousands of similarly situated workers would be watching with anxious eyes the outcome of this bold experiment undertaken by the workers of KTL. On their success or failure will depend the future hope and destiny of tens of thousands of similarly situated workers. Success of this venture will instil new confidence and enable the workers to try to build their own future with their own hands albeit at some initial sacrifice.....They will have an opportunity to show to the world that the workers in New India are capable of managing their own affairs, shaping their own destiny, and building their own future" [SC, 1988(b)].

If the novel experiment succeeds, as it seems it should, it will have not only solved the problems of a particular group of workers, but may perhaps show a new way out for redressal of sickness which often has been induced for no fault of the workers who, however, turn out to be the victims of the situation. In the instant case, rather than plead mere helplessness, the workers are now really fully involved in the running of the factory, not merely as workers but as owners. For the first time, the workers themselves are now required to give thought to day to day affairs and take responsibility for decisions which are their own, unlike in the past when they were only expected to carry out the orders of their superiors. The process of decision making and its consequences is now perhaps better appreciated and hopefully, it may well herald a new era of industrial relations and industrial ownership - indeed, a new work culture.

Issues that the experiment throws up.

The large number of sick industrial units in the country is already causing anxiety and has prompted efforts to find a solution to the problem. Obviously, it is not possible to wait for a decision from a court in each and every case before concrete steps for revival of an industry are taken particularly of passing on the management/ownership to the workers of the unit.

The experiment initiated by KEU suggests certain points that need to be taken into account in chalking out any scheme for the revival of sick units. The existing guidelines for steps to be taken when a unit is declared as sick, only spell out some ad-hoc reliefs to be made available to the unit. But these measures turn out to be temporary in nature and do not meet all types of contingencies. At any rate, they do not contemplate handing over of management to the workers themselves. It seems possible to provide in such a scheme itself that on the happening of certain events or occurring of certain developments, labour should have a right to take over a unit through a suitable form like a co-operative.

It is quite legitimate to insist that some formalities should be complied with, in order to prevent possible misuse against original owners, but they should not be such as would defeat the basic purpose of reviving sick units or providing relief to them. Simplification of procedures alone can ensure timely help and the KTL case suggests that if quick decisions cannot be taken, the cost to the labour and the unit itself is very heavy, even unbearable.

This implies that when circumstances warrant concessions, certain packages of concessions/incentives ought to be built into the system so that on every occasion, undue time is not consumed in persuading the concerned authorities about the necessity and extent of support needed. For example, in most such schemes, waiver or deferment of dues to authorities such as Electricity Boards, Sales Tax Department, Excise Department, Banks and Financial Institutions etc., is inevitable; but much time is lost in convincing each individual authority about the need to do so and then about the extent of such concessions. This could be avoided if a clear

formula could be evolved to serve as a guideline once a decision to assist a sick unit is taken, although the degree of intervention and levels of assistance will vary from case to case.

It is reported that already there are other Unions who are also wanting to make similar efforts and they need to be encouraged with an appropriately designed policy especially when they feel confident of reviving the unit.

Of course, take-over of ownership or management by workers cannot be the solution every time. All Unions may not be fortunate enough to have Chavans and Thankappans and also Gokhales. Thinking for themselves and taking decisions which are not handed down to them and which may or may not turn out to be right, and facing the consequences of such actions are not easy. Every Union may not have a leadership of that maturity. But in most cases, labour has an advantage of inside and intimate knowledge and it can be put to positive, constructive use, by creating a channel to alert the authorities in time so that improvement is possible even before things go bad.

The experiment also suggests that with their own control over day to day management, the workers should be in a better position to appreciate the problems facing the management from time to time. e.g. if the earlier management of KTL had complained about the difference in the taxation in different States, there would probably have been less appreciation on the part of workers. Also, problems posed by intense competition in the changed circumstances, are now realised better because the KTL workers themselves are handling marketing of their products. Indiscipline among workers is also expected to be looked into more carefully now that the results affect them directly and personally. Problems connected with retrenchment can also be seen in a proper perspective now. Similar realisation by workers in other establishments daring to make a bold experiment should lead to a more responsible labour movement.

The KTL case also highlights the need to structure some monitoring machinery which can anticipate at least some of the events and is empowered to initiate action before irreparable damage is caused. Such an agency has to look out for signs of insipient sickness. For example, in the present case, capital base was eroded ; working

had deteriorated ; losses had accumulated ; and all this long before the matters were taken to the court. If there were a mechanism to monitor such phenomena, it may have been possible to avert the damage to the unit and to its labour force.

Perhaps one way of preventing sickness could be to involve the workers more closely in the management and may be ownership. Mere association with some committee or council is not enough. What is probably required is workers' participation in a more real sense than to-day. Attention needs to be given to see in what manner such personal involvement on the part of workers can be ensured probably from the beginning itself.

It can be seen that revival of sick units is not an easy task and demands tremendous effort and sacrifice on the part of the workers. In spite of the considerable national resources locked up in sick units and the need to do something to prevent it, it seems wrong to assume that it is possible to revive each and every unit. The fact must be faced that some units, for various reasons, are bound to fail and it would be futile to waste sizable resources by resorting to artificial means of revival. The same monetary and other resources could be more fruitfully utilised in starting another unit/activity.

It is worth noting that in this entire scheme, only a minimal role was played by the Central Government. After the workers' agitation, all that it did was to arrange a meeting of concerned Secretaries and then to ask the IDBI to prepare a scheme. The rest was done by the Supreme Court.

Even the BIFR cast only one responsibility on the Centre viz. that it "would fund arrears of excise duty repayable over a period of 3 years as per the prevailing policy of Central Government." Would it not be in the fitness of things that the Central Government should play a more positive and larger role, because sickness is an all-India phenomenon and the Centre is as much responsible for tackling it as the States and the Financial Institutions?

FOOTNOTES

1. Information relating to the conditions imposed by the Banks, the response from the management to the same, etc., is based on the correspondence between the Company and the concerned Banks, the record of which is available with the KEU.

2. Information relating to the efforts made by the Government of Maharashtra has been collected from the records available with the KEU.

3. The Supreme Court has compared the two schemes as follows :

" Scheme presented by the workers

1. It contemplates starting operations with the existing machinery after effecting necessary repairs and reconditioning of the plant to the extent necessary. It is envisaged that the production can be commenced within about six months.

2. The scheme is fully backed by the same Nationalised banks as are secured creditors of KTL. These banks have also made firm commitments for further financial assistance.

3. The Central Government and the State Government have agreed to grant tax concessions having regard to the fact that it is the first scheme of its kind for reviving an industrial unit framed by the very workers rendered jobless on account of the sickness.

4. The workers themselves have agreed (1) to make wage sacrifice of 25 per cent for the first year of operations and 15 per cent for the next two years. In other words, the workers have agreed to forego 15 per cent to 25 per cent of the wages which they would be otherwise entitled to, having regard to the fact that it is the workers' own scheme calculated to benefit them at least in future, (2) to deferment of annual increments for two years as also, (3) to rationalisation of the staff pattern by persuading the workers to be retrenched on payment of compensation in the larger interest of the workers and to restrict the workers to 600, (4) to forego dues subsequent to 31.12.85 and (5) to deferment of pre-stoppage dues till other dues are paid off.

5. The secured creditors have agreed to convert 50 per cent of dues into interest free loan repayable within 10 years and a moratorium of one year for 50 per cent of outstandings.

6. The scheme has been found to be feasible and viable by experts and by the operating agency viz. IDBI, which is fully equipped to form the opinion in this behalf.

When the two schemes are viewed in juxtaposition, there is no manner of doubt that the scheme presented by the applicant appears in a rather poor light" (SC, 1988(b).)

4. The two relevant sections read as follows :

Section 18(2) (i): "transfer or issue of the shares in the sick industrial company at the face value or at the intrinsic value which may be a discounted value or such other value as may be specified to any industrial company or any person including the executives and employees of the sick industrial company";

Section 18(2) (f): "the reduction of the interest or rights which the shareholders have in the sick industrial company to such an extent as the Board considers necessary in the interests of the reconstruction, revival or rehabilitation of the sick industrial company or for the maintenance of the business of the sick industrial company;"

5. The objects of the society included the following :

"To take over and run Karnani Tubes Ltd. which is closed or company's factory at Kurla, Bombay, for providing employment to the employees. To modernise the factory and to make it possible to improve the service condition of the employees. To give good quality product to the consumers at as cheap rates as possible. To produce non-ferrous tubes and

Scheme presented by Shri Ashish Kamani

1. It envisages the replacement of the existing machinery by imported second-hand press and plant equipment, at an estimated cost of Rs.345 lakh. It is not known how much time will elapse in replacement and when operations can be commenced. There is not even a vague idea about this factor.

2. The scheme does not show that there is even a tentative commitment much less a firm commitment by any banks or financial institutions to finance the project. Nor is it shown that the applicant himself is investing any sizeable amounts to launch the project. The scheme is altogether silent as to how the resources are to be raised in regard to the modernization programme involving Rs.694 lakh.

3. Neither the Central Government nor the State Government has shown its willingness to give any concession to the applicant. In fact, there appears little likelihood of such concessions having regard to the special factor relating to public interest involved in enabling the workers themselves to revive the sick industrial unit does not exist in the case of the applicant.

4. The workers would not agree to forego any part of their wages or make a wage sacrifice to enable the applicant to take over the unit. Nor the workers would accept deferment of dues or to rationalisation of staff pattern or retrenchment. Learned counsel for KEU has stated that they are not at all prepared to do so.

5. There is no such commitment on behalf of the secured creditors. Nor is there any likelihood of such concessions for the benefit of the applicant.

6. The feasibility of the applicant's claim has not been examined by any competent or authorised agency acceptable to the BIFR.

rods and sections, etc., and sell them. To undertake projects in pursuance of the above objectives and for the social and economic upliftment of its members, with the permission of the Registrar."

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DO'S AND DON'TS IN CONSTITUTIONAL AMENDMENTS

S.V. Kogekar

Since the Constitution of India came into force in January 1950, it has been amended 62 times. The number would have been 64 if two recent amendments passed by the Lok Sabha had not been defeated in the Rajya Sabha for want of the requisite majority in their support.

Basically there is nothing objectionable in the Constitution being amended from time to time in order to bring it in line with the changing social conditions. The framers of the Constitution were fully aware of this need and had laid down a suitable procedure for amendment in the constitutional document itself. This has been the recognised method of providing for peaceful change in the system of fundamental political institutions that the Constitution embodies.

Among the forces which influence the decision to bring about constitutional amendments is the operation of the principle of judicial review which is one of the distinctive features of a written, democratic, federal constitution. It enables an independent judiciary to secure conformity with constitutional provisions on the part of the legislatures and executive authorities in the federal polity. It does this in exercise of its power to interpret the constitution and any other law and in the light of that interpretation to pronounce on the validity or otherwise of the laws passed by the legislature or decisions given by the executive in pursuance of those laws. A person aggrieved by the operation of any such law or decision can approach the judiciary for redress and thus invoke its power of judicial review in appropriate cases.

One result of the exercise of this power is the possible emergence of a difference of views between the legislature which makes a law and the judiciary which interprets it and the Constitution to test its conformity with the latter. If

a law or a part of it is declared unconstitutional and therefore null and void, the purpose for which it was enacted cannot be fulfilled. Since the makers of the law are the duly elected representatives of the sovereign people, they feel frustrated and thwarted in their task of meeting the legitimate expectations or aspirations of their constituents - the people. To remedy this situation resort can be had to an amendment of the constitution so as to ensure the validity of the impugned law if re-enacted.

A difference of views - often described as a conflict - between the judiciary and the legislature, which in a parliamentary system such as ours also includes the executive, often arises because of a difference in what is described as the inarticulate major premise in their process of thinking. On a sensitive issue like the right to property while one may hold it as too sacred to be touched, the other may regard it as a historical hindrance to the attainment of social equality and justice. Whether one subjects it to a rigid construction or treats it as a flexible proposition capable of modification according to the will and desire for social change, will be largely influenced by one's philosophical upbringing in relation to social problems or legal traditions - the major premise. This was indeed one of the reasons which led to the very first amendment to the Constitution in 1951, regarding various measures of agrarian reforms which were considered as violating certain fundamental rights including the right to property by the Supreme Court.

But judicial review is not the only factor leading to a constitutional amendment. There are various procedural matters which require change in the light of experience and might necessitate constitutional amendments.

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* "Constitutional Amendments 1950-1988 Law and Politics" by S.P. Sathe, N.M. Tripathi Pvt. Ltd., Bombay, 1989, Pp. xvi+196, Price Rs. 150.

Besides, in the Indian context, the reorganization of states and territories from time to time, transfer of subjects from one list to another in the 7th Schedule, powers of or changes in the jurisdiction of the judiciary, emergency provisions, clarifications and restrictions of fundamental rights, voting age - to mention only some of the other factors, have led to amendments of the Constitution. Each of them merits a detailed study of the forces at work in mooted and eventually adopting the amendments in question.

It is therefore a matter of satisfaction that such a reputed scholar as S.P. Sathe has brought out a valuable analytical study of the role and contribution of the Supreme Court (and the High Courts) in giving a specific direction to the whole question of constitutional amendment. As in the case of many other institutions, the judiciary too has not remained static in its approach to the power and purpose of judicial review, and a study of its impact on the legal and political aspects of constitutional amendments is bound to be highly instructive. Sathe has accomplished this task within the compass of just 96 pages covering five chapters. In the first chapter he has brought out the contrast between the egalitarianism of Parliament expressing itself in laws ushering in radical agrarian reforms and the conservatism of the Supreme Court in upholding the traditional views relating to equality before the law and the right to private property. The judgements of the Court in important cases culminating in *Golak Nath vs. Punjab* show how the Court frowned upon the tendency of making fundamental rights what one judge described as the 'plaything of a majority'. By a majority of six to five the Court ruled that Parliament had no power to abridge or take away fundamental rights but mercifully agreed to give this ruling only prospective and not retrospective effect. The Court claimed the power of judicial review in respect of constitutional amendments also subjecting them to Article 13 which asserted the inviolability of Fundamental Rights. Parliament thereupon asserted that its power to amend the Constitution was absolute and not subject to any limitations under Article 13 by amending both Article 13 and Article 368. In a subsequent

amendment the power of judicial review was sought to be abrogated in respect of laws for giving effect to certain directive principles on the basis of a declaration to that effect by the legislature passing such laws. When these amendments came up for review before the Court in the case of *Kesavanand Bharati vs. Kerala*, the Court went back on its rigid stand displayed in the *Golak Nath* case and conceded Parliament's claim to amend the Articles dealing with even Fundamental Rights. However, in doing so, it did not give up the right of judicial review even of constitutional amendments by adumbrating the doctrine of the basic structure of the Constitution. By the application of this doctrine it struck down the last clause in Article 31-C inserted by the 25th amendment as being violative of the basic structure of the Constitution.

The second chapter of the book deals with the period after 1973 - the year of the historic *Kesavanand* decision. Appropriately captioned "from turbulence to authoritarianism" it recounts the political changes that had taken place in the ruling party and the seven amendments to the Constitution passed before the Emergency. None of these amendments was challenged before the Supreme Court. However, during the period of Emergency several controversial amendments were passed the purpose of which was to make the satisfaction of the President the last word so far as the declaration of Emergency, the promulgation of Ordinances and Proclamations/Orders under Articles 356, 358, etc., were made. This was to forestall any attempt on the part of the Court to inquire into the question whether the President's satisfaction was *mala fide* or was based on wholly extraneous or irrelevant grounds. But the 39th amendment passed in 1975 surpassed all others in sheer perversion in that the government got Parliament to legitimise the election of the Prime Minister by declaring it valid despite the judgement of the Allahabad High Court to the contrary and the Allahabad High Court's decision null and void. It also added several Acts to the 9th Schedule even though they had no relation to any economic reforms. It speaks for the high sense of constitutional propriety on the part of the

Supreme Court that it struck down the 'personalised' part of the amendment regarding the Prime Minister's election as being violative of the basic structure of the Constitution. The final seal of authoritarianism on the part of the government was set by the forty-second amendment which in ways too numerous to be listed in this review vastly enlarged the powers of the executive to the detriment of both the fundamental rights of the citizen and the authority of the judiciary in terms of judicial review. It was only after the total defeat of Mrs. Gandhi's ruling party in the general elections of 1977 that the balance of the Constitution so recklessly destroyed by her government with the help of a captive Parliament was restored by the successor Janata government. Much of the damage done to the basic structure by its predecessor government was undone by the Janata government by repealing the objectionable parts of earlier amendments by passing the 43rd and 44th amendments. It also made certain innovations designed to broaden the scope of individual liberty particularly by restricting the emergency powers of the President. Where it could not do so, the Supreme Court stepped in by reasserting that the basic structure of the Constitution could not be destroyed even in exercise of the 'constituent' power of Parliament to amend it in its judgement in the *Minerva Mills* (1980) case. The few amendments which were passed by Parliament after the return of Mrs. Gandhi's Government to power in 1980 did nothing to challenge that judgement. The 51st amendment was the last one passed before the tragic assassination of Mrs. Gandhi.

The third chapter of Sathe's book reviews the 11 amendments upto the 62nd passed by Parliament during the recent period since Shri Rajiv Gandhi became Prime Minister. Among them the most noteworthy were those relating to the anti-defection measure, the special provisions regarding emergency measures in the State of Punjab and the reduction in the minimum voting age to 18 for elections to the Lok Sabha and the State Assemblies. Of these the one relating to Punjab has many features of the pre-Janata Government emergency provisions and is pending consideration by the Supreme Court in

a case before it. Incidentally, that amendment has to have effect for only two years and it remains to be seen whether it will pass muster before the Supreme Court and, if it does so, whether it will get a fresh lease of life after the initial period of two years. The amendment commonly referred to as the anti-defection law, though generally welcomed, has shown certain major defects in its operation especially in regard to 'conscience voting' by a member of the legislature belonging to a political party and subject to its whip. This matter is also likely to be a subject of judicial review. Two other amendments relating to panchayats and nagarpalikas have been passed by the Lok Sabha but failed to secure the requisite majority in the Rajya Sabha. They have raised certain important issues which we shall deal with later in this article.

The fourth chapter of Sathe's book and by far the most important contribution he makes to the understanding of the scope and significance of judicial review in the context of the Indian Constitution deals with the basic structure doctrine enunciated by the Supreme Court. Contending that the question of limitations upon the constituent powers of Parliament under Article 368 was exercising the minds of the judges of the Supreme Court even before the *Kesavanand* case, he has drawn attention to the observations of the judges who declined to tackle the problem in a comprehensive manner because it was not necessary to do so in deciding the case before them. For instance, Justice Wanchoo observed in the *Golak Nath* judgement that 'it is enough to say that it may be open to doubt whether the power of amendment contained in Article 368 goes to the extent of completely abrogating the present Constitution and substituting it by an entirely new one'. He has also done well to point out that it was until then generally believed that public opinion both within Parliament and outside would express itself in no uncertain terms against using the amending power to mutilate the basic structure of the Constitution. Hence even if there were doubts about the sweeping character of the *Golak Nath* judgement regarding fundamental rights at the time and scepticism was expressed about the nebulous concept of basic structure in the *Kesavanand* case, no one

really subscribed to the view that the power under Article 368 was entirely unlimited. It was the Emergency period when amendments were rushed through Parliament while normal political activities could not be undertaken under total suppression of freedom of speech and expression, that made people aware of the great harm that unlimited power of amendment could inflict on the polity. Sathe has very convincingly argued the case for a limitation of the amending power of Parliament by drawing attention to the distinction between the plenary power of constitution-making which Parliament does not possess and the power of amendment derived from the Constitution adopted by the Constituent Assembly which is vested in it. The distinction is analogous to the power of making rules under a given enactment which is intended to provide for the implementation of that enactment and modifying the enactment itself in a manner which changes its nature and purpose or repealing it altogether.

In this connection, one may point out that misconceptions about the exaggerated role of Parliament under its constituent power arise also because of glib expressions about the "sovereignty of Parliament" which have become a part of the political rhetoric indulged in by politicians high and low over the years. The federal character of the State and the fact of the powers of both the Parliament and the State Legislatures having been derived from the Constitution are generally forgotten or ignored in this rhetoric. It must be said to the credit of the Supreme Court that they have emphasised the correct position in this matter through their judgements. But there are still certain matters which need to be clarified by the Court particularly with reference to the inclusion of statutes in the 9th Schedule. Sathe has highlighted the contradictions between different judgements on this subject and indicated how they could be resolved.

Another question which Sathe raises is the much discussed one whether it is possible to lay down in certain terms the basic features of the Constitution so as to remove possible doubts about it and to provide guidelines to Parliament about what it can and what it cannot do in exercising its amending power. He has raised a

number of difficulties in an enumeration of this kind. Will there be agreement among the judges or even a majority of them if the Supreme Court were to be called upon to undertake the task? If Parliament were supposed to do it, it will be faced with the same problems. Besides, according to him, any such action on the part of Parliament may itself be declared *ultra vires* of the Constitution as it may be construed either as restricting or as enlarging the powers of Parliament! At the same time he has pointed out how in some of the judgements making up the majority of the Court an indication has been given of the basic features such as (i) amendability, (ii) federal structure, (iii) democracy, (iv) secular character of the Constitution, (v) supremacy of the Constitution, (vi) its republican character, (vii) separation of powers, (viii) dignity and freedom of the individual, (ix) social, economic and political justice, (x) equality of status and opportunity and (xi) fundamental rights, by way of providing an illustrative list. It is also significant that Parliament under the Janata government had mooted an amendment for holding a referendum for ratification of certain amendments which affected the 'basic structure' without using those words. Accordingly a referendum was obligatory for amendments dealing with (i) the secular or democratic character of the Constitution, (ii) rights of citizens under Part III, (iii) free and fair elections to the Lok Sabha and the State Assemblies on the basis of adult suffrage, (iv) the independence of the judiciary and (v) amendments for the provision of matters requiring a referendum. The proposal was passed by the Lok Sabha but could not be passed by the Rajya Sabha and therefore fell through. But it illustrates how, given the will, it is not difficult to enumerate the features which constitute the basic structure with a view to making Parliament itself responsible for issuing a kind of self-denying and self-disciplining ordinance as was suggested by the present writer in 1976 (vide p. 90, n. 95 of the book under review). Not that it provides a complete solution to all the problems relating to this complex issue. But it introduces a much needed element of certainty in line with the basic expectation from a written constitution.

Sathe is on firm ground when he insists that by propounding the doctrine of basic structure of the Constitution and applying it to limit Parliament's amending power, the Supreme Court had to play a political role in addition to its usual judicial scrutiny; judicial review at the highest level cannot shy away from such a task. In fact it must accept it as a part of its legitimate function so long as it is acting fairly and objectively. That does not mean that the Court has to play politics but it cannot remain in its own ivory tower waxing eloquent only on the verbal semantics of the Constitution. There is such a thing as the 'contemporary sense of the Constitution', however old and enduring it may have been, and it is this that the Supreme Court has to discover and pronounce. Normally, Parliament must be able to exercise its amending power in such a manner as to give effect to the contemporary sense of the Constitution. Unfortunately, experience during the post-Nehru period has shown how unscrupulous leaders backed by gutless followers can be cajoled into accepting any proposal for constitutional amendment which serves their narrow personal and/or party interests irrespective of its long-term effects on the political health of the community. Instead of the democratic fabric of the country broadening from precedent to precedent it suffers mutilation and demoralization at the hands of such leaders adopting these means. The reality of the Indian political scene showing an extremely divided and numerically weak opposition ridden over rough'shod by the powerful party in power reduces the views of the opposition to insignificance even in matters affecting national issues of great moment to the future of the country. Against this background it becomes the responsibility of an independent judiciary to put down the excesses of the ruling party to the extent to which it can when it is called upon to exercise the power of judicial review. It is no derogation of the Supreme Court that in doing so it plays a political role not by playing politics but by exercising its judicial function. While the political reality is what it is, the judiciary can play such a role successfully and to the lasting glory of the country only if it has the strength of will to resist the temptation to fall

for petty personal favours which the rulers can and will dispense to ensure conformity to their views and acquire legitimacy for their actions. It is devoutly to be hoped that the holders of judicial office will rise up to these expectations. Public opinion must also be created to ensure that judicial appointments are made on the advice of independent agencies and not by way of the distribution of patronage for a *quid pro quo*.

In his two-page fifth and concluding chapter Sathe has discussed this role of the judiciary. He has also rightly emphasised the need for a vigilant and articulate public opinion to back up judicial activism manifested in the basic structure doctrine of the Supreme Court of India.

The remaining 100 pages of the book reproduce the text of all the 62 amendments passed till the time of the publication of the book and also provide a subject index.

So much for the book which must be acclaimed as an important addition to the literature on the Constitution. It is particularly praiseworthy for its bold recognition of the interaction of law and politics in the operation of the judicial review which cannot be understood if its relevance is viewed only within the cloistered confines of the Courts of law.

Since the publication of Sathe's book two fresh amendments have been passed by the Lok Sabha. They could not, however, be passed by the Rajya Sabha and hence are not a part of the Constitution. Depending on its fortunes in the general elections the ruling party may again bring them up during the life of the 9th Lok Sabha.* These amendments have raised certain important issues of constitutional propriety and interpretation in the context of the doctrine of the basic structure of the Constitution. One of the ostensible reasons given in the Statement of Objects and Reasons accompanying the first of the two amendment bills relating to the panchayats is Article 40 under the Directive Principles of State Policy in Part IV of the Constitution. The Article states that

"The State shall take steps to organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government."

"The State" in this Article has the same meaning as that in Part III which states in Article 12 that "the State" includes the Government and Parliament of India and the Government and the legislature of each of the States and all local or other authorities within the territory of India or under the control of the Government of India".

It should be clear from this definition that the Directive Principles are enjoined to be followed by any of the above agencies concerned. Now village panchayats and other units of local self-government are included in the State List in the 7th Schedule under entry 5 which is as follows:

"5. Local government, that is to say, the constitution and powers of municipal corporations, improvement trusts, district boards, mining settlement authorities and other local authorities for the purpose of local self-government or village administration."

There should therefore be no doubt as to the concerned agency exclusively empowered to legislate for matters falling under entry 5 of the State List. That agency is indubitably the state governments and legislatures and not the central government. The reason for this is also obvious in that the States are likely to be better able to deal with problems of local self-government in the context of local variations of history, tradition and other peculiarities of culture of the area. The central government is not accorded any legal authority to interfere in matters concerning this subject.

It is therefore surprising that the proposed amendment seeks to modify the scheme envisaged in the Constitution by laying down a uniform system of organisation for village panchayats all over the country, making it obligatory for all States. Though the amendment provides that legislation to give effect to this system should be passed by the respective State Legislatures the main features of such legislation such as the 3-tier system of panchayats in each district, direct elections to them, reservation of seats and the basis of such reservation for the representation of the Scheduled Castes, Scheduled Tribes and women, tenure of the elected bodies and the holding of fresh elections within

a period of six months in case of early dissolution, appointment of a Finance Commission periodically to make recommendations regarding allocation of financial resources, vesting the powers of superintendence, direction and control of elections in the Election Commission and empowering the Comptroller and Auditor General of India to audit the accounts of the panchayats, are sought to be laid down under the Constitution. The bringing into this sphere of agencies like the Election Commission and the Comptroller and Auditor General which are outside the purview of state governments and under the exclusive legislative powers of Parliament may prove to be the thin end of the wedge of central interference in a subject which the Constitution has put within the exclusive sphere of authority of the States.

Normally one would expect the central government to provide at the most a draft of a model law to incorporate such features and leave it to the state governments whether and if so, with what modifications, to adopt it for their States. Also in many States there already exist such bodies and are acknowledged to be functioning successfully. To take away such initiative from the States and subject them compulsorily to a uniform pattern of organization does not seem justified, having regard to the basic structure of the Constitution.

An interesting factor in the present state of centre-state relations is that there are many states ruled by the same party which is in power in the centre. The shortcomings complained of in the working of panchayats in these states such as not holding of regular elections, etc., should have been set right by the internal mechanism of the functioning of the party rather than through an amendment of the Constitution. As for the governments of other parties in the remaining States, it has been acknowledged even by the ruling party that they have a purposeful and efficient system of panchayats. No amendment of the Constitution was necessary in their case. Why then was the amendment proposed? No satisfactory answer can be given to this question. In this situation there is room for the widely held belief that the proposal is intended to provide a handle to the central government to deal directly

with the panchayat raj institutions in the districts by-passing the state governments, particularly in the opposition-ruled States. The central government has already given an indication of the shape of things to come by placing funds directly in the hands of the sarpanches all over the country unless this action is to be dismissed as an election gimmick to woo the rural voters in support of the ruling party at the cost of the national exchequer.

In regard to the second proposed amendment in respect of nagarpalikas and other bodies concerned with urban local self-government there is not even the pretence of a directive principle in Part IV of the Constitution to justify it. There the Statement of Objects and Reasons speaks of various inadequacies in the existing system such as failure to hold regular elections, prolonged supersessions, inadequate representation of weaker sections and lack of adequate financial resources and devolution of powers, etc. Again, as in the panchayat bill, a uniform system of organization is sought to be imposed over the whole country, the main framework of which is laid down in the amendment. The objection to such an amendment is all the stronger in view of the present scheme of the Constitution and entry 5 in the State List of the Seventh Schedule.

Apart from the strong objection that can be taken to these amendments on the ground that they disturb the basic structure of the Constitution by creating a third tier of constitutional organs by curtailing the powers of the States, a question of general interest is the facile way in which a central government having a massive majority in the Lok Sabha is tempted to tamper with the Constitution to suit its own purposes. One is reminded of the way of functioning of the preceding government during the infamous Emergency period displaying little respect for the fundamental character of the Constitution in contrast to an ordinary law. The change in the character of the leadership of the ruling congress party in the post-Nehru period is well illustrated by such actions. Nehru and the political leaders of his generation were brought up in the firm belief in the desirability of maintaining and strengthening the democratic institutions

established under the Constitution. When they brought forth proposals for amending the Constitution they were forced to do so because of the unexpected hurdles they came across in implementing programmes of economic democracy to which the Constitution was committed. Neither party nor personal interests were sought to be served by changes in the Constitution. The present generation of leaders consists primarily of power seekers who have no qualms of conscience when they tamper with valuable institutions of democracy. Sometimes one wonders if they are even aware of the significance of strengthening various democratic institutions in the long term interests of the country. Expediency and short-term interests of persons or party seems to be all that matters to them. How else can one explain their invocation of Article 40 in support of the amendment regarding panchayats and the flagrant neglect of Article 44 (regarding a uniform civil code) while rushing the bill relating to Muslim Women's property rights through Parliament? Such a casual manner of treating the provisions of the Constitution is an important element in the political culture of our times. The Supreme Court has to take it into consideration when it is called upon to exercise the power of judicial review. Public opinion also needs to be cultivated to resist such casualness towards the fundamental law of the land.

A question of growing importance arising out of the present state of affairs is the extent to which one can expect the judiciary to continue to function in an honest, objective, impartial and independent manner as the guardian of the democratic system envisaged by the Constitution. While the conditions of service of the judges of the High Courts and the Supreme Court have been considerably improved so as to enable them to live with dignity and self-respect even after retirement from service, no restrictions have been imposed on their holding lucrative appointments after stepping down from the bench. The tendency to look forward to such appointments might itself compromise their independence. The western democracies have solved this problem somewhat by not prescribing any age for retirement of judges, leaving it

largely to the incumbents to decide when they should retire. This method does not commend itself to people here in view of past traditions. No healthy conventions have also grown in this matter. Added to this is the theoretical assumption that a judge is accountable only to his own conscience and to no outside agency. Of late the priorities of the highest court in the land regarding the expeditious disposal of cases clamouring for its attention or languishing in its registry for years on end have been publicly questioned. There is no constitutional forum where grievances arising on this score can be remedied. If as a result of such experience the people lose faith in the efficacy of the judicial system which has so far been the principal bastion of constitutional propriety and restraint, the delicate balance of the Constitution will be rudely shaken and eventually destroyed. Thought must therefore be given to this aspect

of the working of our Constitution and suitable steps taken before it is too late to save the situation. All steps taken to ensure the elevation of the right persons to the bench will be steps taken to strengthen the democratic system. While discussing the role of the judiciary in our constitutional structure scholars and jurists have not paid sufficient attention to these problems. To the question 'to whom the judiciary is accountable for its decisions' there is yet no satisfactory answer and no attempt has so far been made to institutionalise the theoretical assumption mentioned above. Here is a subject for research and analysis which deserves to be earnestly pursued by political scientists and jurists alike.

FOOTNOTE

*This article was written in October 1989.

BOOK REVIEW*

EXPENDITURE STRATEGY FOR MAHARASHTRA: A VIEW FROM WITHIN

Anand S. Nadkarni

There has been an unprecedented expansion in the governmental sector all around in recent times, as is seen in the large increase in expenditure by this sector. Speaking about India, for example, we find that the proportion of the combined disbursements of Centre and States in India rose from 22.0 per cent of the Gross Domestic Product at current market prices in 1970-71 to 28.8 per cent in 1980-81, and to further 34.7 per cent in 1986-87 [Reserve Bank of India, p. 103]¹. In fact, it was to cope with such a rapid step-up in public expenditure - which truly represents the 'transfer of resources from private to public use' [Musgrave, 1959] - that governments everywhere attempted to tap several new sources of revenue. All the same, fiscal literature abounds in studies on the revenue side - more particularly, the tax side - of the budget; relatively speaking, the expenditure side of the budget has received less of systematic attention. This is as could be expected since there is a wide variety of taxes, each with a myriad of aspects that interest researchers. However, the mounting budgetary deficits in India, both at the Centre and in the States, signifying a widening gap between expenditure and receipts of governments, have forcefully brought into focus the urgent need to devise a rational public expenditure policy. Systematic studies of public expenditures would be needed for helping evolve such a policy or policies. Madhav Godbole's book under review here is an admirable attempt in this direction, with regard to public expenditures in Maharashtra State. The importance of this study is enhanced by the fact that the author, being at present Secretary to Government of Maharashtra, Finance Department, possesses an intimate knowledge of the field he surveys.

Maharashtra is a relatively advanced State. "The per capita State income at current prices for 1986-87 is estimated at Rs. 3,793", the corresponding figure of per capita national income being Rs. 2,975 [Godbole, p. 10, para 3.7]. In other words, the Maharashtra figure is a little over one and quarter of the national average². The State also has a reputation of being among the relatively better-administered in the country. A probe into problems that have arisen in respect of public expenditures of such a State has, as D.T. Lakdawala points out in his Foreword to the volume, valuable lessons to other States, as "the problems of Maharashtra are likely to be multiplied in other States".

A Plea for an Expenditure Strategy

The book essentially analyses some selected issues relating to public expenditures in Maharashtra against a backdrop of (a) national budgetary perspective and (b) some significant features of Maharashtra's finances, including major trends in the State budgets. The issues selected for illustrative purposes are those relating to: (1) drought relief and drought-proofing; (2) drinking water supply; (3) irrigation; (4) energy; (5) urbanisation; (6) salaries and wages; (7) education and (8) employment guarantee scheme. The purpose is to bring into focus "expenditures on a few important sectors which would have considerable bearing on the future prospects for growth and development with social justice and equity in the State" [Godbole, p. 28, para 5.2]. The study covers both (a) "sectors which would require much larger investments than it has been possible to allocate in the past" and (b) "some schemes and sectors which would

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* "Public Expenditures in Maharashtra, A Case for Expenditure Strategy" by Madhav Godbole, Himalaya Publishing House, Bombay, 1989, Pp. 116, Price Rs. 200/-.

need to be reviewed carefully to find surpluses for reallocation" [Godbole, p. 28, para 5.2].

An analysis of illustrative issues prepares ground for a forceful plea in favour of an expenditure strategy, outlining in the process - again, illustratively - broad contours of such a strategy. It is time that such a strategy, involving reordering of priorities, will necessitate pruning of expenditures in several directions. These decisions would certainly be difficult and unpalatable. But clearly, as Godbole rightly argues, an expenditure strategy, involving painful choices, has a chance of succeeding only with popular support, which may be forthcoming only if the people are taken into confidence as regards the short-term costs and long-term gains of choices to be made [Godbole, p. 2, para 1.13].

A Scenario of Increasing Deficits

The budgetary difficulties arise basically from an increasing mismatch between receipts and expenditures. In recent years in Maharashtra the budgetary receipts have been increasingly falling short of expenditures, as is borne out by the worsening situation in relation to budgetary deficits. From 1980-81 to 1983-84 there was a surplus on revenue account which helped to soften somewhat the impact of deficit on capital account. Since 1984-85, however, there has been deficit on the revenue account as well, making the overall deficit position still worse³.

Evidently, the mismatch would get corrected if total receipts from year to year can be made to rise more rapidly than total expenditures. Godbole, however, is not hopeful about the possibility of a more rapid increase in receipts. "There are limits upto which new taxes and levies can be imposed" [Godbole, p. 60, para 6.1]. Another source is devolution from the Centre. But this also does not hold out much of a promise for Maharashtra in any case, given the increasing revenue deficits in Central budgets and the emphasis in devolution formula of the needs of less developed States. Maharashtra, therefore, has to design an expenditure strategy in which "the expenditures on certain sectors can be permitted to grow relatively to those on certain other sectors" and

"sectors and activities would also have to be identified on which expenditures will have to be frozen and/or contained if not curtailed over a period of time" [Godbole, p. 60, para 6.3].

It is not a part of Godbole's submission that there is hardly any scope for enhancing the receipts from the state's own resources. Thus he does make a reference to the poor returns on investments by the State Government in Public Sector Enterprises (PSEs), juxtaposing this fact with the much higher rates of dividend on share capital contributions of state governments in the PSEs as stipulated by the Eighth Finance Commission. He marks out this as "yet another area in which some difficult and unpalatable decisions would be required if additional resources are to be generated" [Godbole, p. 63, para 6.7]. The same applies to the state government investment in the co-operative sector. It, however, appears that while considering the possible sources of increasing receipts Godbole pays attention mostly to non-tax sources. One, however, feels that in Maharashtra there is some scope for raising more resources through, say, higher taxation of the agricultural sector or again through tightening of tax administration with a view to discouraging evasion of taxes. It is indeed interesting to note that in Maharashtra the receipts from own taxes in 1986-87 formed 10.45 per cent of the Net State Domestic Product (NSDP) whereas the proportion was higher in the four Southern States with per capita NSDP much lower than that of Maharashtra, viz., Andhra Pradesh (11.65 per cent), Karnataka (11.62 per cent), Kerala (12.18 per cent) and Tamilnadu (12.12 per cent)⁴. Though the comparison is on the basis of a rather crude criterion, it probably suggests the existence of some untapped tax potential in Maharashtra. All this does not, however, invalidate Godbole's case for designing an expenditure strategy. In fact, prioritisation of public expenditure items and reduction in wasteful expenditure are a constant imperative for a budgetary authority, irrespective of whether the resource position is comfortable or not. Godbole's argument, however, is that such prioritisation and elimination of wasteful

expenditure are all the more urgent today in Maharashtra when the resources position is quite precarious.

Contours of an Expenditure Strategy

In outlining the contours of an expenditure strategy for Maharashtra, Godbole highlights, by way of illustration, areas which would need to be accorded a higher priority as also items/areas, expenditures on which will have to be pruned. Among the former, he lists, for example, programmes for drought-proofing, such as afforestation, watershed development, moisture conservation and irrigation, or again, programmes for welfare of scheduled castes, scheduled tribes and other weaker sections, including, to be sure, persons below the poverty line. Among the latter are, for instance, subsidies given by the Government of Maharashtra, or funding support to drinking water supply schemes of local bodies, or state expenditure on higher education, or even the open-ended commitment of the government to the employment guarantee scheme.

One may argue that the 'burden' of the on-going schemes leaves a limited scope for economy in public expenditure. The proportion of expenditure committed on such schemes is known to be quite large. However, in Maharashtra the zero-based budgeting (later named as 'development-based budgeting') was expected, in course of time, to be a comprehensive exercise which would examine the need for continuing even the on-going projects. Thus, the zero-based budgeting was introduced precisely to define an expenditure strategy in which "expenditure on certain programmes and sectors could be permitted to increase, certain others held at a constant level while some others could be curtailed" [Government of Maharashtra, Finance Department, p. 1]. We have been told that a saving of Rs. 50 crore could be effected in 1987-88 through zero-based budgeting [Government of Maharashtra, Finance Department, p. 1]. Though zero-based budgeting was an effort in the right direction, the amount of saving reported in a total revenue budget of Rs. 5,455 crore in 1987-88

(Revised Estimates) was miniscule, being less than 1 per cent of the revenue budget. An in-depth analysis of the limited success of this exercise may throw light on the type of difficulties which an authority trying to implement an expenditure strategy is likely to encounter. But the awareness of these difficulties should, in fact, define the task to be set by the authority in question before itself. They do not warrant writing-off a plea for expenditure strategy à la Godbole as unworkable.

One further comment on Godbole's scheme of things is in order. He is not merely ranking the government functions, separating high-priority ones from those of low priority. He is, in effect, suggesting that the government has taken upon itself more responsibilities than it should. His advice is that government expenditure should be concentrated on "the primary and basic responsibilities of the Government such as maintenance of law and order, judicial administration, welfare of scheduled castes, scheduled tribes and other weaker sections of society, provision of such of the infrastructure for development (e.g. large and medium irrigation) in which major or significant investment will have to be necessarily made by the Government" [Godbole, p. 67, para 6.23]. On the other hand, he desires that a substantial area such as "construction of roads and bridges, power generation and major transmission, port development, road transport, city bus services, and water supply and conservancy services", should more or less be privatised. One fears that privatisation in a number of these activities may have an adverse impact on the welfare of the weaker sections to whom, in Godbole's scheme of things, the Government is to remain committed.

In the final analysis the path leading to the acceptance of a worthwhile public expenditure strategy is full of pitfalls resulting from the narrowly-conceived political compulsions. Godbole has rightly referred to a recommendation of the Commission on Centre-State Relations to the effect that both the Union and State governments should take into account the high opportunity cost of populist schemes pursued by them [Godbole, p. 6, para 2.13]. But measures to keep

down populism so as to give a properly-conceived expenditure strategy a chance to succeed, are clearly outside the scope of enquiry in this book.

FOOTNOTES

1. Figures of disbursements used for estimating proportions are actuals of the relevant years.
2. The per capita state income is, in fact, per capita Net State Domestic Product. On the other hand, the per capita national income here refers presumably not to per capita Net Domestic Product for the country, but to per capita Net National Product. In that case, the comparison is somewhat vitiated.
3. Annexure III table in Godbole's book (Pp. 71-72), giving the overall budgetary position of the Government of Maharashtra during 1980-81 to 1988-89, brings out this fact.
4. The proportions are estimated on the basis of the following data:

- (a) Maharashtra: Annexure IV table for receipts from own taxes and Annexure VI table for the NSDP figure [Godbole].
- (b) Southern States: Receipts from own taxes [Reserve Bank of India, Pp. 124-126] and Net State Domestic Product and per capita NSDP [Tata Services Limited, p. 16].

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1. Government of Maharashtra, Finance Department, *Development-based budgeting in Maharashtra, A Review*, March 1989.
2. Musgrave, Richard A., *The Theory of Public Finance*, International Student Edition, McGraw-Hill Book Company, Inc., 1959.
3. Reserve Bank of India, *Report on Currency and Finance, 1987-88, Volume II, Statistical Statements*.
4. Tata Services Limited, *Statistical Outline of India, 1989-90*, Department of Economics & Statistics, Bombay.

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 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 of the abstract, not this Journal, for any clarifications.

BOOKS

1987

Goswami, P.C. (Editor), *Problems and Prospects of Industrialisation*, Assam Institute of Development Studies, Guwahati, 1987, Pp. 210, Rs.45/-.

This is the first publication of the Assam Institute of Development Studies. It contains eight essays written by experts in the line. The topics covered include industrial backwardness, policy, incentives, infrastructure, entrepreneurship, handloom industry and industrial development. Besides diagnosing the problems and bottlenecks, measures have been suggested to accelerate the pace of industrialisation in the backward North Eastern Region. The book is expected to fill, at least marginally, the vacuum of literature on the regional economy of North East India.

Gulati, Ashok, *Agricultural Price Policy in India - An Econometric Approach*, Concept Publishing Co., New Delhi, 1987, Pp. 196.

The primary objective of this book is to construct a policy model for Indian wheat sector in which fixation of procurement price and its linkages to other segments of wheat sector are explicitly introduced. Thus, the book first examines various postulates pertaining to fixation of procurement price of wheat, its issue price and its wholesale price in the open market. It is followed by exhaustive analysis and estimation of supply response of wheat, procurement function, issue equation relating to public distribution

of wheat and import function. These equations capturing the behavioural pattern of different segments of wheat sector are integrated through a simultaneous equation model for 1967-1980. The model is used to run several policy simulations such as impact of food imports, variation in rainfall, irrigation, procurement, etc. on other relevant variables. It is also used to derive policy schedules of procurement prices and irrigation, given specified objectives of price and/or stock stability. The model in fact equips the price policy maker to have an ex-ante information of the plausible effects of his decision regarding procurement price. This information, in turn, can be used to monitor imports and procurement operations in the short run and output in the long run.

1988

Kher, Manik, *Alienation from Work and Organization: Revisiting the Theory*, Indus Publishing Company, FS-5, Tagore Garden, New Delhi-27, 1988, Pp. 100, Rs.80/-.

The theme of this book has been primarily focussed on exploring a new dimension of alienation. It distinguishes between alienation from work and from organization. More succinctly, with the help of the first-hand grass roots data, it shows that an individual may be alienated from his organization and yet very much involved in his work and vice versa.

Participative management has been widely recognised as one of the best remedies to reduce alienation. This book highlights the nexus between the two. The use of the term participation

is confined not merely to the scheme of participation initiated by the Government of India but refers to its wider implication of consultation between the boss and the subordinates, types of decisions in which the middle cadre employees participate and the consequent level of their satisfaction. The author argues that the promotion of the compulsory Stock Ownership Scheme would yield good results provided it is also coupled with job rotation.

Mehta, B.C., *Future Population Pressure and Demand for Key Products*, Himalaya Publishing House, Bombay, 1988.

In this ambitious study, the likely dimensions of problems facing Rajasthan at the end of 20th century are studied. First the population of Rajasthan and its regions are projected upto year 2001 by a modified component method. The likely school-going population, working-age population, the sex ratio and the rural urban division are also estimated. Then four growth scenarios are assumed. Elasticity of demand for various commodity-groups are estimated. Then using the assumption of log-normality of distribution of expenditure/income, per capita demand for various commodity-groups are estimated for alternative growth scenarios. Three alternative population estimates are then used to find out the final demand vectors in the terminal year. Input-output table is used to derive the required output levels for satisfying the final demand.

Mehta, B.C. and Awadh Prashad, *Agrarian Relations and Exploitation in Rural Rajasthan*, Ashish Publishing House, New Delhi, 1988.

This is a report on ICSSR sponsored project. The study is divided into three parts - first part deals with secondary evidence; second part with data thrown-up by the field survey and the third part presents cases of exploitation in Rural Rajasthan. Emphasis is on identifying the mode of exploitation rather than on quantifying the extent of exploitation. The distribution of land, assets, capital formation, dues receivable and liability as well as the leasing activities and the labour market and credit conditions are examined to identify the mode of exploitation in Rajasthan and its four regions.

1989

Aravindakshan, K, '*Asoothranam Indiyil*' (Planning in India) in Malayalam, Uco Spark Publications, T.U. House, C.S. Road, Cochin-11, April 1989, Pp. 179, Rs.25/-.

This is Prof. Aravindakshan's fourth book on Economics, written in a simple, readable style, with a lengthy and illuminating preface by C. Achutha Menon, former Kerala Chief Minister. Consisting of twenty four chapters in all, covering the entire spectrum of economic planning and policy making in India over the past nearly four decades, the book begins with a brief survey of the state of the Indian economy during the last lap of British Colonial rule, an understanding of which is an essential pre-requisite for the objective assessment of planning efforts in the post-Independence era. The author scans through all the Five Year Plans, without sacrificing accent on the widening gap between promise and performance. Sri Achutha Menon describes the book as the first one of its kind in Malayalam, written with a view to catering to the requirements of all those who have no background in English, but are keenly interested in the pace of progress of our economy. Objectivity is sought to be maintained throughout, and the conclusions are supported by adequate, authentic and relevant statistical data and tables.

Chapter twenty two is an attempt to present an alternative set of policies and programmes aimed at solving the problems of poverty, inequality and unemployment, plaguing the Indian masses for so long.

The book, aptly enough, concludes with a chapter on the priorities and perspectives for the Eighth Plan.

The list of references appended is useful for deeper reading and understanding of the subject.

Chopra, Kanchan, Kadekodi, Gopal K., and Murty, M.N., *Participatory Development, People and Common Property Resources*, Sage Publications, New Delhi, 1989.

This book examines people's participation as an alternative institution to the market and the government for the management of common property resources such as land, water and forests.

Based on primary data collected from five villages located in the lower Shivalik ranges, this study provides evidence that people's societies can be meaningfully utilised in the management of such resources.

In the context of the acknowledged failure of conventional rural development programmes, the authors provide an alternative rural development strategy that is based on the creation of community assets like irrigation tanks and common land. They argue that people's participation in the management of common property resources can increase the productivity of privately owned assets like agricultural holdings and milch cattle. Further, there are income as also social gains that accrue to government and to village societies from this kind of participatory development.

Dhawan, B.D., *Studies in Irrigation and Water Management*, Commonwealth Publishers, 4378/4B, Ansari Road, Darya Ganj, Delhi-2, 1989, Pp. 255, Rs.240/-.

This book is part of the Institute of Economic Growth Series 'Studies in Economic Development and Planning'. It consists of research papers. The research is highly empirical, based as it is on an extensive use of secondary and primary data.

The book is divided into 14 chapters, of which the first one provides an overview to the problems of irrigation and water management in India. Chapters 2 to 6 are written topic-wise, whereas Chapters 7 to 12 are essentially project specific. New Water Policy is briefly discussed in Chapter 13. An integrated view is presented in Chapter 14.

Indian water endowment and its potential for drought-proofing of Indian agriculture are discussed in Chapter 2. Measures for preventing over-exploitation of our groundwater reserves are outlined in Chapter 3. The problem of over-irrigation by Indian farmers is taken up in Chapter 4. The raging big dam controversy is examined in Chapter 5. Hydrological and economic linkages between canal and well irrigation are quantified in Chapter 6.

While a case analysis of conjunctive irrigation development in West U.P. is presented in Chapter 7, the two subsequent chapters deal with two major irrigation projects from Maharashtra.

Several hypotheses about Indian irrigated agriculture are tested with the help of NCAER survey data for Andhra Pradesh, Gujarat and U.P. Productivity of water in ten major irrigation projects is probed in Chapter 11. Whether tube-wells can eradicate poverty of small and marginal farmers in the east Gangetic plains is investigated in Chapter 12.

Goswami, P.C. (Editor), *Agriculture in Assam*, Assam Institute of Development Studies, Guwahati, 1989, Pp. 354, Rs.95/- (Hardbound), Rs.65/- (Paperback).

This is a collection of twenty five essays written by subject matter specialists, scientists, experts, researchers, academicians and others. Topics covered include land use, farming, cropping pattern, shifting cultivation, peasant movement, cash crops, plantation crops, horticultural crops, input usage, finance, marketing, flood problem, employment, agricultural education, administration, agro-industries, modernisation, etc. The book, first of its kind to make a comprehensive and systematic study on the diverse issues relating to the agricultural development of Assam, is expected to be immensely helpful not only to the academic community but also to policy makers, development administrators and bankers.

Mehta, B.C., *Researches in the Structure and Growth of Rajasthan Economy*, Himalayan Publishing House, Bombay, 1989.

This book presents a survey of researches conducted in the structure and growth of the Economy of Rajasthan. It also presents 160 pages of bibliography of research papers, books and source material on all aspects of Rajasthan's Economy. The survey as well as the bibliography are divided under various sections: General, Socio-Economic Conditions, Infrastructure, Rural Development and Panchayati Raj, Agriculture in general, Agricultural Production, Agricultural Marketing, Agricultural Credit, Political Economy, Area Development, Population, Industrial Development, Labour and Wages, Co-operative Movement, Public Finance, etc.

1990

Chopra, Kanchan, *Agricultural Development in Punjab, Issues in Resource Use and Sustainability*, Vikas Publishing House Private Ltd., New Delhi, 1990, Pp. 154.

This book examines the link between use and management of resources and the sustainability of the development process. The relationship is studied in the context of agricultural development in India's north-western State of Punjab. The study attempts to answer a question that is asked often:- Is the rate of agricultural growth experienced in the region over the last twenty-five years sustainable? The effect of prolonged and intensive agricultural development on the quality of land, the magnitude and nature of water use and the composition of biomass are some of the issues that are examined in this context. Further, distributional aspects of access to crucial inputs such as water and the newer forms of capital are also studied. In brief, the study aims at reviewing the scenario of resource management that has accompanied rapid agricultural development in Punjab, assessing its implications for sustainability of the development process and suggesting policy interventions that promote conservation and/or substitute readily available resources for those that are scarce.

ARTICLES

1986

Mehta B.C., 'Regional Variations in Agrarian Relations in Rajasthan', *Rajasthan Economic Journal*, Vol. X No. 1, Jan. 1986, Pp. 74-88.

In this paper data thrown up by All India Debt and Investment Survey has been examined in relation to four agro-economic regions of Rajasthan. Examination of data indicated that usurious exploitation and bondage is prevalent in Southern Rajasthan and agricultural capitalism is dominant in North-Eastern Rajasthan. Western region is mainly a peasant economy whereas South-Eastern region is moving towards agrarian capitalism. The Analysis is based on the study of distribution of assets, land, capital formation, indebtedness and dues receivable and the operation of lease market.

Mehta, B.C., 'Choice of Appropriate Scale and Sectors in Industrialisation in a Backward Region', *Indian Journal of Regional Science*, Vol. XVIII No. 1, 1986, Pp. 93-100.

The choice of appropriate scale of operation and sectors for Rajasthan is examined using input-output table prepared by the author. This is done on the basis of backward and forward linkages and value added, output, employment and productivity multipliers. It is pointed out that the present output-mix is sub-optimal. Priority sectors are identified and the need for decomposing the input-output table into tables for different scales and technologies is underlined.

1987

Gulati, Ashok, 'Effective Protection and Subsidies in Indian Agriculture - Case of Wheat and Rice', *Indian Journal of Agricultural Economics*, XLII (4), 1987, Pp. 561-77.

The paper estimates region-specific three variants of protection coefficients - nominal, effective and effective subsidy, for wheat and rice during 1980-81 to 1984-85. The results indicate that both wheat and rice cultivators have been net 'taxed' (negative protection) under importable hypothesis, the degree of 'taxation' being greater for rice cultivators than for wheat producers. Under exportable hypothesis, however, wheat cultivators enjoy positive protection while rice farmers still face 'taxation'. It implies that rice and wheat are efficient import substitutes and rice is also an efficient export commodity. The implication for rice is more true for eastern states with high rainfall than for Punjab and Haryana cultivators.

Gulati, Ashok, 'Effective Incentives and Subsidies for Cotton Cultivators in India', *Economic and Political Weekly*, XXII (52), December 26, 1987, Pp. A177-A187.

The paper estimates effective incentives for cotton cultivators of Maharashtra, Gujarat, Andhra Pradesh and Punjab, on variety-specific basis during 1980s. The results indicate that cotton cultivators on the whole have experienced

anti-protection (net 'taxation') through Government intervention. Andhra Pradesh cultivators of long staple cotton (MCU-5) are the worst affected. Results also imply that cotton, especially long staple, is India's efficient exportable commodity and that investments to expand its production would provide high economic rates of return.

Mehta B.C., 'Crucial Components of an Appropriate Population Policy' in *India's Population Policy: Critical Issues for Future*, ed. Lal, S.K. and Chandani, Ambika, Twenty First Century Publishers, Meerut, 1987, Ch. 2, Pp. 13-22.

The study identifies the parameters and policy instruments for family regulation. The experience of Rajasthan is analysed. The danger of unavoidable population pressure leading to structural and technological retrogression is underlined.

Mehta B.C. and Kumud Dave, 'Disparities in Regional Development', in *Regional Economic Planning in India*, ed. Agrish, A.C., Twenty First Century Publishers, Meerut, 1987, Ch. 16, p. 178.

Principal component analysis is used to prepare composite indicators of infrastructure development, agricultural development, industrial development and demographic factors. Then the development profiles of the 26 districts of Rajasthan are prepared. Two reference years, 1970-71 and 1980-81, are used. Backward districts are identified.

Mehta, B.C. and Rajendra Menaria, 'Efficiency and Social Justice in Indian Tax Structure', in *Efficiency and Social Justice in Taxation: Readings in Economics*, ed. Indian Economic Association, Sahitya Ratnalaya, Kanpur, 1987, Pp. 16-29.

In this paper an attempt is made to assess various measures of progress and apply the same to the Indian tax structure. Five measures are used. On the basis of these measures it is concluded that, in the year 1973-74, Indian tax structure was

progressive and the degree of progression in urban sector was slightly higher than in the rural sector. However, the redistributive impact of this tax structure is negligible.

1988

Gulati, Ashok, 'Effective Incentives and Subsidies for Groundnut Cultivators in India', *Economic and Political Weekly*, XXIII (52-53), December 24-31, 1988, Pp. A157-A162.

The paper quantifies effective incentives for groundnut cultivators in Gujarat, Andhra Pradesh and Tamil Nadu for 1980-81 to 1986-87. The results reveal that groundnut cultivators have been substantially protected through Government intervention on external trade. And high degree of protection is likely to prevail in the coming years, given the emphasis on oilseeds through Technology Mission on Oilseeds. The results also indicate that groundnut is neither an efficient import substitute nor an efficient exportable commodity and investments to expand its production would yield low economic rates of return.

1989

Gulati, Ashok, 'Input Subsidies in Indian Agriculture: A Statewise Analysis', *Economic and Political Weekly*, XXIV (25), June 24, 1989, Pp. A57-A65.

The paper estimates quantum and distribution of input subsidies across states in Indian agriculture during 1980s. The average annual subsidy on four main inputs of modern agriculture - fertilisers, irrigation, electricity and credit, turns out to be about Rs.9,000 crore, which is 17 per cent of value added in agriculture. Spatial dispersion of input subsidies as a ratio to value added in agricultural sectors of different states reveals a regressive pattern. This indicates that agricultural development of states with high value productivity of land - Punjab, Haryana, Tamil Nadu and Andhra Pradesh, is largely supported through input subsidies.

- Mehta, B.C., 'Planning in Rajasthan X-Rayed', almost all indicators of socio-economic development. However, despite this, Rajasthan's plan efforts do not provide any hope. Planning lacks technical expertise and serious application of planning methodology. A major problem in Rajasthan is recurring famines and drought. It is suggested that these should be treated as a normal condition while preparing plans.
- in *The Economics of States of the Indian Union*, ed. Adishesiah, M.S., Lancer International, New Delhi, 1989, Ch. 6 Pp. 202-218.
- The main problems of planning in Rajasthan are identified in this contribution. Rajasthan is lagging behind all other major states with respect to

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