809

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Prosperity 2000

Fiscal Policies and Globalisation

CONTENTS

EDITORIAL HIGHLIGHTS

Introduction

THIS editorial for the July issue covers major activities in the month of May under four broad heads. **State:** Important budget developments particularly for raising resources, and the RBI format on the state's plan and non plan expenditures as well as education and social expenditures and the overall budgetary developments both for 1993-94 and as a trend are dealt with. The water scarcity problem has worsened and a revised Veeranam scheme is being revived. In agriculture, food as well as non food crops are doing very well, having surpassed their targets. In industry the Comptroller and Auditor General's report on the state's public sector enterprises which faces a large net loss and the problem of the Southern Gas Grid are dealt with. **National:** In the budget area the passing of the finance bill along with some further sops which have been offered are noted. The country's economy comprises a number of developments such as an examination of the New Economic Policy which has now run for near two years and examination of the extent to which it attained its objectives; the IMF's new computation of GNP and per capita income for the country; the overall effect of the policy on poverty and inequality in the country; and the 5th and final report of the Janakiraman committee are all dealt with. Agriculture in May reports that the targets are being attained and passed so that there is no need for import of foodgrains. The plantation crops are doing well. In the industrial sphere there has been a sharp decline during the year and some pick up later. Foreign Trade and Balance of Payments cover serious problems of fiscal management, fiscal deficits etc as reported by RBI. In the area of Human Resources Development, in education the district primary school project is initiated, the Navodhya school system is rejected in the two states, and the Total Literacy Programme is being reviewed by a high level committee. Under science, the collaboration with Uzbakistan and Kazikstan is noted. Under health, the Unicef aided nutrition programme is doing well in the five states sampled. In the employment field the World Bank credit of $500 million for the social safety net and the revival of SEPUP are noted. **International:** The world debt situation is being used as a means of controlling the poor majority in the third world countries. In the area of world poverty in face of its massive and growing nature, the World Bank commits itself to making it its main platform. The world economy shows that the majority of the developing countries are facing lower GNP growth in the

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coming year. The world population is on the rise. **Other items:** Among other items the annual conference, meeting of the Executive Committee and the Coordinators of the Bharat Gyan Vigyan Samithi held in Madras is an important event.

State

Budget and Finances

From small savings, Rs. 551 crores accrue for 1992-93 against the target of Rs. 550 crores. This source of budgetary resources could have been Rs. 100 crores higher if there had been some concessions on income tax on savings. A second source of income not foreseen in the budget is the Rs. 75 crores raised through renewal sales of IMS. The tight resources position involves: a) no more concessions in the Professional tax, b) the short fall of Rs. 579.95 crores in 1992-93 in TNEB which contributes further to the tight resource position and makes the Board think of a tariff revision. Also the delay in the North Madras Thermal project has sent up the original cost of Rs.568 crores to Rs.1405 crores, which is the kind of escalation the Board cannot afford and c) the growing thermal costs could be reduced by further reliance on hydel sources. An interesting and important note on the state budget is seen in the March 1993 RBI Bulletin which shows: a) plan expenditures growing by 5.7 per cent compared to 9.9 per cent for all India; b) Non plan expenditure growing by 13.1 per cent compared to 21.3 per cent all India. (non plan is growing 2 1/2 times compared to plan but is little less than half of all India growth); c) Gross fiscal deficit is -Rs.1187 crores compared to -Rs.26879 crores for all India; d) The estimated yield from budget proposals is Rs.85 crores compared to Rs.873 crores for all India; e) Social Services expenditure for 1990-91 is Rs. 4934 lakhs, for 1991-92 8005 lakhs, for 1992-93 6840 lakhs showing a sharp reduction for 1992-93; f) This is also reflected in education expenditure which were Rs. 914 lakhs for 1990-91, Rs. 1014 lakhs for 1991-92 and Rs. 754 lakhs for 1992-93; g) Similarly health has had a declining share. 1051 lakhs for 1990-91, Rs.1264 lakhs for 1991-92 and a reduced Rs.924 lakhs for 1992-93.

There will be an occasion later to comment on the effect of new economic policy on social expenditures.

Water

In regard to water the scarcity situation worsened, with the state taking emergency measures to sink 2000 bore wells during the year bringing water to Madras by lorries, tractors and the railway at 10 million gallons a day, from other sources similarly 4 million gallons a day and a revised Veeranam project which should in one year provide 40 million gallon a day. These various schemes do not seem very helpful or hopeful. The Madras Metropolitan Water Supply and Sewerage Board has a Rs.15 crore project to replace sewage pumping by sophisticated submersal pumps and expects World Bank to finance the project. The state government reports that it is seriously considering introducing legislation to control and regulate use of ground water. This has been talked about for over four years, so that whether anything can come out of it now remains doubtful.

Agriculture

The state target for this year's kuruvai is 10 tonnes per hectare which is likely to be attained. The state government reports granting 30 per cent fertiliser subsidy for farmers in addition to the subsidy of Rs.1,000 per tonne which has been announced by the Central government. An important development is the lifting of monopoly

procurement in the Cauvery delta because of adequate rice stocks, which are 8 lakh tonnes, adequate for PDS needs. The national water shed development project programme for rain fed areas is being implemented in 14 panchayat unions in the state which should meet the water needs and those unions. On the research side some 30 projects are reported of which six are in the area of paddy and cereals, 8 are in fruits and vegetables and five are in animal husbandry which is a fair distribution.

Industry

In the state the supply of molasses to distilleries is drying up which is a part of the consequences of the decontrol measures introduced. The Comptroller and Auditor General reports that the state's public sector enterprise have recorded an annual loss for the year of Rs.47 crores; of the 77 undertakings only 46 finalised their accounts, of which 21 earned an aggregate profit of Rs.43.89 crores and 25 incurred losses of Rs.46.94 crores. This is a sorry state of affairs, the latest available account showing an aggregate loss of Rs.54.81 crores against the aggregate capital of Rs.124.09 crores. The state's industrial development is held up for lack of energy. Here the Southern Gas grid project is still being held up by the Centre while the HBJ pipe line from Maharastra to the North is being extended. There is need for some urgent action on the energy front in order to help develop further industries.

National

Budget

The Finances Bill was passed after three further concessions were made (further to those made in February 1993 when the budget was introduced). Raising the hike in income tax exemption limit from Rs.28,000 to Rs.30,000, raising the 80L ceiling on interest unit income from Rs.7000 to Rs.II,000, and in the standard deduction from Rs.12,000 to Rs.15,000. Putting together all the concessions given in the budget on February 27, 1993 and the finance bill of May 5, the governments has incurred an aggregate revenue loss of Rs.7004 crores, which could have been saved and used to reduce the public debt. It may be noted that those who gained from the concessions are those who pay tax from 20-30 per cent along with the escape from the surcharge due to the decline in taxable income to less than Rs.10,000. The Standing Committee on Finances reports that the rise in interest payments will amount to a large Rs.38,000 crores in 1993-94 which represents 25 paise out of every rupee spent by the government. Another element to note is that there are further changes over even the revised estimates for 1992-93 because of the upset in earlier calculations of tax receipts, some Rs.5000 crores being lost in December/January on account of the disturbances and the non realisation of Rs.3500 crores in disinvestment. Further, there is a loss of revenue because of the rates of import and export and excise duties which come into effect immediately before the year starting in April. The Rekhi Committee on indirect taxation has submitted its first report for simplifying and streamlining loans and procedures for central excise and customs. It also identifies the area of conflict between tax payers and tax collectors and suggest remedies. A high power tribunal like the central administered tribunal and a high level Indian classification committee are proposed with trade and industry representatives. The dichotomy between actual exports and deemed exports is recommended to be abolished and the definition of MODVAT widened. The extent to which this revision recommended to indirect tax will be accepted by government and be put into force includes one element which has not been dealt with and that is its effect on the revenues raised.

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Economy

There are several issues demanding attention with regard to developments in the economy. The first is the new IMF study which boosts India's income status making it a lower middle income country instead of one of the poor countries, increasing its GNP from $290 billion to $1000 billion and its per capita income from $330 a year to $1150. This places Indian economy at one stroke as the 6th largest in the world after US, Japan, China, Germany and France. In the method followed by IMF, the value of the nation's GNP is measured in terms of purchasing power of its domestic currency and not as has been the case so far in terms of the currency's worth in international exchanges. There are advantages and disadvantages in this new status. The advantage is mainly in terms of prestige. India can now claim a place in the G7 and in membership of the Security Council. Its disadvantage is that it does not help to remove the major problem of the country namely massive poverty, which is also true of China at a lower level. Further, while it is true that the rupee buys more goods internationally than the dollar, this has not made the economy more competitive globally. Why has this not been happening? This is the issue posed by the new IMF calculation on the Indian economy. A second issue which is positive is that according to the RBI study on financial projections for Indian economy, new investments in the private corporate sector is likely to grow beyond the plan targets and even exceed public sector investments. This higher growth in domestic investments in which the private sector would play a leading part will bring about a major change in the funds flow pattern. While the government sector will have 44.7 per cent of the domestio investment share and private sector 20.9 per cent in the Eighth Plan, the government sector will finance its investment from its own savings to the extent of 13.6 per cent, while the private sector will use its savings to the extent of 37.8 per cent. The household sector is to invest 43.5 per cent of its gross savings in real assets while the government and private corporate sectors will continue to invest 90-92 per cent of their funds in real assets. There is one major reservation made by the RBI itself on the accuracy of these fund flow projections which have not taken into account the various economic reforms namely liberalisation of industrial licensing policy, new export/import policy, opening up industry for foreign investment and relaxation of MRTP Act. A third issue is now that one year and 10 months of the New Economic Policy have been completed, there is need to look at how far its major objectives have been attained. These objectives were to attain by 1992-93 GDP growth of 4 per cent, an inflation rate of 6 per cent and fiscal deficit of 5 per cent of GDP. According to the RBI's report on Currency and Finance (for 1991-92) these objectives have been nearly attained. With the fiscal deficit down to 5.7 per cent, the GDP growth being 4.2 per cent and the inflation pegged at 6.7 per cent, a second look of the economy raises questions about how far these attainments are the result of sound management of the economy or alternatively through management of the information system. The latest RBI report of the growth of the economy over 1991-92 turns out to be not 2.5 per cent as reported by RBI last year, not even by 1.4 per cent as reported in the Economic Survey for 1992-93 but is only 1.2 per cent. This means that the country's per capita income actually declined during the first year of the reform, 1991-92, at a rate as largely as that at which it had grown over the first three decades after independence. Similarly as far as inflation is concerned the government reports that as on April 26 the rate of inflation was 6.7 per cent which is well above last year's target. The Ministry of Finance forecasts that by September end (1993) the inflation rate

will be only 5 per cent (provided that there are no fresh hike in administered prices). The New Economic Programme stated that the programme will involve costs now but its benefits will accrue later. But the picture provided by the Economic Survey and the report on Currency and Finance do not show that basis has been laid for a better future. In exports for instance instead of the 20-25 per cent growth which we now have to achieve inorder to reach even the latest 8th Plan target at 13.6 per cent, exports growth stands at 2 per cent. The recent Ex-Im Bank study concludes that the various devaluations have had no effect on our exports. The difference between the official and black market price for the US dollar which was less than a Rupee, has suddenly shot up to Rs.7. The havala dollar now fetches a 'premium of 21 per cent over the official rate, which is surprising because of the strength of the post devaluation Rupee, which would have been even stronger at Rs.28 to the dollar. But this potential strength of the Rupee has been suppressed by the RBI which has purchased over half a multi dollars from the market. If the havala rate persists well above the official rate of the dollar, it is popularly believed to be a sign of impending Rupee devaluation which is not right, because the excess demand for the dollar is not in the official market but in the black market will not be met through devaluation. The official line is that import liberalisation, reduction of import duties and pervasive imports of gold and luxury goods have wiped out the demand for havala dollars. There is a shortage of havala dollars, following the rerouting of inward remittances by expatriates through official channels at the attractive official rate, but this demand has pushed up the dollar premium to dizzy heights. As against this explanation of black money being converted into gold, which means an inflow of gold and foreign currency, what is taking place is outflow of capital, reflected in slowing land remittances, and pulling out of share and real estate markets and moving into dollar deposits in West Asia. If this is the effect of the Bombay blasts and the police investigations that followed, it should be a short term cleansing operation which should be welcomed. Further the fiscal deficit reduction is being attained at the cost of reducing capital investment and expenditures. All of which show the need for careful assessment of the state of poverty and inequality. This brings up the fourth issue of the status of the state of poverty and inequality of the country. As the World Bank's updated Handbook on Poverty states India's agricultural subsidies which amounted to Rs.13500 crores in 1989 was more than the public investment in agriculture have gone overwhelmingly to the wealthier and agriculturally advanced regions and to larger farmers and have not been an effective anti poverty instrument. Including irrigation, Punjab received benefits of Rs.1027 per hectare compared with the All India average of Rs 511 per hectare, with similar levels of benefits for Haryana, Tamil Nadu and Andhra Pradesh. Similarly large and wealthier farmers who have access to irrigation, ground water and credit, using a higher level of fertilisers receive the greater proportion of subsidies. Thus inequality has worsened in India. The New Economic Programme by reducing investment in the social sector in order to produce exportable goods to pay for the interest of our debts has contributed to this imbalance. A study by Unicef of some 100 third world countries which like India have adopted the Structural Adjustment Programme shows the cut in education and health and social investment which they have suffered. IMF's anti inflationary austerity programme reduces credit, raises interest rates, and cuts public spending. This means that the cost of public services such as water and power are increased along with the reduction in consumer subsidies on food and other essentials. Added to this stream of inequality are the various loopholes in the countries land

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ceiling Act. There is now a move to implement Panchayati Raj legislation but as the experience of Maharashtra, Gujarat and particularly Karnataka show, without effective implementation of land reforms, the decentralisation of power to Panchayats only helps the hegemonistic tendencies of the land lords and the rural rich. A further development in the national economy scene is the 5th and final Janakiraman report which does not provide any new information, particularly of who caused and/or benefitted by the SCAM. It reports that the gross exposure of banks in the SCAM was Rs.4024.45 crores and proposes that each bank hold an enquiry on its major transactions and recommends a separation of the portfolio management scheme from normal banking operations. What is scandalous is that the main source of funds for the SCAM was from the public sector units to the extent of 66 per cent as on December 31, 1991 and 57.7 per cent in June 1992. The guidelines of the Indian Bank Association and RBI were not observed but were regularly breached. The Committee's report however, has ommitted one of its major terms of references, namely to fix responsibility for the malpractices and as to who really benefitted from this massive misuse of public funds. Finally one important development is the IMF agreement that in 1995-96 the fiscal deficit should be reduced from 3.5 to 3 per cent of GDP instead of the early harsh target of 2 per cent. The improved foreign exchange reserves have enabled the government not to borrow further from IMF, EFF or ESAF for the present. But from next year when the repayment to IMF begins, there will be very serious drain on foreign exchange reserves.

Agriculture

On the agricultural front there has been an all time record output of foodgrains. The government estimates that its buffer stock is likely to reach over 22 million tonnes by June 1993 as its procurement of wheat attains 120 lakh tonnes by May end. The 22.68 million tonnes forecast comprises 13.77 million tonnes of wheat, 8.91 million tonnes of rice. This is 3.8 lakh tonnes more than the required level of stock at 22.3 million for the nation's food security. This record is likely to have an impact on open market prices for cereals and pulses. This should help in the coming year's control of inflation. Rice production in 1992-93 has exceeded 73.66 million tonnes and the procurement target of 1.2 million tonnes. The pace of wheat procurement in Punjab, Haryana and Western UP has been similarly encouraging. If the output of food crops can be raised to 186 million tonnes as visualised by government a surplus will emerge and procurement will be eased. Blackgram, however, has decreased in production and this is reflected in its prices. The agricultural scene continues the disparity between regions and also per capita production between states. Of the 17 major states which account for 98.66 per cent of all foodgrains production and 97 per cent of the country's population, 8 states, each of them average per capita production above the national average stand in contrast to the remaining 9 which together produced only 34.9 per cent of the total foodgrains. It is these two gaps which agricultural procurement and policy must address itself to. In regard to **plantation crops**, tea cultivation faces a particular problem from excess moisture and lack of proper drainage. This affects over 20,000 hectares which if properly tackled would increase productivity by 25 per cent. Where pipe drainage has been used 20-25 per cent increase in tea has been obtained. There is need for a drainage survey and a programme of investment in this area. With regard to **coffee**, the planters want changes in the present system of coffee marketing to enable the commodity to achieve a natural balance between domestic and export sales and to overcome the disadvantages in the Internal Sale Quota.(ISQ) An increase in the ISQ from the present 30 per cent is needed so that exportable surplus of coffee which have no market within the country are used for blending purposes. Also with no signs of any increase in world coffee prices, the Indian coffee industry must ensure the domestic market for remunerative prices. With regard to **rubber**, the initial figures on production show that it has attained over 4 lakh tonnes in 1992-93 (an increase of 10 per cent over the previous year) while consumption is estimated to be 4.14 lakh tonnes. Rubber cultivation has reached a saturation point in traditional areas so that non traditional zones suitable for planting should be exploited.

MIDS Bulletin, July 1993

Industry

The news on the industrial front in April is not encouraging. CSO reports a sharp decline of 4 per cent in industry so that for the first 10 months, April 1992 to January 1993, industrial growth was a mere 2.8 per cent. Within these figures the manufacturing sector shows an even sharper decline of 6.6 per cent in January and a growth of 2.6 per cent for the 10 month period. The highest decline in manufacture has been in textiles at 17 per cent. The Union government reports a new financing scheme to provide financial support to SSI units. As the liberalisation policy has not reached small units, it is now proposed that as incentives for improving quality and helping the small and tiny sector, the first 100 small entrepreneurs who have ISO 9000 rating for their products will be helped. Under the liberalised policy, many incentives are being offered to the fruit processing sector, customs duty cut, land for shrimp farms etc. The need for developing food processing industry particularly in rural areas is suggested along with reduction in duties and levies on processed food items. This proposal for pushing food processing forward depends on the states (1) giving priority for implementing these projects, (2) giving quick clearances if necessary through an inter departmental mechanism, (3) following the centre's lead in reducing and eliminating excise duties on fruit products there should be a follow up to reduce and eliminate where possible the state duties in the form of sales tax, octroi, marketing fee etc and (4) reducing and removing the restrictions on inter state movements of new material and processed goods to help develop an Indian market to the processor in any state.

Foreign Trade

The latest data show increasing deficits with India's imports rising to 10 per cent above exports for the month. The per capita external debt is reported at $75 in 1991 and $82 in 1992. The total debt which was 21.4 per cent of GDP in 1990 has now jumped to 27.3 per cent. Indian exports in 1992-93 grew at 3.6 per cent against the target of 12.8 per cent mentioned earlier while imports grew at 12 per cent. The trade deficit during 1992-93 is estimated at $3305.04 million which is more than double of $1610.15 million in 1991-92. One hopeful sign is that the trade balance in February and March 1993 were positive at +$91.97 million and +$199.37 million respectively. Monthwise April 1992 (-8%), December 1992 (-12.5%) and January 1993 (-6.8 recorded negative growth in exports. Quarter wise, the third quarter of 1992-93 recorded a decline (-0.1%). Half yearly performance shows the October 1992 to March 1993 export growth at 2.1 per cent. On the other hand, in three out of twelve months only there have been negative growth rates in imports (October 1992 and January and February 1993, while for six out of the remaining nine months there was a double digit percentage increase in imports. For 1993-94 the government has set forth the farm exports target at $22.55 million including exports of processed foods, fruits and vegetables and plantation crop products. RBI's report on Currency and Finance states that the net drawals from IMF was $676 million in 1992-93 while foreign assets rose only by $612 million. This is poor BOP management. Against this background, it is not understandable as to how the report on Currency and Finance can be optimistic with regard to the current account deficit of 1992-93 at 5.5 per cent against $7 billion estimated by the ministry. Perhaps, it pins its hope on net receipts from invisibles estimated in the first three quarters April/December 1992-93 at $573 million. Equally disturbing is the fact that the unification of the exchange rate and the liberalisation of gold imports have not controlled the deficit syndrome which is a sign of the vulnerability of the foreign trade and the BOP system. One particular development which calls for replication by other EPZs is the increase of Rs.31.51 crores of net foreign exchange earning by the Madras Export Processing Zone. Its total exports in the period April-February 1992-93 is not only a sizable Rs.135 crores but is entirely from the general currency areas, with only Rs.13.34 crores earned from the rupee payment area. Will the other 5 EPZs at Kandla, SEEPZ, Cochin, Noida and Falta follow this as a means of closing even a little gap between our export and import earnings?

Loans and Aid

In the aid field the large loan of $1.2 million by the World Bank for the National Thermal Power Corporation in May and the loan of Rs.785 crores by West Germany might be noted. But the major event to which attention should be called is that as of January 1993 $19.874 billion of foreign loans lie unutilised. The commitment charge on this alone is $.082 billion per annum. The main reason for the non utilised funds is delay in the implementation of projects due to project proposals being drawn up hurriedly without sufficient research, the eagerness in the finance ministry to push proposals to foreign agencies, the foreign agencies desire to sanction funds even though they know the proposals are not mature and the lack of rupee resources. It is not surprising that foreign donors are somewhat weary of India's inability to use loans. One European country has reduced its annual loan commitment. ADB has tied its second loan of $225 million for Indian railways to a deadline which has been set. This delay in the use of foreign loan escalates the costs of projects also as between sectors, 45 per cent of the non use of funds was by the power sector alone. The need of the hour is early completion of infrastructural projects and this should be given absolute priority.

Human Resources Development

In the education field, May recorded the launching of a new programme of district primary schools aimed at universalising primary education through local level planning, desegregating of projects and decentralised management. It is hoped that the ministry will work with the states and the states with the panchayats so that there would be some progress in reaching the goal of universalisation. On an another development Tamil Nadu and West Bengal have announced their opting out of the Navodhya scheme. This constant change in their attitude to Navodhaya does not contribute to educational continuity and development in their states. The newly constituted Board of the Tamil Nadu State Council for Higher Education has proposed the development of Tamil Nadu universities as centres of excellence to avoid the scattering of resources and poor use of the existing infrastructures. It has recommended that a start could be made with developing further Madurai Kamaraj

MIDS Bulletin, July 1993

University as the centre for the life science and Mother Teresa University as the centre for women's studies. This needs to be further debated by the Board itself. The government announced another review of the National Literacy Mission under one of our leading economists, Arun Ghosh and 6 eminent academicians - Prof. Andre Beteille, Prof. Veena Majumdar, Prof.Anandamoorthy, Prof.Kansa, and Mr.Vanaik. 6 institutes including MIDS are being associated with this review. This continuous review of the literacy programme is not likely to contribute very much to its development.

Science

The Chief Minister's visit to Kazakhistan and Uzbekhistan has resulted in prospects for development of important science research programmes in collaboration with scientists in these countries. In addition to using the Space Landing facilities at Baikaner in Kazakhistan for sending up INSAT-CII, research programmes in high technology areas such as biotechnology, nuclear energy and space are envisaged.

Health

The Unicef aided nutrition programme in the 4 states AP, Maharashtra, Karnataka and Tamil Nadu is progressing well with Tamil Nadu being in the forefront and Andhra Pradesh somewhat lagging. This uneveness needs to be corrected. On the population front an encouraging report from the census commissioner is that population growth was 2.32 per cent in 1971-81 and 2.1 per cent in 1981-91. This slow down in population growth should be welcomed. On the **employment** front the World Bank has made available some $500-600 million for the social safety net in order to redeploy workers in public sector undertakings which are facing losses. The bank has also lent $800 million for other sectoral projects. It has encouraged the government to strengthen SEPUP and review agricultural minimum wages. The 1993 Human Development report states that wage employment in the Indian urban (informal) sector have been growing twice as fast as in the formal sector. Swollen by growing school leavers who have no where else to go, the informal sector is also absorbing a large number of workers who have lost their jobs in the government or in the formal private sector.

International

World Debt

World debt financing by World Bank and IMF has involved structural adjustments including successive devaluations, demand managements (involving reduced purchasing power), and suppression of social services. These hit very hard the poor majority in the debtor countries who are forced by their elites to sacrifice their standards of living to help the country to pay back loans. The primary task of the World Bank and IMF is now to manage debtor economies in such a way that the debt can be serviced as a priority. This has involved ensuring a positive Balance of Payment at any cost, competitive devaluation and markets glutted with excess supplies, which involve plummeting prices for everyone. Countries undergoing structural adjustments, real wages have fallen by 30-90 per cent, credit for local firms have become scarce and expensive, and unemployment in the private sector becomes massive. Unicef has summarised this situation of the third world countries very simply "as the sacrifice of an additional half a billion children annually as the result of the debt crisis". Debt, it is pointed out, is primarily a political and not an economic phenomenon, so that those who are administering it are really engaged politically. This is a serious issue that the World Bank and IMF must face. Against this background, the World Bank presents a two track approach to poverty reduction as its major priority. That is, the approach envisages promotional growth to enable the poor to participate in supporting and expanding investment in health, education and other social services. The other is that the poverty reduction benchmark cannot be attained in the short term and in the words of the bank, there is a long way to go.

World Economy

UNCTAD in its latest report states that the economic cutlook for the 47 nations weakened with over 1/10th of the world population, commonly referred to as the Least Developed Countries, does not appear to be promising. They have all embarked on the process of domestic reform which might face a halt or reversal. Hence the report warns that high among the major challenges facing the international community is that of ensuring that reforms are safeguarded in countries where they have taken root. Though in 1992 total output growth increased slightly from the 1991 decline of -0.2 per cent, with population growing faster, per capita GDP has been falling continously from 1989 which will include 1993. UNCTAD estimates the immediate requirement for emergency relief to Southern Africa at $856 million. The current account deficits of these countries have reached $10 billion because of the decline in the world prices of their major export products, especially primary commodities. UNCTAD estimates that in 1991 the total external indebtedness of LDCs was $113 billion, with 90 per cent being long term. Their debt stocks account for nearly three quarters of their combined GDP and in 17 countries even exceeded their GDP. Debt services payment made by them amounted to 22 per cent of their export earnings in 1991 shooting up to 25 per cent in 1993. This grim picture tallies with the world debts issue referred to earlier. In this context UNCTAD's plea that the obligations of LDCs in the area of TRIMS and TRIPS be so flexible as to allow for the creation and development of their technological and industrial base seems to be a cry in the wilderness.

Human Development Index

As against the optimistic new estimates of India's GNP made by IMF referred to earlier, it is necessary to look at UNDP's Human Development Report 1993, where India occupies as low a rank as 134. Human development index ranks a country according to the quality of life and its people, and not its economic growth. The report makes the important point "that economic reforms must be accompanied by social conscience" because under such reforms it is the poor who are affected by the cuts in welfare. It calls for a freeze on military spending and the preparation of human development strategies in each country involving sweeping decentralisation, forums for South-South cooperation, a new deal with developed countries for more aid, and setting in motion a parallel proposal for change. India which as noted earlier, is ranked 134th, which is two place below Pakistan, several places below Sri Lanka, China and most of its neighbours, called for very sharp criticism — by the commerce minister Mr Pranab Mukherjee, the vice chairman of the Rajiv Gandhi Institute Mr Abid Hussain and most members of India's elite were present when the report was released. The report also refers to the 7 weaknesses of privatisation, which is part of the economic reform package of the many countries involved, namely: 1) adopting it for the wrong reason, such as short term revenue gain; 2) operating it in a wrong environment, with poor market functioning; 3) using non transparent procedures, as seen in corruption and the

favouring of a few government personnel; 4) being used for financing budget deficits instead of reducing the mounting national debt; 5) adopting poor financial strategies n non use of capital markets to sell shares; 6) following unrealistic labour strategies, which demand from prospective buyers guarantees that no worker is laid off, and above all; 7) operating with no political consensus on the privatisation measure which the base of executive orders gives rise to.

The Global Environment Facility (GEF)

UNDP also criticises the World Bank for its attempt to control the Global Environment Facility which was set up as an international environmental funding body in 1990 to be managed by the World Bank, UNDP and UNEP. It is alleged that the World Bank which has been acting as its banker is trying to make it a pocket borough of the Bank. This is serious because the GEF designated at the Rio summit in 1992 is to be the principal institutional mechanism for implementing the bio-diversity convention and the climate change convention, along with disbursing the considerable funds that will become available to both. Given the World Bank's controversial record vis a vis structural adjustment in debtor countries, it is important that it should not establish a stranglehold on GEF, which should be administered by the Participating Assembly comprising representatives of all the major participating countries.

World Population

World Population Reference Bureau in its latest report states that each of the coming few decades will see about a billion people added with 95 per cent of them being in third world countries. In 1993 world population will top 5.5 billion moving to 6 billion in 1997 and 8.5 billion in 2025. In 1993 world population has grown at 1.6 per cent which is a decline from its peak of 2.1 per cent in 1960. Both UN and World Bank assume an ultimate population size of 12 billion which is in contrast to the 2.5 billion in 1950. There is urgent need for world birth rates to decline quickly.

Other Items

Bharat Gyan Vigyan Samithi (BGVS)

The Annual conference of BGVS preceded by its Executive Committee met in Madras in early May. The review of BGVS activities within the framework of the Total Literacy Programmes state by state showed that BGVS was performing its function of acting as a catalyst for the massive literacy programme, and continuing to mobilise an increasing number of volunteers, particularly from the educated classes. In regard to the Hindi belt where the literacy programme is lagging and weak, during the year the concentration is on planning and executing successfully Kala Jathas. This will be followed in the future by the actual literacy teaching and learning programmes. There are two dangers that the programme as a whole faces. First as it is increasingly patronised by all the state governments and operated at the district level by the district collectors, there is a trend for the programme to become a semi government programme. It was agreed that this should be resisted and BGVS' voluntary character strictly maintained. The other problem is that the voluntariness of the programme which is its main strength (as the massive illiteracy of the country cannot otherwise be tackled) is also weakening. There are increasing demand for honorariums and other payments, which will limit the scope and outreach of the programme. The plan for the next three years was discussed and the goal of complete literacy adopted. For

1993-94 the programme and budget of the Samithi was discussed in detail and approved. As this was the beginning of the new Triennium a new general assembly, executive committee and a set of office bearers were elected for the next triennium.

SRC-TNBCE

In the middle of the month there was a meeting of the Governing Body of SRC when its activities for the new area of education for street children was reviewed. This programme financed by Unicef has produced three literacy primers and three vocational texts which are being used throughout the state now to educate street children. The Governing Body noticed that there was a number of evaluations of the cadres, filling up with the president and requested him to pay urgent attention to them. The Executive Committee of TNBCE which followed, reviewed the ongoing mass literacy programmes, paying special attention to those run by the Madras Literacy project Association. The Committee also reviewed and decided on the plans for the Annual General Conference which will have the usual meeting of the voluntary Agencies on the first day and to be followed by the General Conference for the following two days, whose main theme will be post literacy programme. The new Minister of Education is being invited to inaugurate the conference and the new Director General of the National Literacy Mission to address the conference. The conference will be held in Stella Maris College, Madras on October 29,30 & 31, 1993 and will work in 5 commissions which are being prepared by the secretary general of TNBCE and Director of SRC.

IIC

There was a monthly panel discussion at the end of the month in the India International Centre on external sector - that is on Balance of Payment, the debt crisis and the problems of debt servicing. There was a general consensus that the economy is facing a rather serious situation both with regard to the volume of external debts and the problem of its servicing. It was agreed that the euphoria now generated by the high volume of the external resources reserve should and not hide the fact that when the repayment to the huge IMF loans begin from next year, there will be a squeeze on India's foreign exchange resources. This calls of course for a rapid increase in exports.

First Article

The paper for the June seminar "Prosperity 2000" by C. Subramaniam appears as the first article.

Second Article

A note on "Fiscal Policy and Globalisation" byMalcolm S. Adiseshiah appears as the Second article.

Book Review

The review of the book "Development Economics - A new Paradigm" by Dr.C.T. Kurien appears in the book review section.

Twentythird Census of Social Science Research in Southern States

Part II of the Twentythird Census of Social Science Research will appear in the August issue.

MIDS News

The Twenty third Interdisciplinary Research Methodology Workshop of MIDS was held between June 8-10, 1993 at RUSHA, Vellore, Tamil Nadu. The theme for this year's workshop was "Health and Human Resources Development" and this was the second in the HRD series. About 40 participants comprising economists, sociologists, medical experts, environmentalists, statisticians, voluntary health organisation representatives, health activists and health researchers attended the workshop.

Nineteen papers within the broad themes of health surveys, health status, health care services - demand, access, policy and role of private sector, occupational health, health - environmental interconnections, health and society (family planning, mental health, AIDS) were discussed in seven sessions. There was also a panel discussion on the "Changing role of voluntary organisations in the context of the structural adjustment programs in India."

Dr. S. Neelakantan inaugurated the workshop and served as a disussant for one of the papers. Dr. A. Vaidyanathan, Dr. Paul Appasamy and Ms. Millie Nihila presented a paper for the workshop. Drs. K. Nagaraj, Padmini Swaminathan, A. Vaidyanathan, Paul Appasamy and R. Hema served as resource persons (discussant/chair). Ms. Suchitra Rao, Mr. Ajit Menon, Mr. L. Venkatachalam and Ms. Millie Nihila did the rapporteuring work for the sessions. Dr. R. Hema presented the statement of the workshop.

Dr. Padmini Swaminathan attended the Conference on Planning and Economic Policy in India (P.C. Mahalonobis Birth Centenary Celebrations), Indian Statistical Institute, Calcutta, June 29, 30 and July 1, 1993 and presented a paper on "Technology Policy and Technological Performance of Indian Industry".

components of the draft Agricultural Policy Resolutions put forth by recent governments.

This volume is divided into three parts. Part I presents an overview of the strategy, a summary of the programmes, a brief description of benefits, and a discussion of critical success factors. Part II describes the major programs in greater detail. Part III examines important issues relating to implementation of the strategy. Volume II contains a series of technical and economic studies of specific program areas which form the basis for the data and estimates presented in Volume I.

I Overview of the Potentials and Strategy

The 1992 UN Conference on Environment and Development plans to adopt as one of its main objectives Agenda 21—the total eradication of absolute poverty in the world by the year 2010. As the home of 30 per cent of more than a billion people in the world who live below the poverty line, India has the greatest stake of any nation in the achievement of this goal and can make the greatest contribution to its fulfillment.

In 1963 the UN Food and Agriculture Organization sent a team of experts to India to assess the country's foodgrain production prospects for coming years and the threat of famine. After completing a thorough study and conferring with their Indian counterparts, the team filed a report projecting a 10 per cent increase in foodgrain production by 1970 and identifying an imminent danger of widespread famine.

Actually India's grain production rose by 50 per cent during that period and 100 per cent during the decade following submission of their report. The FAO did not err in their projections, they simply based them on past trends, known limitations and the country's *unmet needs*. But propelled by dire necessity, aware of its needs and aware too of a viable strategy to meet those needs, during the mid 1960s the Government of India launched a massive program to increase food production. Green Revolution defied all the predictions of the experts and ushered the country into a new phase of *self-sufficiency* in food production.

In spite of these remarkable achievements, the country has not shaken off the legacy of past thinking. The country has a food policy, but no overall policy for agricultural development.[1] The focus continues to be on survival and self-sufficiency rather than prosperity, on meeting minimum needs rather than realizing maximum potentials. Projections of growth in India are still based on extrapolation from past achievements as they were in the 1960s, rather than on an objective awareness of the vast opportunities for rapid growth. *Propelled* by unprecedented opportunity, the country is once again poised to exceed even the most optimistic estimates of the experts. The essential requirement is a shift in perspective from need-based to opportunity-based planning, the strategy outline in this paper is based on such a perspective of India's potentials.

At the same time, India faces great economic challenges today that necessitate bold new initiatives, as exemplified by crises in the balance of foreign exchange reserves and the central government budget deficit. There is also growing evidence that the very programs which have been successful in moving the nation forward up to now may be progressively less effective in the future and need to be replaced or supplemented. According to a recent World bank study, the changing complexion of poverty and other circumstances in the country suggest that the factors, including government programs, that contributed to

poverty reduction in last 15 years are unlikely to yield similar reductions in future.[2] Alternative and additional options and instruments will be needed.[3]

A new atmosphere of confidence and crisis has emerged, which is reflected in the speed and authority with which the present government has just introduced institutional reforms to liberalize industrial policy, improve fiscal management and stimulate investment. But even when pressing short term problems are brought under control, compelling problems of poverty and unemployment will remain to be addressed.

India's population is expected to increase by another 100 million persons before the year 2000. The Government of India estimates that despite significant progress in the 1970s and 1980s, nearly 30 per cent of the population—more than 250 million people comprising 40 million families-still remain below the poverty line; and a growing share of this group are landless, wagedependent households in rural and urban areas. (SeeTable 1).[4]

Table 1: Estimated Employment and Poverty in India 1990

	Rural		Urban		Total	
	Millions	%	Millions	%	Millions	%
Population in 1991	640	73%	235	27%	875	
Employment (1991 est.)	234	78%	66	22%	300	34% of pop
SPYs (standard person years of employment)	-	-	-	-	240	-
Employed in agriculture, livestock & forestry	187 rural jobs	80% of	6.6	10% of urban	192	64% of all jobs
Persons below the poverty line[31]	211	33% of rural pop	47	20% of urban pop.	224	29.5% of pop
Persons in wage dependent families(wdf) rural pop.	237	37% of		-	-	-
Persons in wage dependent famlies below poverty line	94	40% of wdf 46% of all rural poor		-	-	-

There are presently 28 million unemployed and severely under-employed persons in the country. Between 1990 and 1995, India's labour force is projected to increase by 37 million persons. Therefore, 65 million new jobs will be needed to meet

PROSPERITY 2000

C. Subramaniam
Former Governor of Maharashtra

Summary of Key Points

1 THIS strategy complements the efforts of the present government to liberalize and stimulate development in the organized sector by extending a similar approach to the unorganized sector, on which the vast majority of the population depend.

2 A strategy based on accelerated development of commercial agriculture, agro-industries and agro-exports- and only such a strategy - can generate the 100 million new jobs required to achieve full employment by the year 2000 while at the same time stimulating growth of industry and exports.

3 These goals can be achieved within the present financial resources of the country.

4 The strategy is based on a shift in perspective from meeting minimum needs for self-sufficiency to maximising potentials for farm profit and growth.

5 The critical factor for implementation of the strategy will be rapid and effective dissemination of commercially-useful information to the population-at large.

6 The role of government should be as a catalyst, not prime mover - dissemianting information, training in productive skills, live demonstrations, liberalizing policy, providing the essential infrastructure, removing constraints and roadblocks, facilitating and supporting private initiative. No subsidies should be involved.

7 Government agencies responsible for promoting development in areas such as land and water use planning, horticulture, sericulture, waste land development, etc. need to be restructured and streamlined to more effectively support implementation of the strategy.

8 The productive potentials of farmers should be linked to the professional management and marketing capabilities of the private sector through promotion of joint sector corporations.

9 Ten model districts should be established during the next one year to serve as a demonstration of the strategy and a catalyst for a national prosperity movement.

Executive Summary

There is ample evidence that accelerated agricultural development can be a powerful engine for the growth of industry and a stimulus to rapid advancement of an entire economy. Noble prize winning economist, Sir Arthur Lewis, traced the origins of England's Industrial Revolution to increasing productivity and purchasing power on the farms. The rapid industrialization of Punjab following the success of Green Revolution is but one of many confirmations of this principle in India.

India-with its conducive and varied climate, the largest irrigated area of any country in the world and still substantial untapped irrigation potential, its vast population and huge reservoir of technical and scientific manpower, and four decades of experience in raising food production to meet the needs of an expanding population- is today poised for a breakthrough in agriculture that can double food production and total exports, virtually eradicate rural unemployment and poverty, and energize the entire economy for rapid growth.

In order to achieve full employment and raise its entire population above the poverty line by the year 2000, India needs to create additional employment for 100 million persons and raise the incomes of millions of under-employed persons. This report presents a program to achieve these goals utilizing the country's competitive advantage in labour-intensive agricultural crops and allied industries.

The objectives of the program are to double agricultural production in ten years, achieve complete nutritional self-sufficiency for the country, and generate Rs.400,000 million in exports of sugar, fruits, vegetables, fish, silk and cotton textiles.

The program will generate a minimum growth rate of more than 4 per cent in the agricultural sector, generate at least 100 million new jobs, add an additional Rs.750,000 million to rural incomes, and raise virtually 100 per cent of rural families above the poverty line. The multiplier effect of skyrocketing rural demand will stimulate sufficient increases in the income and employment for the urban poor to raise nearly all urban families above the poverty line, eliminate the country's foreign exchange crisis and transform India into a world market leader in several categories of agriculture-based exports.

India has demonstrated its capacity for survival and self-sufficiency. It is time for a shift in perspective from struggling to meet minimum needs to striving to achieve maximum potentials. The strategy set forth in this paper envisages the [illegible] million hectares of irrigated land for cultivation with high value added crops such as cotton, sugar, oilseeds, fruits and vegetables, and intensive aquaculture and the reclamation of 8 million hectares of wasteland for forestry and fodder crops.

New policies, new institutions, new modes of commercial organization will be needed in order to implement the program in the desired time-frame. But more than all these essential ingredients, awakening the nation to the reality of its potentials and galvanizing the political will of the leadership for urgent and decisive implementation will be absolutely critical for success.

This paper is a strategy statement, not a complete plan. It draws attention to the country's vast untapped potentials and a means of converting them into prosperity for the nation. The programs discussed in the paper are an illustrative rather than an exclusive or comprehensive list of high potential areas. Important sectors such as plantation crops and poultry have not been covered at all. All the recommendations are in consonance with the mai the employment needs of the country by 1995, over 100 million by the year 2000 (Table 2, page 39). To achieve full employment level will require a growth in employment of 4 per cent per annum, compared to the country's present rate of

Table 2: Additional Jobs Required to Achieve Full Employment by the Year 2000

	Rural	Urban
Current backlog	10 million	10 million
Severely underemployed	8 million	9 million
Additional persons entering work force	58 million	11 million
Total new jobs needed by 2000	76 million	30 million

less than 1.5 per cent. A doubling in the growth rate for new jobs will be the minimum requirement for eradicating unemployment during the present decade.[5]

Agriculture is vital to overcoming poverty in the country, both as a provider of food and of jobs. It is the main source of employment for 70 per cent of the population. Health as well as economics demands greater emphasis on agriculture. A 33 per cent increase in per capita food consumption is needed to bring the diet of the present population up to international nutritional standards for caloric intake. In order to meet the food requirements of all its people at the turn of the century, India's total food production should double. A recent study entitled "The Competitive Advantage of Nations examines that various factors and conditions which have enabled nine industrialized nations to obtain preeminent competitive positions in world export industries.[6] Unique national advantages have enabled tiny Netherlands with a population of less than 15 million and an area one hundredth the size of India to corner 64 per cent of the world market for cut flowers, 61 per cent for eggs, 57 per cent for live pigs, 56 per cent for living plants, 53 per cent for liquid milk, 43 per cent for fresh tomatoes and 36 per cent for potatoes.

India possesses four outstanding competitive advantages in agriculture comparable to those of any other country. First, it is climatically favourable for cultivation of every economic plant species grown in other parts of the world-ranging from temperate orchard crops like apples to tropical mangoes. Second, the country already has the largest acreage of irrigated land in the world with 40 per cent of the potential still to be tapped. Third, the country has a greater abundance of manpower in all categories—skilled, unskilled, technical, scientific and managerial-than any other nation. Fourth, the gap between present productivity and proven technological potential is very large in most areas; yet even so, the country is already the world's largest producer of tea, cotton, and sugar, and among the top three for foodgrains, groundnut, coffee, eggs and milk.

A. Strategy

This report presents a strategy based on India's natural competitive advantages to achieve the poverty eradication goals of Agenda 21 in the Indian context well ahead of the UN deadline. The centerpiece of the strategy is accelerated agricultural development. The strategy is based on three principles:

1 *Intensive Agriculture*: An agricultural driven strategy is the only one that can generate sufficient employment for the available labour force in the foreseeable future.

2 *Exports* : Until now India's planning has focussed on increasing production to meet domestic demand. The strategy shifts focus from meeting minimum needs to achieving maximum potentials through an aggressive export drive. By stimulating greater demand for agricultural produce, farm exports will increase rural purchasing power and propel economic growth.

3 *Agro-industries*: Since agro-based industries like textiles and sugar are already the largest generators of employment and national income, priority development of this sector is the best strategy for stimulating overall growth of manufacturing jobs and output in the country.

The country's recent experience has demonstrated that agriculture and allied industries (which represent one-third of GDP) can be a powerful lever for promoting or retarding overall growth of national income. The growth of the economy by 10.6 per cent in 1988-89, a year when agricultural production rose 21 per cent, slowed to around 5.2 per cent in 1989-90, a poor monsoon year when agriculture grew by only 1.7 per cent. During the next decade, this strategy calls for achieving an annual growth rate in agriculture of at least 4 per cent (versus 2.3 per cent in the 1980s) to generate overall employment growth in the economy of at least 4 per cent.

Since 80 per cent of the rural jobs and 15-20 per cent of urban employment held by low income families are in agriculture, eradication of poverty necessitates first and foremost raising the productivity and incomes of agricultural lands. And since 44 per cent of rural poor households are engaged in agricultural labour, emphasis must be on programs that generate remunerative rural employment.

B. Objectives for Year 2000

1 Generate an additional 100 million permanent, year-round jobs for rural and urban poor and educated unemployed youth.

2 Generate an additional Rs.770,000 million of agricultural income (4 per cent annual growth) driving an increase of non-farm income by Rs.1,500,000 million in ten years and contributing a total of 4 per cent to annual growth of GDP.[7]

3 Generate additional exports of Rs.400,000 million (equivalent to 125 per cent of total exports in 1990-91).

4 Produce sufficient foodgrains, fruits, vegetables, dairy products and fish to meet the full nutritional requirements of the population.

5 Bring an additional 15 million hectares under irrigation.[8]

6 The annual rate of investment needed to achieve these goals by 2000 is equal to 7 per cent of the annual investments for the Eighth Five Year Plan.

C. Programs

The programs in this paper represent a graded scheme designed to utilize available resources to attack poverty at its roots and eliminate it, rather than merely alleviate or temporarily suspend its impact on the population. They focus on selected crops and agro-based industries with the largest technical, economic, market and employment potential. All the programs:

- Utilize proven technologies.
- Create a large number of new jobs for unskilled and skilled workers.

- Tap huge market potentials, either domestic or export or both.
- Generate high value-added and profit to the producers.

The central components of the strategy for achievement by the year 2000 are summarized below:

1 *Foodgrains:* Raise foodgrain production from 177 million tons to 220 million tons (sufficient to meet projected domestic demand) by increasing per hectare yields of wheat from 2.3 tons to 3.1 tons and rice from 1.76 tons to 2.15 tons and bringing another 2 million hectares of irrigated lands under high yielding varieties of wheat and rice. The shift of existing crops from ordinary to high yield varieties will increase employment per hectare by 50 per cent.

2 *Cotton:* Triple the area under irrigated cotton with an addition of 4.8 million hectares to raise total production from 13.3 million bales to 26 million bales. Increase spinning capacity and expand weaving capacity in powerloom, mill and handloom sector to meet the projected 50 per cent increase in per capita cloth consumption, generate employment for 11 million persons and export Rs.250,000 million in cotton textiles.[5]

3 *Sugar:* Extend the area under sugarcane by an additional 1.6 million hectares and raise average yields from 60 to 80 tons per hectare to increase sugar production from 11 million tons to 26 million tons to meet rising demand (projected at 22-23 million tons within India by 2000) and increase exports to 3-4 million tons annually.

4 *Horticulture:* Raise fruit production by 50 per cent and vegetable production by 100 per cent to meet the full nutritional requirements of the population and generate 25 per cent exportable surpluses through establishment of 2000 model horticulture production and processing centres covering 3 million hectares of irrigated land throughout the country, yielding an average of Rs.18,000 per hectare profit for 3 million farmers, generating 3 million year-round jobs, and capable of raising a total of 6 million families above the poverty line.

5 *Aquaculture.* Raise inland fish production by 4.5 million tons (66 per cent of projected domestic demand) through development of 50,000 hectares of intensive fish farms generating Rs.1,250,000 per hectare profit for 250,000 families and full-time employment for one million people.

6 *Sericulture:* Double mulberry silk production by establishing 500 integrated model silk village clusters, each cultivating 175 hectares of mulberry, to generate an average net income of Rs.30,000 per family for 250,000 families (80 per cent landless) along with 750,000 additional full-time jobs.

7 *Oilseeds:* Expand the area under irrigated oilseeds by 3 million hectares and improve yields to produce an additional 7.5 million tons of oilseeds to fully meet domestic demand.

8 *Wasteland Reclamation for Forestry and Fodder:* An extent of 4.5 million hectares of wastelands will be reclaimed and utilized to meet the entire projected demand for industrial wood and provide sufficient animal feed for continued expansion of dairy development programs.

9 *Dairy & Other Crops:* The program *areas listed above cover only about* 50 per cent of total output in agricultural, animal husbandry, fisheries and forestry. Important categories such as plantation crops, dairy, poultry, and marine fisheries have not been included. Programs for the accelerated growth of these crops should also be developed in order to double total food production within the decade. For the purpose of assessing the results of the strategy, it is assumed that output for these other sectors—with the exception of dairy at 3 per cent—will grow at an average, annual rate of 2.4 per cent, the average for all of agriculture during the last decade.

Special reference needs to be made to the dairy industry, because of its large size and huge employment potential. According to projections by the National Dairy Development Board, total milk production will increase from 51.4 million tons (valued at Rs.257,000 million) to 70 million tons (valued at Rs.350,000 million) during the 1990s.

An 18 per cent increase in the *number of milch animals in the* country is expected to generate 11.6 million additional jobs (Standard Person Years). We assume a more conservative increase of 5.8 million jobs in the dairy s ector.

D. Benefits

The programs listed in the previous section are described further in Part II of this paper (Volume I) and in the supplementary papers comprising Volume II. The program targets for the year 2000 in terms of cultivated area, yield, production, additional jobs and increase in farm income (value added) are summarized in Table 3).

1 *Stimulates Growth of GDP:* The programs will generate an additional Rs.770.000 million a year in farm income (4 per cent annual growth in value added) and an additional Rs.600,000 million in income from downstream agro-industries for a total direct addition to GDP of Rs.1,370,000 million (see Table 3, 4, & 5).

Table 3: Summary of Program Targets for 2000
Codes: i = irrgated d = dry land

Crop	Area million hectares	Add'l Area in 2000	Yield per ha tons	Yield Target in 2000	Production million tons	Addl production in 2000	Addl farm jobs	Addl Farm GDP (32) million Rs.
Rice	42.4	1 i	1.76	2.15	74	16	2	70,400
Wheat	24	1 i	2.3	3.1	55	19	2	52,000
Oilseeds[33]	21.6	3 i	0.83	1	18	7.5	3	90,000
Cotton[34]	2.4 i 5.6 d1	4.8 i	400 i 20 d	500 i 200 d	13 m.bales	13 m.bales	8	73,000
Sugarcane	3.4	1.6 i	60	80	195	205	3.2	20,500
Horticulture	7.25	3 i	9 fruit 11.3 veg	31 frt 22 veg	26.5 frt 48 veg	13.5 frt 48 veg	6	163,000

Table 3: Summary of Program Targets for 2000 (Contd.)
Codes: i = irrgated d = dry land

Crop	Area million hectares	Add'l Area in 2000	Yield per ha tons	Yield Target in 2000	Production million tons	Addl production in 2000	Addl farm jobs	Addl Farm GDP [32] million Rs.
Aquaculture[35]	-	.05	.003	.125	1.5	6.2	1	62,000
Sericulture	-	.025 i	-	35 i	-	1.5	.175	1,800
	–	.125 d-10 d		-	leaves			
Forestry	-	4 d	-	10	-	40	2	16,000
Fodder	-	4 d	-	10	-	50	2	10,000
Dairy & Other agriculture[36]	-	-	-	-	-	-	13.5	209,500
Total	114.65	14.5 i					43	768,000
	–	8 d						

Table 4: Agro-Industries

Industry	Additional production units	Additional production capacity (million ton)	Add'l jobs (million)	Additional GDP value added (million Rs)
Cotton textiles[37]	23 million spindles 125,000 auto looms 700,000 powerlooms 2 million handlooms	10,000,000 metres	11	257,000
Sugar mills	350 mills of 2,500 tpd crushing capacity	14	.2	56,000
Horticulture processing, seed production & marketing units	2000 processing units and 100 seed units	20 raw produce	.34	165,400
Fish processing units	625 feed plants hatcheries and marketing organisations	6.25 feed	.06	48,500
Silk yarn production units	500 centres	.011	.514	8,200

Table 4: Agro-Industries (Contd.)

Industry	Additional production units	Additional production capacity (million ton)	Add'l jobs (million)	Additional GDP value added (million Rs)
Milling & marketing of rice, wheat and oil seeds[38]	-	-	.7	42,000
Dairy	-	20	.2	22,300
Total	-	-	13	599,400

Table 5: Impact on GDP

in million Rs.	Agriculture	Industry	Total
Foodgrains	122,400	35,0001	57,400
Oilseeds	90,000	7,500	97,500
Sugar20,500	56,000	76,500	
Cotton & cotton textiles	73,000	257,000	330,000
Horticulture 163,000	165,400	328,400	
Aquaculture	62,000	48,5001	10,500
Sericulture	1,800	8,200	10,000
Forestry	16,000	-	16,000
Fodder	10,000	-	10,000
Dairy & Other crops[39]	209,500	22,300	231,800
Total	768,200	599,900	1,368,100

The projected growth of farm income by 4 per cent annually as a result of the programs will act as a stimulant on other sectors of the economy, both rural and urban due to the increased demand for production inputs such as seeds and fertilizers, farm machinery, processing, transport, construction and marketing. It will also increase the purchasing power of the rural population and thereby stimulate demand for consumer goods-food, clothing, bicycles, housing, jewellery, recreation, tourism, etc. Applying a variety of income multipliers developed for India by World Bank economists, it is projected that the direct growth of farm income will contribute to an overall increase of gross domestic product by 24 per cent to 42 per cent in ten years (see Table 6).

5 *Jobs for the Poor and Unskilled:* The vast majority of persons below the poverty line are small and margingal farmers and casual labourers in rural areas who lack year poverty line. This is the only possible means of discouraging migration from rural to urban areas where unemployment rates are around 50 per cent higher.

About 80 per cent of the new jobs directly created by the programs are in the unskilled and semi-skilled category. This figure is somewhat misleading because it probably will include 7 or 8 million farmers producing high yielding varieties and utilizing sophisticated production technologies. Raising the knowledge and skills of farmers for higher productivity is an important strategy for increasing the knowledge content of rural jobs.

Although it is highly desirable to upgrade the skills of the entire population; even if employment opportunities were immediately available the size of the population makes it a daunting challenge. The programs have the advantage that they will absorb large numbers of persons without the need for a long training period and thus deal with the first priority of providing them with assured work and year-round income to lift them above the poverty line.

Expanding jobs and raising incomes in agriculture will be especially beneficial for increasing employment opportunities for women. Overall, women represent only 14 per cent of the work force, but more than 16 per cent of farmers and 30 per cent of all those employed in agriculture. Nineteen percent of the additional jobs are in animal husbandry, an occupation which involves a much higher percentage of women.

6 *Increasing Rural Wage Incomes:* The programs will add Rs.500,000 million to the incomes of cultivators and the wages of farm labourers— an amount equal to Rs.12,700 for every additional person employed in agriculture (Table 10).

Total 10: Rural Income Generation

Wages and Profits From Cultivation, Procesing and Marketing

Million Rs.	Agriculture	Industry	Total
Foodgrains & Oilseeds	81,400	8,400	89,800
Sugar	34,000	15,500	49,500
Cotton & Cotton textiles	52,000	158,000	210,000
Horticulture	163,000	63,300	236,300
Acquaculture	36,400	9,500	45,900
Sericulture	1,200	7,200	8,400

Total 10: Rural Income Generation (Contd.)

Wages and Profits From Cultivation, Procesing and Marketing

Million Rs.	Agriculture	Industry	Total
Forestry	16,000	-	16,000
Fodder	10,000	-	10,000
All other crops	112,000	-	112,000
Wages	113,000	75,000	188,000
Profit	393,000	186,900	579,900
Total	506,000	261,900	767,900

The country's 70 million small and marginal farmers with land holdings up to 2 hectares in size represent 75 per cent of all cultivators and 55 per cent of all rural poor. The programs target these groups by providing opportunities for much higher yields and incomes from small parcels of land. For example, a mix of vegetables and fruit trees can generate upwards of Rs.25,000 net profit per hectare. Intensive aquaculture can generate Rs.50,000 from a 0.2 hectare plot. In addition, the extension of irrigation to presently dry lands will substantially increase the productivity and profitability of small holdings.

Agricultural labour represents the second largest group of rural poor. A substantial portion of the additional farm income will come in the form of assured jobs and higher-wages for persons in the category.[11]

7 *Employment for the Skilled and the Educated:* The programs will directly generate 10 million for skilled and educated unemployed persons (Table 11), equal to about

Table 11: Employment Creation in Agriculture and Agro-Industries[43]

	Unskilled & Semi-skilled	Skilled	Technical	Total
Horticulture Cultivation, Processing, Seed production & Marketing	6,170,000	120,000	37,000	6,327,000
Sugar	3,200,000	180,000	20,000	3,400,000
Cotton & textiles	10,000,000	8,880,000	120,000	19,000,000
Acquaculture, Fish feed, hatcheries, & marketing	782,500	53,750	281,250	1,117,500

Table 11: Employment Creation in Agriculture and Agro-Industries[43] (Contd.)

	Unskilled & Semi-skilled	Skilled	Technical	Total
Mulberry cultivation	172,000	2,000	1,500	175,500
Sericulture	518,000	3,000	2,000	523,000
Forestry and fodder	4,000,000	-	-	4,000,000
Foodgrains & oilseeds	7,000,000	-	-	7,000,000
Dairy & others	13,500,000	200,000	-	13,700,000
Total	45,342,500	9,438,750	461,750	55,243,000

50 per cent of the current backlog in this category. The programs will also stimulate demand for a very large number of educated persons to occupy positions in management, research, extension, banking, marketing and other rural institutions. In addition, a vast array of productive skills will be needed in both rural and urban areas for manufacturing, construction, transportation, communication and other services. Together the increased demand for persons in this category is likely to exceed 20 million and could generate a shortage of some categories of essential skills, a situation which already exists in some parts of the country for basic skills such as carpenters, masons and electricians.

8 *Stimulus to Manufacturing:* Domestic demand for foodgrains is not a viable commercial basis for raising agriculture production and incomes. Agriculture has to shift to value added products that can be exported or utilised as raw materials for domestic industry. The programs identified for priority attention in this paper meet this important criterion.

Further processing of these agricultural products can generate an additional Rs.600,000 million per year in income from industry, equivalent to about 43 per cent of current GDP in manufacturing (Table 4).

9 *Low Capital Investment:* The capital requirements for the programs are summarized in Table 12. The investment in agriculture is Rs.362,000 million for priority programs and another Rs.114,000 million for other crops. Over ten years, it comes to Rs.48,000 million per year, which represents only 3.0 per cent of the total annual investment (public and private) envisioned for the Eighth Five Year Plan. Assuming that the investment is shared by public and private sector in the same proportion as overall investment in the Eighth Plan, then the public sector investment in these programs—24 per cent of which is allocated for other crops—would equal 76 per cent of the total

Table 12: Capital Requirements[44]

f = fixed investment   r = recurring investment

in million Rs.	Agriculture	Industry & Marketing	Total
odgrain & lseeds	20,000 f 25,000 r	42,000 f 4,200 r	62,000 f 29,200 r
otton & extiles	9,600 f 35,000 r	273,000 f 35,000 r	282,600 f 70,000 r
Sugar	3,200 f 36,000 r	105,000 f 12,000 r	108,200 f 48,000 r
Horticulture	4,400 f 48,400 r	45,500 f 23,400 r	49,900 f 71,800 r
Aquaculture	50,000 f 37,500 r	5,400 f 2,100 r	65,400 f 39,600 r
Sericulture	400 f 1,500 r	4,800 f 1,800 r	5,200 f 3,300 r
Forestry & fodder	37,800 f 52,800 r	33,800 f 52,800 r	
Dairy & other crops	114,000	29,700	143,700
Total	475,600	593,900	1,065,500
Foodgrain & Est.annual investment for 8th Plan (1992 1997)	20,000 f 57,000 3.6% of plan	42,000 f 1,244,000 15.4% of plan	62,000 f 1,584,000
Annual investment for programs (1992-2001)	48,000 84% of 8th Plan annual investment for agriculture	60,000 25% of 8th annual investment for industry	107,000 7% of total annual plan investment

public sector investment in agriculture.[12]

The investment in agro-industries averages Rs.60,000 million per year, equivalent to 25 per cent of annual investment in industry during the Eighth Plan. The annual cost of the programs (including non-program crops) represents only 7 per cent of annual investment in the Eighth Plan.

These publications may be ordered directly from the respective

10 *Afforestation & Conservation:* The strategy envisions the reclamation of 8 million hectares of wastelands for forestry and fodder production. This is expected to generate 4 million jobs for landless persons, produce sufficient industrial hardwood to meet the entire requirements of the country by year 2000, supply much needed fuelwood for rural households and fodder for the dairy industry.

E. Critical Success factors

Many essential elements including physical inputs, technololgy, training and extension, marketing, institutional support and public policy will be needed to implement the programs and achieve the results described above. These are discussed in detail in the section on "Implementation Issues", which constitutes Part III of this paper.

Above and apart from these elements, there are several factors which are absolutely critical to the success of the programs. Without them, the plan will remain on paper or fail to achieve its goals.

1 *Awareness of India's Potentials:* An ambitious strategy to eradicate unemployment and poverty within ten years cannot be undertaken unless the political, commercial and intellectual leaders of the country are able to see the reality of the opportunities open to India for accelerated progress. Only a vision of the potentials—like that which inspired the country's freedom fighters and the fathers of the Greén Revolution in the 1960s—can generate the commitment, release the energy and excite the imagination of the nation to transform itself from a poor developing country into a world economic giant.

Once this vision has been created, it must be communicated to the people and inspire them to action. But the awareness of the leadership is the first essential step, without which other steps cannot achieve the desired results.

2 *Political Will for Action:* Countless obstacles—which any seasoned politician or entrepreneur can enumerate—stand in the way of achieving the plan. The best intentions and planning in the world cannot overcome them. It will require a great determination by the leaders of the country to sweep aside the obstacles and create a national sense of urgency or emergency for eradicating poverty and ushering the country into prosperity.

3 *New Institutional Set-up:* It is not realistic to think of totally revamping the nation's economic institutions as a prerequisite for implementing the programs. Nor is it reasonable to expect that ambitious targets can be achieved through existing structures functioning in their present manner and present dilatory pace.

At least in the early phase it will be essential to provide a streamlined administrative set-up capable of rapid, coordinated action and to work through public or private sector institutions which are free from the legacy of outmoded rules and customs which make speed and efficiency impossible.

The strategy envisions the establishment in the first year of pilot districts in each state, each under the direction of a specially-constituted development administration charged and empowered to implement the programs within the district on an emergency basis, free from external interference.

4 *People's Participation:* Far from being a mere catch-word to signify an enlightened and democratic approach to development, people's participation is the one absolutely essential requirement for the successful implementation of the plan— for the simple reason that the plan has to be carried out by the population at large, with the government playing only a catalytic and supportive role. In order to successfully elicit this participation on a large scale and in a short period of time, the population must be made fully aware of the potentials for its own development.

In order for the plan to succeed, four conditions are essential:

a) the population must awaken to the opportunities open to them for rising from poverty to prosperity;

b) their energies must be fully released and channelled to avail of the opportunities;

c) they must possess or acquire the necessary skills and knowledge;

d) they must be given the necessary physical and institutional support.

II. Specific Program Areas

A. Expand Irrigated Area

Increasing productivity, incomes and jobs in agriculture has to be founded on a proper utilization of the country's enormous water resources. India already ranks first in the world in area under irrigated cultivation. Expanding the area under irrigated crops is an essential part of the strategy presented in this paper. According to World Bank studies of 58 developing countries, a 1 per cent increase in total irrigated area generates 1.6 per cent increase in crop output and a return on investment of 17 per cent. It is estimated that each additional million rupees of investment in irrigation generates between 50 and 100 jobs, i.e., Rs.10,000 to 20,000 per job—which is almost identical with the costs per job for the programs described in this paper.[13]

Presently there are over 80 million hectares of irrigated land in the country, representing 30 per cent of the gross cultivated area. An additional 30 million hectares of cultivable land have yet to be developed. Out of the already developed irrigation potential, 9 million hectares, valued at Rs.250,000 (current cost) remains unutilised for various reasons. Therefore, the total unutilised irrigation potentials comes to about 40 million hectares, equivalent to 50 per cent of the present irrigated area.

Our strategy calls for tapping one third of this unutilised potential—15 million hectares—by the year 2000. Primary emphasis should be placed on small and medium irrigation projects and watershed management technology, which are far less capital intensive, generate more employment and are less disruptive to the environment.[14] This goal is lower than the Seventh Plan target of 2.5 million hectares per year, which has not been fully achieved. Investment costs for irrigation have not been included in the estimate of capital requirements, since they are well within the amounts likely to be allocated for irrigation in the Eighth Plan.

Extending the area under irrigation is not enough. There is tremendous potential for conserving and enhancing the nation's precious water reserves by:

a) recharging underground aquifers with rain water that is now going largely to waste and contributing to erosion of topsoil. A massive program should be instituted for recharging aquifers during the monsoon rains.

b) utilising the water for the high value added crops (e.g. fine export varieties of cotton that cannot be grown on dry lands) which create more jobs, more farm income and export earnings.

c) eliminating wastage and run-off through land conservation techniques, farmer education and incentives for adopting water saving technologies such as sprinkler and drip irrigation.

B. Extend Green Revolution

Massive food imports in the mid 1960s to avert the very real threat of famine created a great sense of national urgency, focussed public attention on the need for increasing food production and spurred all levels of government to act dynamically and expeditiously to address the crisis. The Green Revolution was launched primarily in the wheat growing areas of the north-western states, and achieved a doubling of the country's foodgrain production in the first ten years. Since then total foodgrain production has increased from 50 million tonnes to 177 million. With the achievement of food self-sufficiency and elimination of the threat of famine, the sense of urgency has passed away and national attention has shifted to other areas.

Green Revolution was the result of an integrated development strategy instituted by the government involving the introduction of new high yield varieties (HYVs), a national demonstration program consisting of more than 100,000 plots on farmers' fields, an increase in irrigated land, improved methods of cultivation, the use of chemical fertilizers and pesticides, provision of a guaranteed floor price, creation of a national foodgrain marketing organisation (Food Corporation of India), production of hybrid seeds, agricultural research and educational programs and other factors.

The demand by HYVs for assured water supply led to the initial concentration of growth to wheat growing areas with irrigation like Punjab and Haryana, which account for 30 per cent of the increase in wheat output since 1970. The spread of irrigation extended the revolution into western Uttar Pradesh and other states. The eastern states were almost bypassed by the initial thrust, but wheat is now grown in eastern U.P. and northern Bihar and yields per hectare have improved everywhere. Growth in productivity for rice over the last 20 years has been at about half the level of wheat.

Wherever Green Revolution has spread, employment opportunities both in agriculture and industry have grown significantly leading even to shortages of labour in some areas.[15] In agriculturally advanced areas like Punjab in the North and Coimbatore in the South, farmers actually experience a shortage of labour, despite the migration of workers from other regions.

The spread of Green Revolution is still incomplete—only 55 per cent of total area under cereals has been covered by HYVs. Even today cereal productivity in India is 30 per cent below the world average and 36 per cent below the average level of Asian countries. This has resulted in an increasing concentration of the poor in specific regions and occupational groups.[16] The percentage of rural and urban population living below the poverty line ranges from a low of 8.4 per cent in the Northwestern

region to a high of 54 per cent in the states comprising the Eastern region. Sixty percent of those below the poverty line are now found in the Central and Eastern states, which comprise a population of 412 million people.[17]

The demand for foodgrains in India is projected to reach 220 million tons by 2000. This will require a 25 per cent percent increase in total production. Extending the area under irrigated foodgrains has been an important strategy for increasing production and is still given prominence in planning for future growth. However, other intensive crops generate more employment, value added for the farmer and competitive export potentials than foodgrains.

The strategy calls for only a marginal increase of 2 million hectares in the area under irrigated foodgrains over the next ten years. This will account for 25 per cent of the required increase in foodgrain production. The balance 75 per cent can be achieved by extending the area under HYVs and by upgrading traditional methods of cultivation to modern agricultural practices in relatively backward agricultural areas where yields are still far below the level of demonstrated potentials. The strategy envisions an overall rise in wheat yields from 2.3 to 3.1 tons per hectare over ten years and in rice from 1.76 to 2.15 tons.

It is difficult to identify a single other area which can meet the country's need for both food and jobs as cost effectively as extension of the Green Revolution to cover less developed area of the country. Studies indicate that the optimum strategy for creating new jobs will be to concentrate efforts for increasing foodgrain production in relatively backward agricultural states like Bihar, Orissa, West Bengal, Rajasthan, Madhya Pradesh, and Maharashtra.[18] Under this scenario, a doubling of agricultural production over the next 10 years could lead to a 56-65 per cent growth in full-time employment in agriculture (approximately 125 million jobs).

The package of technology, training, administrative and institutional measures needed are well known and proven. All that is needed is the requisite political will and sense of administrative urgency.

Simultaneous efforts will be needed to shift present grain producers to more lucrative and more labour intensive crops such as fruits, vegetables and cash crops, so that total foodgrain production does not exceed national requirements, including a reasonable buffer stock, and become a drain on government resources.

C. Integrated Horticulture[19]

Converting dryland into irrigated lands and introducing HYVs in place of slower growing varieties is a natural strategy for less developed agricultural areas. But for areas which have already adopted modern methods of irrigation and cultivation a strategy is needed to further increase incomes from the land and to intensify employment in agriculture.

Cultivation of fruits and vegetables, for which Indian topography and agroclimate are well suited, is an ideal method for increasing the labour intensity and income generation potential of agricultural lands while meeting the growing need for these essential food items. Net income can range for Rs.20,000 to 35,000 per hectare, which is more than three times the average return from cereals. Horticulture crops can use up to 10 or 20 times more labour per hectare than cereals. Holland shifted over to vegetables and flowers after World War II in order to create more jobs. A shift of 5 per cent of irrigated lands from cereals to fruits and vegetables can create 50 per cent more productive jobs in agriculture.[20]

Table 6 : Multipliers Of Farm Income 1990 to 2000[40]

million Rs	Addl Non-Farm Income	Addl Non-Farm Income	Addl Income Whole Economy	Addl Income Whole Economy
	Low	High	Low	High
Additional Farm Income of 4 % annually	525,000	1,500,000	1,297,000	2,270,000
	-	-	2.2%/yr	3.6%/yr

2 *Generation of Agro-based Exports:* The programes can contribute more than Rs.400,000 million India's exports, an amount equal to 125 percent of the country's total experts in 1990-91 (Table 7). The programs do not depend on import of materials

Table 7: Agro-based Exports[41]

Product	Quantity	Revenue in million Rs.
Sugar	4 million tons	22,000
Cotton Textiles & garments	5000 million meters equivalent	250,000
Fruits & vegetables-fresh & processed	20 million tons	80,000
Silk	2200 tons	2,000
Fish	1.55 million tons	46,000
Total Exports		400,000
Oilseed import substitution	7.5 million tons	90,000
Total Positive Trade		490,000

or equipment, with the exception perhaps of sophisticated textile machinery for export quality materials and food processimng equipment. In addition, increased productrion of oilseeds constitute Rs.90,000 million of import substitution. Therefore the overall imact on the country's foreign exchange balance will be very favourable.

3 *EradicatesUnemployment:* The programmes will generate 43 to 75 million direct new farm jobs and 13 million direct downstream jobs in agro-industries such as sugar, flour and oil mills, cotton and silk spinning, weaving and garment making, fruit and vegetable processing, fish feed and hatcheries, etc (see Table 3 and 4).[10]

The increased output generated by these activities will give rise to 47 million additional jobs in rural areas and rural areas and rural towns in transport marketing, services, construction, etc. The growth in farm income will stimiulate the growth of nonfarm rural employment by at 27 million jobs in ten years , which includees the direct and indirect jobs created in industry. The total increase will be a minimum of 70 million rural jobs in ten years. (Applyingf another set of multipliers indicates that the actual increase in rural jobs could be as high as 105 million.) These new jobs will increase rural employement opportunities by between 30 to 45 percent, creating a strong countermagbet to urban migration or rural job-seekers.

There will also be a significant increase in employment in urban areas for manufacturing and marketing. The projected increase in jobs for the entire economy (rural farm and urban) ranges from 78 to 103 million (depending upon the assumed job level in 1990 (see Table 8) and footnote 42). This level of job creation should be sufficient to vitrtually eliminate unemployment under-employment in the economy.

Table 8: Multipliers of Rural Employment 1990 to 2000[42]

Three different measures are used to project the impact of this program on total employment.

		Addl Farm Jobs	Addl Non-Farm Rural jobs	Total Addl Jobs
1	4% annual growth rate in farm income	76 million 3.52%/yr	39 million 3.86% /yr	105 million (rural only)
2	Addl Farm income of Rs.72,000 million	43 million (from table 3)	27 million (37/million Rs)	70 million (rural only)
3	4% growth in agri-culturegenerates 3% annual rate of growth in total jobs.	43 to 76 million	-	77 to 103 million (rural & urban)

4 *CostEffectiveJobCreation:* The cost for creating new jobs through this approach works out to Rs. 19,000 (Rs.11,000 per farm job and Rs. 45,700 per job in industry). The investment per job is very favourable when compared with the average cost of creating new jobs in the public and private sector-Rs.2,440,000 for public and Rs. 250,000 for private sector (see Table 9) for investment and income comparisons).

Table 9: Average Investment & Income per job created

Average/Job	Intensive Agriculture Programs: All Jobs	Agriculture	Industry	All-India 1990: Private	Public
Investment -	19,000	11,000	45,700	250,000	2,400,000
Income(GDP)	24,40	18,000	46,000	25,000	51,600

In order to meet the basic nutritional requirements of the population, India's production of fruits and vegetables—which has tripled over the last 50 years—needs to double again in te next five years. Horticulture also represents an enormous export potential for India, because of the favourable tropical, subtropical and temperate climate conditions prevailing in different parts of the country.

Indian research institutions have developed new varieties of fruits and vegetables, many of which have yield potential two to five times higher than existing varieties. The economic benefits of the new varieties have often been negated by the widespread adoption of single varieties in a concentrated area, resulting in saturation of markets at time of harvesting, plummeting prices, and abandoning of the crop in subsequent seasons. These impediments can be overcome by establishment of integrated horticulture projects.

Processing of fruits and vegetables can multiply their value 50 to 500 times and open up the prospect of catering to a huge international market. At present only 1.6 per cent of fruits produced in the country go for processing.

The integrated horticulture development program consists of the following elements:

1 *Model Horticulture Villages:* The key to this program is development of mixed cropping pattern to avoid overproduction of select varieties in a given area and the linkage of production with processing and organised marketing to eliminate flooding of the local market and falling prices during peak seasons.

a) An area of 1000 hectares of irrigated land suitable for intensive vegetable and fruit cultivation is identified within a cluster of villages.

b) Half of the area is planted with a variety of different fruits and half with different vegetables. The mixed cropping pattern consisting of different types and varieties is done to avoid flooding the market with one or a few crops, to introduce varieties which come to harvest at different times, and to ensure protection against excessive vulnerability to pests.

c) A professionally-managed corporation or society of cultivators is formed to carry out functions related to farmer education, propagation of seed material for improved varieties, processing and marketing.

d) When the crops come to maturity, each 1000 hectare project will produce approximately 32,000 tonnes a year of fruits and vegetables valued at Rs.95 million.

e) A processing plant is established in the village capable of handling 50 per cent of the total production of produce. These plants will produce a variety of fruit juices, jams, jellies, canned fruits, tomato sauce, dried fruits, dehydrated potatoes and onions, pickles, etc.

f) Marketing of fresh produce is done through a producer-owned marketing organisation feeding into a state or region-wide grid as in the case of dairy products or through retail outlets set up in towns and cities similar to those presently operated in New Delhi by National Dairy Development Board (which plans to expand operations to other major cities). The marketing organisation is essential for distributing produce to markets with high demand and for reducing the price spread between producer and consumer, which is presently as much as 50 per cent for fruits and vegetables.

g) Exports may be done through technical and commercial tie-ups with large international food companies, to ensure that the products meet international taste and quality standards.

h) Establishment of a hybrid seed production unit for every 20 village horticulture projects to locally produce the most suitable high yielding varieties of fruits and vegetables.[21]

2 *National Program:* Creation of 2000 village projects covering a total area of 2 million hectares will enable India to increase fruit production by 50 per cent (13.5 million tons) and vegetable production by 100 per cent (48.5 million tons). The village projects will be supported by establishment of 100 modern hybrid seed production units to ensure supply of quality, high yielding seed material.

3 *Capital Requirement:* The fixed investment for 2000 horticulture projects and 100 hybrid seed projects (including cultivation of land, food processing, technical support, hybrid seed production, storage and marketing) Rs.58,100 million (Rs.24,750 per job). An additional Rs.68,900 million is required to meet recurring costs of cultivation, processing and marketing. The total capital requirement is Rs.127,000 million (Table 13).

Table 13 : Financial Requirements For 2000 Horticulture Projects

Million Rs	Non-recurring	Recurring
Cultivation	8,000	45,500
Technical cell	4,500	2,400
Marketing organization	15,000	6,200
Processing plants (2000)	28,000	11,800
Hybrid seed units (100)	2,500	3,000
Total	58,100	68,900

4 *Income Generation:* The 2000 projects will generate a total income of nearly Rs.200,000 million annually, of which Rs.140,000 will be direct farm income (Table 14). The export of 20 million tons of fresh and processed fruits and

Table 14 : Income from 2000 Horticulture Projects

	In Million Rs
Gross income from cultivation	184000
Gross income from sale of processed produce	163000
Gross income from hybrid seeds	2360
Net income from cultivation	138000
Net income from sale of processed produce	57600
Hybrid seeds	1730
Total net income	197330

vegetables would generate Rs.80,000 million in foreign exchange earnings.

5 *Job Creation:* The projects will generate full-time employment for 6 million persons in agriculture, including a large percentage of women, and 350,000 in food processing and seed production units, including 130,000 skilled and 30,000 technical persons (Table 15). The indirect job creation as a result of these units will require large numbers of additional educated and technically trained persons in extension services, banking, education and research institutions.

Table 15 : Employment Generation in 2000 Horticulture Projects

	Unskilled	Skilled	Technical & Managerial
Farm labour	6,000,000	-	-
Technical	8,000	12,000	5,000
Marketing & Distribution	40,000	40,000	3,000
Retail - 50,000 outlets	-	50,000	5,000
Processing - 2000 plants	50,000	17,000	7,000
Hybrid seeds - 100 plants	70,000	20,000	10,000
Total	6,168,000	150,000	30,000

D. Integrated Program for Intensive Aquaculture[22]

Most inland aquaculture in developing countries operates with little or no technological input. Farmers simply stock local ponds and harvest the produce. In India the average yield from inland fisheries projects is 2 to 3 tons of fish per acre per year. But proven technology has recently been established in India on a commercial scale and is widely used in countries like Taiwan and Singapore that can achieve yields of 50 to 500 tons per hectare per year under Indian conditions. Like the high yielding varieties in the 1960s, this intensive fish production technology has the potential to revolutionize food production and usher in a Blue Revolution in Indian fisheries. But left to itself, it might take many years for this technology to become well-known and widely adopted throughout the country.

Intensive aquaculture technology can be utillised to provide high protein food for the rural and urban population, generate new jobs and self-employment opportunities for the poor, and make India a major exporter of fresh water fish to lucrative markets in the Far East, Middle East, Europe and North America. Today marine products constitutes only 2.3 per cent of the country's exports and 73 per cent of marine export revenues come from a single product, frozen shrimp, and 57 per cent go to a single market, Japan.[23] Intensive inland fish culture can raise marine exports ten-fold within a decade and break the over-dependence on one product and one market.

Aquaculture technology, which is based on environmentally sound practices for conserving and recycling water and organic wastes and effluents, also has a strong ecological component. It lends itself for

application on poor or barren lands with saline soil and brackish water.

India's annual fish production is 3.3 million tons, of which 1.5 million tons is from inland fish culture. The per capita availability of fish remains unchanged over the past two decades at about 3.2 kgs. per year.[24] The comparative figure for the U.S. is nearly four times the Tamil Nadu level (though unlike India where fish is one of the main sources of animal protein, fish consumption in the U.S. represents only 10 per cent of total animal protein intake). In Japan per capita consumption is around 100 kgs. per year.

Domestic demand for fish is expected to reach 15 million tons by the turn of the century. We propose a program that can raise per capita availability of fish to three times the current level by year 2000, which will largely meet the protein requirements of the population. In order to triple per capita availability, total production must rise by 6 million tons. This significant rise in fish production will support increased domestic consumption and generate marketable surpluses that can be exported at attractive prices.

Although sophisticated, capital intensive technology can be employed to achieve very high yields, we propose an intermediate level of technology capable of producing 125 to 150 tons of fish per hectare for a capital investment of Rs.500,000 per hectare. This technology lends itself for operation in small ponds of 0.2 hectare size costing approximately Rs.100,000 each and generating net profits of Rs.200,000 per pond. These ponds can be constructed in rural industrial estates throughout the state, each estate consisting of 10 to 20 hectares of ponds and appropriate *infrastructure facilities.*

Marketing is critical to the success of the program. Market research information indicates that a significant portion of the produce could be marketed in large cities and rural towns, especially those some distance from the ocean, and that the remainder could be exported as frozen whole fish and fillets. Effective marketing will require the development of an extensive procurement network, preferably a joint-sector corporation. It will also require significant investment in cold storage facilities, refrigerated transport and processing units. An advantage of farm-grown over sea-caught fish is that harvesting can be timed to coincide with market demand, higher prices, and the availability of buyers and transport.

A capital investment of Rs.65,000 million and establishment of credit facilities of Rs.40,000 million for this program could finance 50,000 hectares of fish ponds. Financial support in the form of working capital could be provided through NABARD (National Bank for Agricultural and Rural Development), which has approved the technology. The program will generate approximately 6,250,000 tons of fish per year and provide Rs.46,000 million in income to 250,000 educated, unemployed entrepreneur and another 750,000 farm workers. It would also provide indirect employment in ancillary industries and businesses (processing, storage, transport, marketing, equipment manufacturing and maintenance) for several million persons.

The program will appeal to the interests of key groups at different levels of the society and therefore, generate the political will required for effective implementation. To the politician, it is a program that addresses key election issues—unemployment, rural development, food production, industrialisation, etc. At the national level, it can also be promoted as an export scheme that earns much needed foreign exchange. To the banks, it is a viable and attractive program with high rates of return. To the research organisations, the program offers many fields for practically useful research. To the unemployed graduate, it offers a lucrative opportunity for self-employment.

The program consists of :

1 Establishment of approximately 2500 aquaculture industrial estates in rural areas. Each estate consists of 20 hectares of fish ponds equipped with water, power, water treatment systems and a technical cell run by a qualified technical person and equipped with testing equipment.

2 Ponds can be leased to qualified individuals (special preference can be given to the educated unemployed) and lease payments can be made out of pond revenues.

3 A centralised hatchery, feed plant, cold storage and processing unit will be established for every four aquaculture estates (i.e. 625 centralised units each serving 80 hectares of ponds).

4 A district level marketing organisation will coordinate collection, transport, storage and distribution of the produce. These district level societies will feed into a national grid, similar to the one established by the National Dairy Development Board for milk distribution.

5 Each district will also have a training institute to provide all the skills needed for production of fish, hatchery operations, processing and feed production.

6 Fisheries extension officers in each district will provide additional technical assistance to the estate technical staff and primary producers.

7 Financial schemes can be operated through specialised banks to provide investment and working capital.

8 Educational programs should be instituted by agricultural universities, colleges and polytechnics to familiarise all students with the commercial potentials of this technology and provide specialised courses in all aspects of production.

9 Research programs should be established by fisheries institutes to experiment with improved varieties and production techniques.

E. Sugarcane[25]

India is the largest sugar producer in the world. In 1990-91 the country manufactured 12 million tons of sugar from cane. Ten million farmers are cultivating cane over an area of 3.4 million hectares and generating 200 million tons of cane. About 60 per cent of the cane goes for sugar production and 40 per cent for processing by traditional methods into jaggery. Yields vary widely around the country from a high of over 100 tons per hectare in Tamil Nadu to just over 30 tons in Bihar. India's 60 tons per hectare average is significantly lower than that of the five other major producers. Sugarcane is among the most profitable cash crops grown in the country and generates a high level of farm and non-farm employment.

The per capita sugar consumption of India has more than doubled over the past ten years and is presently around 13 kgs. This level is still very low when compared with that of other developing countries: 21 kgs. in Kenya, 31 kgs.in Argentina, 33 kgs in Egypt, 44 kgs in Brazil, 45 kgs in Mexico. Over the next decade the per capita consumption is expected to double again to about 25 kgs. Failure to rapidly expand production of cane and sugar could lead to massive imports and a heavy drain on foreign reserves during the decade. No government can hope to deny the population's demand for sugar and still remain in power for long.

India has the potential to not only meet its growing sugar needs but to also become

a major sugar exporter. Until recently India's sugar has not been competitive in the international market and limited exports have been subsidized by the government to earn foreign exchange. But with the devaluation of the rupee in mid-1991, the cost of production within the country has fallen below the international market price, opening up an opportunity for India to produce large surpluses for export.

The strategy we propose is to increase the area under sugarcane about 50 per cent by cultivating 1.6 million hectares in high yield area such as Tamil Nadu and Maharashtra. Raising yields on existing cane fields by 15 per cent over the next ten years—which should be easily possible in view of the present low average yield—will result in an average yield of 80 tons and generate a total production of 400 million tons of cane.

Of this, 260 million tons of cane can be used to produce 26 million tons of sugar for domestic consumption and export. If internal demand rises as expected by about 50 per cent during the decade, 22 million tons will be needed for domestic consumption and 4 million tons valued at Rs.22,000 million will be available for export. The balance 140 million tons of cane will be available for making jaggery.

In order to handle the increase in cane production, approximately 350 new sugar mills of 2500 tons per day cane crushing capacity will be needed. Compared to this, less than 100 new mills are currently being planned for commissioning during the period 1992-97.

The additional fixed and recurring investment over ten years in cane and sugar production will be Rs.153,000 million. This plan will generate 3.4 million new jobs in rural areas and generate an additional Rs.34,000 million in farm income and wages and contribute Rs.76,500 million to GDP. In addition, sugar production will generate 17 million tons of molasses, valued at Rs.5,000 million,, which can be utilised for production of industrial alcohol.

F. Cotton & Cotton Textiles[26]

Cotton and cotton textiles play a central role in India's march from poverty to prosperity. Cloth consumption is expected to rise from the current level of 14 metres per capita to 21 metres by the turn of the century. India is already one of the leading exporters of long staple cotton in the world. Textile exports-including yarn, cloth and garments—have increased five-fold over the past five years and are expected to rise from Rs.60,000 million in 1990 to Rs.250,000 million in 1995 and reach Rs.500,000 million by 2000. Cotton is the base material for a large percentage of these exports. Yet in spite of these ambitious plans, no concerted effort has yet been made to ensure production of sufficient cotton fibre to meet the rapidly increasing demand.

Increasing cotton production to meet domestic demand and support the growth of exports is a vital component of the strategy to eliminate unemployment and eradicate poverty by the year 2000. Cotton is an attractive cash crop with a relatively high labour input. It is also the basis for the textile industry, the largest source of employment in the country after agriculture.

India presently has 8 million hectares under cotton cultivation, but only 2.4 million is irrigated. The program calls for doubling total cotton production by tripling the area under irrigated cotton with the addition of 4.8 million hectares and raising yields on existing fields. India's average yield is 200 kgs per hectare, 120 kgs. on dry lands and 400 kgs on irrigated lands, as compared to 620 kgs in USA, 520 kgs in Pakistan and 970 kgs. in Egypt. By a concerted effort it should be possible to raise yields to 200 kgs. for non-irrigated and 500 kgs for irrigated cultivation within a few years.

Production of an additional 13 million bales (2.2 million tons) of cotton lint will generate 8 million more farm jobs and add Rs.73,000 million to farm GDP. Conversion of this cotton into yarn, cloth and garments can generate another 11 million direct jobs in the textile industry—of which 10 million are in the skilled and technical categories—and add another Rs.257,000 million to GDP. The indirect employment generation from this growth could increase overall employment in the country by as much as 40 million jobs. Export of 40 per cent of the additional production as a mix of yarn, cloth and garments can generate Rs.16,700 million in foreign exchange earnings. The cost per additional job on the farm and in the textile industry is only Rs.17,500.

Doubling cotton production will generate an additional 3 million tons of edible oil from cotton seed, valued at Rs.3,000 million. It will also generate a substantial quantity of cotton seed cake for animal feed.

G. Sericulture[27]

The production of raw silk, which involves cultivation of mulberry leaves, raising of seed worms, cocoon rearing, reeling and twisting of yarn, is a labour intensive handicraft with a vast untapped potential for further development in India. Presently about six million persons are directly involved in cultivating mulberry on 0.25 million hectares and producing 9000 tons of silk yarn annually.

Domestic demand for silk is steadily rising with the growth of the middle class and overseas demand growing continuously. Especially with the decline in production by Japan and South Korea due to rising labour costs, India has an opportunity to increase exports in competition with China, whose production is four times India's.

This program aims at doubling of raw silk production in the country over the next ten years. It involves the establishment of 500 intensive sericulture projects employing 700,000 persons to produce 11,000 tons of mulberry silk. Although sericulture is already a well-established industry in the country, the intensive project represents a new approach with significant advantages. The existing organisation of the industry does not provide sufficient technical support to silk producers and allows a large percentage of the profit to be taken by middlemen. A perennial shortage of quality seed material restricts production.

Key components of the strategy are:

1 Establishment of 500 integrated sericulture village clusters throughout the country. Each project will cover all the activities related to sericulture from mulberry cultivation to silk twisting.

2 Each village cluster will cultivate 50 hectares of irrigated mulberry and 125 hectares of rainfed mulberry to produce 3000 tons of leaves a year. A total of 150,000 hectares of mulberry cultivation will generate Rs.1,200 million in farm profits and wages annually.

3 Each cluster will have a community rearing center, training centre and grainage. Every group of five clusters will have a centralised research and development centre.

4 Cultivation, cocoon production, chawki rearing, reeling and twisting will generate employment for 1350 persons in the village cluster and generate Rs.16.7 million in profits and wages for the cluster (Rs.12,370 per person).

H. Oilseeds Development

Despite the fact that India is the third largest producer of edible oils in the world, the country imports about 1.5 million tons of vegetable oils annually in order to partly bridge the gap between domestic production of 3.5 million tons and total demand of 6 million tons. This represents a considerable drain on the country's foreign exchange reserves of Rs.10,000 million annually. The large scale import of oilseeds has had a depressing effect on farm prices, acting as a disincentive to higher domestic production.[28]

Demand continues to grow with the growth of population and increasing levels of consumption by an increasingly prosperous society. Per capita consumption is about 7 kgs annually compared to the world average of 14 kgs and 24 kgs in USA.

Production of oilseeds rose dramatically from 10 million tons in 1980 to a record 18 million in 1988, but has since leveled off. The potential exists for significant improvements in the technology employed for production and processing oilseeds and oils. Groundnut (peanut) is India's most important oilseed. The average yield of 1.1 tons per hectare is far below China's 1.8, Argentina's 2.3 and USA's 2.6 tons. Yields vary widely between different regions of the country. Improved varieties are now available which give 20 to 30 per cent higher yields than those currently in use. Pre-harvest and post-harvest technologies developed by the agricultural universities and research institutes have not been effectively disseminated and adopted on the fields. For instance, technology has recenlty been developed for farm production and extraction of palm oil which can generate Rs.25,000 per hectare to the farmer after three years and Rs.75,000 per hectare to the person who extracts the oil. New technologies for fuller and better utilization of by-products and waste products in the vegetable oil industry can have a profound impact on the economics of the industry.

The strategy calls for placing an additional 3 million hectares under irrigated oilseeds by year 2000 and raising the average yield from 830 kgs to 1000 kgs. This will be sufficient to raise total production by 7.5 million tons, create 3 million more farm jobs and add Rs.90,000 million to farm GDP.

A program encompassing elements of the Green Revolution strategy and the program for aquaculture described above should be launched to generate the political and productive will needed for significant growth in edible oil production in the country. An examination of production and processing practices for major oilseed crops will reveal a very significant scope for improving productivity and efficiency at virtually every step both at the pre and post-harvest stages.

For groundnut, the utilisation of available technology, financial, organizational and educational resources in the country can be utilized to raise the average productivity of groundnut cultivation by 50 per cent within three to five years—even in Tamil Nadu which has the highest yield.

I. Wasteland Development for Forestry and Fodder[29]

India has 67 million hectares of area classified as forest. But according to remote sensing data, actual forest cover declined from 55 million hectares to around 45 million between 1972 and 1982, and it is still declining at the rate of 1.5 million hectares annually. Out of a total land area of 328 million hectares in the country, more than half is in various stages of degradation and approximately 50 million hectares are not being put to any productive use. Some 85 million hectares of irrigated land is in need of upgradation (terracing, bunding, drainage, and desalination).

The rapid destruction of India's forest area has serious ecological repercussions. At the same time, India's population is fast approaching the one billion mark, putting increasing pressure on land resources, and the demand for industrial wood and fuelwood continues to rise. In addition a shortage of green fodder places severe restrictions on further development of the country's dairy industry, which must continue to grow to meet the demand for milk and dairy products.

The strategy calls for reclaiming a minimum of 8 million hectares of wasteland during the next decade and converting it for dry cultivation of industrial hardwoods for paper production, fuelwoods and fodder. The programs will generate 4 million additional jobs for the landless poor and add Rs.26,000 million to rural incomes.

Forestry: The program involves reclamation and development of 4 million hectares of forest lands at a cost of Rs.4,200 per hectare. An additional Rs.1,600 per year for seven years (total Rs.11,000) is the cost of maintaining the forest until harvest. Dry cultivation of hardwood will produce about 10 tons per hectare per year after seven years generating an income of Rs.4,000 and profit of Rs.2,600 per hectare per year. The program will generate employment for two million persons and from the eighth year onwards it will contribute Rs.16,000 million to GDP. It will produce 40 million tons of wood annually, sufficient to meet the growing need for pulp woods and fuelwoods in the country.

Because of the high investment and long gestation period on forestry crops, private sector companies—particularly paper mills—should be given an opportunity to invest in and manage the afforestation program on long term lease.

Fodder: Reclamation of land and fodder production require an investment of Rs.6,000 per hectare. The program involves development of 5 million hectares of fodder lands for a total investment of Rs.30,000. With an average yield of 10 tons per hectare, the program will produce 50 million tons of fodder annually valued at Rs.12,500 million. This will almost be sufficient to meet the fodder requirements of the projected increase in the number of dairy animals during the decade.

III. Implementation Issues

India already has set an historic precedent for implementing a complex, fully integrated foodgrain production strategy over a vast area of the country within record time — Green Revolution. Despite the skepticism of many highly placed persons in government, science and industry, Indian farmers adopted the hybrid varieties and new cultivation practices in a far shorter time than it took to disseminate them among highly educated farmers in the USA. The political will and commitment of the leadership for expeditious action to avert widespread famine, the dedication of scientists in the universities and research institutes, the creativity of seasoned administrators in establishing new institutions overnight to achieve new goals, the insightful pricing policies and innovative demonstration programs on farmers' fields—all made an essential contribution to the doubling of foodgrain production within a decade. Certainly no less determination, enthusiasm, creativity, innovation and perseverance will be required to implement the strategy and achieve the goals set forth in this paper.

But apart from overriding considerations of political and social preparedness, the strategy raises many questions of great practical importance for implementation. All of these issues cannot be fully and satisfactorily addressed at this stage, but some of the most pressing are raised and examined in this section.

A. Technology

Proven technologies exist today for achieving all of the productivity goals forming

part of the strategy. The average productivity of foodgrains on irrigated lands is only 1.7 tons per hectare versus 4 to 5 tons potential. In fact, all the technologies proposed in this paper are presently being utilized within the country and are successfully generating results significantly above the targets set in the programs. This gap between proven potentials and average field results represents an enormous opportunity. These productive potentials and achievements are examined in further detail in Volume II. The real issue is not so much technology, but dissemination and adoption of technology, which involves education, training, extension, demonstration, technical support, production and distribution of critical inputs such as hybrid seeds.

B. Education

Availability of improved technologies is no assurance that they will be adopted. The intensive aquaculture technology described earlier—which generates yields 20 to 30 times higher than traditional methods and net income of Rs.1,000,000 per hectare—has been operative in India for more than five years, but has spread slowly, in spite of the fact that NABARD is willing to finance its adoption.

Public education to create awareness about the existence and potentials of new technologies is the first critical step for the adoption of new technologies—awareness not only of scientific methods but more importantly of the commercial consequences (i.e. profit potential) of utilizing them. The media and institutions such as the newly established Indian National Foundation can play a vital role in educating the public about the commercial potentials of new technologies. Universities, colleges and polytechnics can impart a knowledge of practical potential to all their students, regardless of their field of interest.

C. Training and Extension

The strategy calls for imparting new information and new skills to millions of farmers, industrial workers and educated unemployed persons. The entire educational system of the country—from high schools and polytechnics to engineering colleges, universities and voluntary service organisations—must be mobilised for the purpose. It will also be necessary to significantly strengthen the institutions involved imparting basic agricultural and industrial skills.

Upgrading agriculture means first and foremost upgrading the knowledge and skills of farmers. Farmer training will play a pivotal role. Existing methods of education through courses at polytechnics, extension agents, demonstration plots at research institutes and Training & Visit programs should be augmented by on-farm training in the local area. The recommendation of the High Powered Committee on review of Agricultural Policies and Programmes for training of educated small farmers in every village should be implemented. Establishing 5000 Farm Schools, one in each development block, to train one educated farmer from each village each year can impart new technology and skills to over 5 million farmers during the decade and disseminate them to tens of millions more through successful adoption of new practices by the trainees on their own fields. Operation of the Farm Schools on 5 hectare plots leased from small farmers in each block will add a strong element of demonstration to the training program.

Farmer's Institutes can be established in each district to train rural youth in improved post-harvest technologies for handling, storage, processing and marketing of produce. Similar steps are needed to supplement the existing programs for imparting basic technical and industrial skills to tens of millions of rural and urban workers. Craftsman Training Institutes should be established in each block to train mechanics, carpenters, masons, electricians, drivers, machine operators, maintenance workers, tailors, etc. Vocational Training Institutes should be set up on parallel lines to impart a wide variety of other productive skills-typing and secretarial, printing, book-binding, record and bookkeeping, clerical and legal assistants, computer, etc.

D. Physical Inputs

Supply of appropriate inputs such as fertilizers, hybrid seeds, fish fingerlings and feed, silk worm seed—will be of critical importance. Recently the price of tomato shot up 500 per cent in Madras because large quantities of hybrid tomato seeds were exported, forcing farmers to pay Rs.0.50 per seed or to resort to traditional, low yielding varieties instead. Policy measures should be adopted to ensure at least equal access to these inputs for the priority schemes.

E. Infrastructure

Deficiencies in the rural infrastructure—power, roads, warehouses, markets, schools, hospitals—are a significant barrier to swift implementation of the programs.

Power: In spite of the country's massive efforts at rural electrification, only 14 per cent of rural households have power. The demand for power in the country is projected to increase from 60,000 megawatts installed capacity to 110,000 megawatts by 2000. Meeting this demand will require Rs.700,000 to 1,000,000 million additional investment in this sector during the decade.

Roads: Studies have shown a strong relationship between creation of rural roads and development of rural areas. Poor rural roads impede supply of inputs and delivery of crops to the market. Presently 36 per cent of India's villages are not connected to the outside world by any type of road and 70 per cent are without all-weather roads. Road construction is labour intensive and should form a major part of rural employment programs.

Other types of rural physical infrastructure will be essential for implementation of the program, such as warehouses, cold storage facilities for fish and horticulture produce, communication facilities, quality schools and hospitals to attract technically qualified manpower from urban areas, etc.

The Federation of Indian Chamber of Commerce and Industry has come forward with a proposal to establish 500 Growth Centers throughout the country, each equipped with the essential infrastructure and social services needed to support industrial growth. This concept can be adapted to provide all the central services required to support development of the programs described in this paper.

F. Financial Resources & Requirements

The financial resources needed to implement the strategy fall within the likely allocation of funds for development of agriculture in the Eighth Plan. Investment in irrigation, aquaculture industrial estates, recovery of wastelands and development of the rural infrastructure will require substantial public sector investment.

Corporate Investment: This can be partially mitigated by encouraging the private sector to play a much greater role in agriculture than in the past—for instance, leasing wastelands to paper mills for reclamation and plantation forestry. The burden can also be reduced by creating conditions attractive to foreign companies, particularly those with expertise in food processing industries in which India is relatively inexperienced. In any case, a large

›portion of the investment will have to me from the private sector in the form land development and cultivation penses for cash crops, investment in ›w sugar and textile mills, etc.

›pping Rural Wealth: There has been a ndency in the past to grossly under-›stimate the amount of wealth being created › the rural areas. The rise in the deposits f the nationalised banks from Rs.60,000 ›illion to nearly Rs.2,000,000 million over ›e last twenty years has been made possible ›y the eight-fold expansion of the com-›nercial bank branches in the rural areas ›nd the mopping up of over Rs.500,000 ›million in rural deposits.

Although a variety of banking institutions serve the needs of the rural population, a strong case can be made for establishment of a new institution, whose main function and priority is extending credit for intensive agricultural, agro-industrial and agro-export programs. Dutch farmers established such an institution sixty years ago to provide financial assistance to farmers at a time when the country's agriculture was badly hit by the Great Depression. The RaBo Bank was so successful in increasing farm production that Holland turned its attention to developing export markets for its surpluses. The bank now has the largest deposits of any bank in the Netherlands and has played a crucial role in Holland's rise to pre-eminence in agricultural production and agro-based exports.

G. Public Policy & Institutional Support

We have referred in Part I to the need to generate the necessary political will and sense of urgency within and through government for the implementation of the strategy. In the first phase, one district in each state can be identified for priority implementation of all the programs under a development administration empowered to act decisively and expeditiously without interference. The selection of highly qualified and motivated persons to administer the models is essential.

The successful establishment of model development districts in each state—models not just of programs but of a streamlined and dedicated form of administration—can serve as an inspiring example to the nation of what can be accomplished by an unencumbered and efficient administration. Once demonstrated, it may be possible to extend the model and revamp normal state and district level administration along these lines. The exact form of the district model to define how it will differ from existing institutions in terms of structure, policy and functioning can be worked out in full detail.

The continued exemption of agricultural income from income tax is a major policy issue. A commitment by all policy throughout the decade will encourage the necessary investment in the programs. Countless lesser policy issues will arise in the course of implementation, such as assuring expeditious handling of agricultural exports by customs authorities at ports and airports to prevent spoilage. Present procedures are slow, cumbersome and severely impede export of flowers, fish fingerlings and other perishable produce. A full list of such policy issues needs to be compiled industry by industry and resolved satisfactorily.

H. Marketing

Most of the programs lend themselves t› production on a small scale. But wha the small farmer can produce, in man cases he will be unable to market profitabl without the support of a professionall› managed commercial marketing organis› tion. Therefore, we have proposed th establishment of specialised marketi› agencies for horticulture crops, fish, a› silk. These organisations may be prima producers' cooperatives operating within an umbrella organisation of district level and state cooperatives under a national body as the dairy cooperatives function under the National Dairy Development Board. But the creation of such a complex structure may be too slow and unwieldly for handling the problems of rapid expansion. Or they may be in the form of registered societies, like those constituted by NDDB for marketing of fruits and vegetables. Or they may be private sector corporations formed as joint ventures with large Indian companies to avail of their professional management expertise.

I. Farm Management

The most critical input of all will be management—at all levels from the farm to the factory to the government. Farm management is a nascent concept in the country, one with a tremendous potential for improving productivity, eliminating waste, and increasing national income. India lags behind other nations economically, not for want of the necessary productive resources, but because it has not yet learned how to utilise its wealth as productively as other nations. The country's vast water resources, land resources, and human resources are all under utilised. It has been estimated that 40 per cent of all irrigation water is wasted. Imagine what Israeli farmers would accomplish with the water wealth of this country! As noted earlier, a concerted program to conserve and properly utilize water through improved farm management, irrigation management and recharging of aquifers can halt and reverse the rapid deterioration in the rural water table and provide copious water for greater production. What is true of water is even more true of power, which is wantonly wasted due to short-sighted policies. It is not growth that is the problem, but waste.

We recommend the establishment of institutions of Farm Management in every district to train farmers on methods for maximizing the productivity and profitability of land, topsoil, water, and other resources and minimizing the wastage through improved technology, planning and management.

J. Environment and Sustainability

In order for the strategy to achieve its goals, it must be based on sound principles of sustainable agriculture. The most important environmental issues are conservation of water and topsoil, preservation of forests, reclamation of wastelands, and chemical pollution.

Water: Apart from the technical and managerial issues of water conservation discussed earlier, important policy emphasis needs to be placed on giving water its full value. Efforts have been underway for decades to declare water as a national resource subject to a common national water policy.

Deforestation: The program calls for the reforestation of 4 million hectares of national forest lands, but this may not be sufficient to counter the continued depletion of the nation's forests. New policies and incentives will be needed for the development of commercial forestry by the private sector.

Wasteland Development: Apart from the program to reclaim 4 million hectares of wasteland for fodder production, additional measures are called for reverse the natural degradation of productive lands and loss of valuable topsoil.

Chemical Build up in Soil and Food: Recent studies in the USA have shown that organic methods of cultivation can be both economically and technically competitive with chemical based farming for many applications. India can profit from experience in other countries to reduce the excessive dependence on costly and dangerous chemicals in agriculture. This

goal should be emphasised in the formulation of packages of recommended field practices, establishment of demonstration plots, farmer training and extension grams.

Biomass Utilisation: The country produces 600 million tons of crop residues and other biomass that can be utilised for production of paper, energy, and other products.[30]

Footnotes

As observed in the draft Agricultural Policy Resolution, 1990, prepared by the Standing Advisory Committee for the Ministry of Agriculture.

In spite of the country's higher rates of economic growth in the 1980s, the rate of growth of employment in the organised sector has decelerated sharply during the recent period 1983-87, a period in which industry was somewhat deregulated and liberalisation measures were initiated. Public Sector employment grew strongly over the past 15 years at about 3 per cent per annum, but cannot continue to do so because of slower growth in public spending due to budgetary constraints and the already high levels of employment coupled with low productivity of public sector enterprises. Private sector employment did not grow significantly during this period. In addition, there has actually been a decline in the labour intensity of output by Indian industry during the 1970s and early 1980s, indicating a shift from manpower to mechanised production processes. (See INDIA: Poverty, Employment and Social Services, The World Bank, 1989. p.xxxiii.)

3 INDIA: Poverty, Employment and Social Services, xxviii. Growth in foodgrain production is unlikely to meet the demand for new job creation in rural areas because of a tendency towards increasing mechanisation.

4 Data on employment, unemployment and poverty are based on a study conducted for the Commission in 1991 by M.C.Verma at the Indian Council for Research on International Economic Relations.

5 The Seventh Five Year Plan projects the total labour pool as 380 million by 2000, about 20 million less than the figures used in this paper.

6 Porter, E.Micheal. *The Competitive Advantage of Nations.*

7 All rupee figures for the current year and future projections for the year 2000 are in 1991 prices.

8 According to the Report of the Expert Committee on Cropping Pattern of the Government of India Ministry of Agriculture prepared in 1987, the gross irrigated area will increase by 15 to 18 million hectares to over 70 million by year 2000 and the gross cropped area will increase by 12 million hectares. (p.46)

9 Cloth exports are estimated to rise from 1,500 million metres to 5,000 million by 2000.

10 The on-farm employment projection for year 2000 includes an estimate of 12 million additional jobs in the dairy industry based on projections worked out by the National Dairy Development Board.

11 It is not possible to ascertain how much of the increase in farm income represents profit to cultivators and how

much is wages for labour, since in all but the largest farms, the farmer utilises his own and his family's labour as well as that of other households.

12 Agriculture is narrowly defined here as it is in the plan and does not include rural or tribal development as in some statistics.

13 Cited in Towards Rural Prosperity, by Dr.G.N.Seetharaman and Uma Garud, Federation of Indian Chambers of Commerce & Industry, 1991.

14 In the FICCI paper, Dr.Seetharaman proposes a much more ambitious goal of developing 23 to 28 million hectares of irrigation potential during 1992-97.

15 *Seventh Five Year Plan,* Union Planning Commission, 1985, p.116.

16 The annual growth rates in foodgrain production between 1970 and 1985 for the Northwestern region was 5.43 and for the Western region 5.28 compared to 0.91 for Eastern states, 1.24 for Southern states, and 2.83 for Central region. See INDIA: Poverty, Employment and Social Services, p.177.

17 See INDIA: Poverty, Employment and Social Services, p.175 for the proportion of the population below the poverty line by state.

18 "Employment Situation in India: A Study for the International Commission on Peace and Food", M.C.Verma, Indian Council for Research on International Economic Relations, 1991, p.10.

19 For further details see the paper entitled "Model Horticultural Village Project" in Volume II.

20 Labour potential of horticulture crops from "A case for reviewing policy resolution", by R.P.Aneja, Financial Express, April 20, 1991, p.7.

21 For further details see the paper entitled "Commercial Plant Propagation and Hybrid Seed Production", in Volume II.

22 For further details see the paper entitled "Intensive Inland Fish Culture Project", in Volume II.

23 Total marine exports in 1989-90 were 110,000 tons valued at Rs.6340 million. Source: Marine Products Exports Development Authority, Cochin. Cited in "Aquaculture: Potential yet to be tapped," by Gursharan Singh Kainth in Financial Express, April 20, 1991.

24 Latest figure is for 1987.

25 For further details see the paper entitled "Sugarcane and Sugar Industry in India", in Volume II.

26 For further details see the paper on Cotton and Textiles in Volume II.

27 For further details see the paper entitled "Intensive Sericulture Development Project", in Volume II.

28 Data from "Oilseeds: Production target elusive?", Economic Times of India, 24-11-90.

29 Financial estimates based on "Development Strategies for Agriculture in Tamil Nadu", prepared by CARDS, Tamil Nadu Agricultural University, 1991.

30 For further details see the paper on Biomass Utilisation, in Volume II.

31 The percentage of people below the poverty line varies significantly by source. The figures in Table 1 are based on Planning Commission estimates cited in Economic Survey, 1990-91, p.10 and in INDIA: Economic Information Yearbook, 1989-90, p.54. The World Bank makes international comparisons based on two categories

of poverty, a high and low range. The Bank categorizes 55 per cent of India's population—252 million—as poor and 33 per cent—157 million—as extremely poor. The World Development Report 1990, p.29.

32 GDP estimates for each crop are assumed equal to 80 per cent of the farm price for produce—the average rate for all sector of agriculture in 1970-79.

33 Additional GDP from oilseeds calculated based on price of Rs.15,000 per ton with 80 per cent value added.

34 GDP from cotton based on farm price of Rs.41/kgs of lint.

35 Employment generation is based on the assumption that each pond of 0.04 hectares is separately owned and operated by the owner and three additional labourers.

36 Based on earlier years, the selected items in our list represent approximately 50 per cent (Rs.775,000 million) of the total category agriculture, livestock, fisheries, forestry and mining, which are grouped together by the government in measures of GDP. Important items not included in the list are livestock, pulses, plantation crops, spices and condiments, marine fisheries and agricultural by-products.

Assuming dairy output represents roughly 27 per cent of this other group (Rs.257,000 million is the actual output of the industry in 1989-1990). According to projections by the National Dairy Development Board, milk production is expected to increase by 36 per cent during the decade (Rs.70,700 million of milk at 1990 prices assuming milk represents 76 per cent of total dairy income and Rs.56,500 value added based on 80 per cent of revenues). Assuming that all other sectors of this group grow at 2.4 per cent annually (the trend rate for agriculture for the past 25years), they would contribute an additional Rs.153,000 million. Together "Dairy and other crops" would generate Rs.209,500 million additional GDP by the year 2000.

The projection of 13.5 million additional jobs in other fields includes 5.8 million for milk production (see footnote 43) and 7.66 million for other sectors (based on the average additional GDP for each new job in agricultural of Rs.18,000 (see table 9). Projections by NDDB based on field studies of man-hours per animal per day suggest that the job estimates for dairy may be too low, since additional employment in dairy alone is projected at 26,000 million man-hours (i.e. 11.6 million SPYs).

37 Calculation of additional GDP from cotton textiles based on export calculations in footnote 41 assuming 6000 metres for domestic consumption and 4000 metres for export as cotton, yarn, cloth and garments.

38 Processing, transport and marketing value added for cereals and oilseeds taken as 20 per cent of farm price. Labour cost and profit each calculated as 10 per cent of value added. Capital cost is a rough estimate, nor a calculated amount.

39 No attempt has been made to calculate the industrial output related to other crops.

40 Based on multipliers developed by Peter Hazell as Steven Haggblade in *Rural-Urban Growth Linkages in India,* World Bank, 1990. (Hazell p38) According to Hazell's econometric model, if nonfarm income is 46 per cent of agricultural income in 1991, (i.e. 713,000

FISCAL POLICIES AND GLOBALISATION*

Malcolm S Adiseshiah

Wide Ranging Fiscal Issues

FISCAL policies cover a wide range, including most importantly the fiscal deficit, the tax policy, anti inflation and prices policies, the volume of money supply and credit to government and the commercial sector, the high cost economy and the large and complex area of fiscal reform.

Starting with the fiscal deficit, over the last two years since the present government came to power there has been a drastic reduction in the deficit from 8.4 per cent of the Gross Domestic Product (GDP) in July 1991 to 6.5 per cent in March 1992, to 5 per cent in March 1993, and a projected 4.5 to 4.7 per cent for March 1994. This sharp and steep reduction in the fiscal deficit has been achieved through large economies in government expenditure, particularly in its developmental outlays. It was also brought about by rather calamitous freezing of credit to the commercial sector. This joint governmental and non governmental reduction in investment and outlays have had positive and negative effects.

Positive Factors

On the positive side, the reduction in the fiscal deficit was made a condition for the International Monetary Fund (and the World Bank) rescuing the country and its economy from facing the results of a near empty foreign exchange reserves system. Infact in the period April/June 1991 foreign exchange reserves were not adequate to cover more than two to three weeks imports. From a position of less than $1 billion in the foreign exchange reserves of the country, the position as of today is that the reserves have reached $7 billion, the optimum established by the government for safe foreign exchange reserves being $5 billion. Thus the steep reduction in the fiscal deficit has enabled the country to have once more access to foreign funds, starrting with the resources of the World Bank, IMF and the Asian Development Bank.

A further posssitive consequence of the steep reduction in the fiscal dificit is the containing of inflation and infact, of breaking its back. In July 1991 the annual rate of inflation was over 17 per cent which by May 1993 has been brought down to near 6 per cent. This reduction is a reflection of the management of the credit and non credit funds of the economy and in so far as the inflation is essentially a monetary phenomenon, this monetary restraint has been a positive factor.

* Keynote Address delivered at The World Confederation of Productivity Service. South Asia Division, Hotel Adyar Park, Madras, on June 18, 1993.

A further positive factor has been the effect of industrial growth, on the level of costs in the economy, and the international trade relationships - all of which will be referred to subsequently under the Globalisation head.

Negative Effects

But the sharp fiscal deficit reduction has also had somewhat serious negative consequences. The most important of these is the industrial recession, caused in a slump in the demand for products of capital intensive manufacturing industries and in depressing the consumption of many consumer durables and non durables. This industrial recession which has hit rather severely particularly some sectors like automobiles and components, electronic products etc seems to be long lasting, and has not been relieved by any of the proposals made in the latest budget(1993-94) for reducing the prices of these goods, with the expectation that there will be a resurgence in the demand for the products. This has led to some revision of the policy of reduction of fiscal deficit. While the IMF has insisted that the fiscal deficit should be reduced to 4 per cent by March 1994, the government has stuck to 4.7 per cent as outer deficit reduction, as one major means of countering the recessionary effects of the drastic reduction in the fiscal deficit.

The other negative factor of the rate of reduction of the fiscal deficit has been the deceleration in industrial growth which according to the government's Economic Survey 1992-93 was-0.1 per cent in 1991-92, and seems to be slowly climbing back, registering a little above 3 per cent as of the quarters April-October 1992.

There has been a paralled reduction in the rate of economic growth which according to CSDO as quoted by the Economic Survey was around 1.2 per cent for 1991-92 and is expected to be around 4 per cent for the following year against the target of 5.6 per cent which has been set for the VIII Plan. Here too, the situation would has been much worse if it has not been for a very good agricultural performance both for 1991-92 and 1992-93 which accounts for the recovery of the economy to around 4 per cent. This good agricultural performance is reflected not only in the adequate foodgrains crops, its improved procurement and the build up of buffer stocks, but also in the performance of commercial crops such as cotton, sugarcane, groundnut and oil seeds, etc. However, the low industrial performance is a drag on the economy and will continue to be so for some time more.

The Meaning and Scope of Globalisation

Globalisation is a new term, like liberalisation and privatisation which we are getting used to and are beginning to employ both in every day work and in our economic studies. Briefly, globalisation in terms of the economy means that both the production process and institutions connected with the production of given commodity as well as its sales and distribution are no longer limited to one country but cover several countries. Hence the term globalisation replaces the concept of nationalisation (National Production Structures). That is to say, a commodity could be produced in parts in several countries, assembled in yet another. Similarly the parts of a commodity which are produced in different countries depending on the factorial advantages and cost elements cover all or much of the globe. This wide encompassing production and distrinbution of goods is caused by:

- The rapid improvement in communication media resulting in growing degree of uniformity and homogenisation of wants, seen for instance in B&W or colour TV sets being found in use in the hutments of urban slums.

- The demand for higher value added products embodying 'knowledge content' which the rapidly growing R&D makes possible and leads business to concentrate on higher quality at lower cost in those products, as for instance in the case of the various consumer products like tea, chocolates as well as production goods like computerised CNC tools etc.

- Deregulation of money markets which freeze financial flows from national control and promotes transnational financial flows and transactions which in turn poses problems to the stock market authorities and the newly created supervisory bodies like SEBI.

- The resultant mobility of investment which moves all over the world guided solely by the rate of return obtainable, making national economies less and less national as in the case of NRI inflows and outflows in India.

- The large companies spreading out their manufactures in getting the components and sub assemblies from different countries, (Japan for example reports that 93 per cent of its famed entertainment electronic industry components are imported).

- This 'sourcing' of their companies in different countries, particularly where costs are lower and managerial skill and talent plentiful, as in the case of the Asian Tigers.

Thus globalisation is reducing the time between designing, manufacturing and selling a product and its diminishing boundaries, borders and controls between countries, making big and bigger every capital investment, every plant capacity and every production volume.

Globalisation and India

With reference to India, there are two basic issues facing it in this matter of globalisation. First, what is the priority for the country as between switching to continuing with a wage goods production structure which can meet the mass poverty and inequalities of the people, on the one hand, and the corporate sector entering the area of globalisation in terms of time, business, volume, quality, costs, currency conversion and international trade on the other. This urgent and worrisome dilemma has become even more topical, with the World Bank's updated Poverty Reduction Handbook published this month, where on the one hand the benefits from agricultural inputs and subsidies are shown to go overwhelmingly to the wealthier and agriculturally advanced regions and large farmers in Punjab, Haryana, AP, etc. These large farmers receives Rs. 1027 per hectare compared to the All India average of Rs. 511 per hectare; similarly the large and wealthier farmers in Haryana, Tamil nadu and Andhra Pradesh also receive such benefits. The Handbook asks the Bank staff to consider among other things the share of public expenditure for basic social services in the Gross Domestic Product, covering primary school enrolment and retention, wages, under five mortality, immunisation, child mal nutrition, female to male life expectancy, for the years 1960 upto 1991 and beyond. In this connection, studies by Unicef and World Bank, of some 100 third world economies who have adopted the structural adjustment programme like India involving drastic cut back in their fiscal deficits, sharp reduction in prices, devaluation etc. show that they have experienced disastrous effects on their health and education structure and status, because the anti inflation and the austerity programmes divert resources form food, wages and welfare to production of exports to service their large and growing debts. India is not yet in this position, but needs to

take action in this matter of the priority as between globalisation and reducing poverty, if it is to avoid a similar experience.

A Possible Way Forward

While the reduction of poverty is the priority for the country, India, it is the priority, not the entire scenario. India needs both globalisation and poverty reduction.

The start for globalisation in the country could be that the open door for foreign industries (FDI etc) be used for 'sourcing' of some of the imported components, sub assemblies, electronic software, CNC tools and by the multi nationals which are on the look out for location of their firms.

A further globalisation prospect is for some of what has been called 'white goods' such as some type of cars, leather garments etc to be imported in foreign countries through multi nationals as is being done in the case of TV. Here our manufactures would have to follow the ISO system to ensure international quality standards.

Another entry point is for our industries which have reached international standards in terms both of quality and cost to slot themselves in international tenders as BHEL and Hindustan Lever have been able to do.

Thus our fiscal policies can be so developed as to reduce our foreign indebtedness so as to serve both our priority of poverty eradication and employment generation as well as help our firms to enter the world global production and trade networks. The point of convergence between them is the corporate sector which in other countries has contributed to the increased development and transfer and diffusion of technologies but which has not yet done so in India.

This aspect of globalisation in the shift of foreign direct investment to inservice industries is in contrast with the intensification of mining and manufacturing in the past. This advancement of technology and shift in favour of services especially, the so called 'knowledge industries' which were earlier referred to, is reflected in GATT's new interest in what is called trade related investments measures (TRIMS) and trade related aspects of intellectual of property rights (TRIPS) which for want of time are not further elaboration here. There is need for widening the market for technology and to harness the potential of the country to the expansion of global economic activities. Only because then will there be a world which the World Bank looks forward to, in which poverty and inequality is not endemic, giving rise to ecological crisis, but is replaced by an economy of sustainable development.

million), and if agriculture income grows by 4 per cent per year, then non-farm income will grow by 5.84 per cent annually or by 74 per cent, Rs.527,000 million (low scenario), in 10 years. Total non-farm income in year 2000 would then equal Rs.1,297,000 million. According to the semi input output model, a one rupee increase in farm income generates an average of Rs.1.83 increase in non-farm income. (Rs.2.07 for irrigated lands, Rs.1.70 for drylands). Growth of farm GDP by Rs.770,000 million would generate Rs.1,327,000 of additional non-farm income and Rs.2,000,000 million for the economy as a whole. Using the higher ratio for our income from irrigated lands, which applies to at least 66 per cent of the projected increase in income from the strategy, indicates additional non-farm income of Rs.1,500,000 million (high scenario) and of total income in the economy by Rs.2,270,000 million (high scenario).

41 Exports of cotton textiles were Rs.40,000 million in 1990-91 or 66 per cent of total textile exports. According to projections by the industry, total textile exports are projected to rise from Rs.60,000 million to Rs.250,000 million by 1995 and Rs.500,000 million in year 2000. If cotton textiles maintains its current 66 per cent share, the figure for cotton will rise to Rs.330,000 million by 2000. For calculating export earnings, we have assumed actual achievement of only 75 per cent of this level, Rs.250,000. Assuming 10 per cent value added of exports on cotton (10 per cent of exports), 80 per cent on yarn (10 per cent of exports), 240 per cent on cloth (50 per cent of exports) and 400 per cent on garments (30 per cent of exports) with an average cloth value of Rs.20 per metre for cloth and Rs.50 per metre for garment material, exports would absorb the equivalent of 66 per cent of the increase in cloth production, i.e. 6600 million metres (or 5000 metres for the export level assumed in our projections).

42 Data in Table 11 are based on multipliers developed by Peter Hazell and Steven Haggblade in *Rural-Urban Growth Linkages in India*, World Bank, 1990. The total number of jobs generated by a 3 per cent growth rate depends on which estimate of current employment in the country is used as the base figure. Estimates range from 227 million (26 per cent of population according to Seventh Plan projection of standard work years for 1990-91) to 300 million (34 per cent of population according to the National Survey Service). Overall growth from 1985 to 1990 was above projections, so the Planning Commission number may be low by several millions. The NSS figure reflects the number of people having some jobs, but not necessarily fully employed.

43 The category of "Dairy & other" includes an estimate of 5.8 million additional jobs in the dairy industry by 2000 AD. This figure is based on the continued growth of the milch animal population at current rates (i.e. average 18 per cent over 10 years). NDDB projects that the industry will generate 170,000 million hours of employment in 2000 AD or roughly 11.6 million additional jobs. We have assumed that additional standard person years is only 50 per cent of this level. The category of semi-skilled workers includes farm supervisors and cultivators. For statistical purposes it is difficult to distinguish this group from unskilled farm labour. For aquaculture, it is proposed that since the technology is sophisticated and there is a critical need for creating jobs for the skyrocketing number of

educated unemployed, each half acre pond be leased or owned by an educated unemployed person. This accounts for 250,000 jobs in the technical category.

44 The investment in "Dairy and other" includes Rs.55,000 projected for the dairy industry by NDDB. The data for annual outlays for the Eighth Plan, which is yet to be finalized are based on the recently announced total size of public and private sector investment averaged over five years. The percentage allocated for public sector investment in agriculture and industry is based on the Sixth Plan, which may not represent the final proportions adopted for the new plan. The public sector investment in the 8th Plan will be 43 per cent.

Book Review

DEVELOPMENT ECONOMICS - A NEW PARADIGM

C.T.Kurien

(New Delhi, Sage Publications, by Syed Nawab Haider Naqui 1992 Pp 208 Rs.200)

IS there a separate discipline called "Development Economics"? Should there be one? For some three decades from about the early 1950s to the late 1970s the answer to these questions was clearly and enthusiastically in the affirmative. But things began to change in the 1980s. In his Nobel Lecture in 1981 Theodore Schultz claimed that `standard economic theory is as applicable to the scarcity problems that confront the low-income countries as to the corresponding problems of the high -income countries' because `poor people are no less concerned about improving their lot and that of their children than rich people are' thereby by implying that if there was a difference between mainstream economics and what had come to be known as development economics it was based on the wrong assumptions about the motivation and behavioural patterns of the rich and the poor. In 1981, again, Albert Hirschman who was one of the early pioneers of development economics published his paper `The Rise and Decline of Development Economics' indicating that it was all over. The issue was debated through the decade when, among others, Arthur Lewis and Amartya Sen took the opposite position.

The volume under review is a commentary on that debate by a leading Pakistan economist who insists that there is (and, if there isn't, there ought to be) a separate body of studies under the rubric of development economics, distinctly different from mainstream economics, identified as neo-classical economics. A good part of the book, therefore, is a criticism of neo-classical economics, in particular its obsessive glorification of Pareto optimalility and excessive attachment to the invisible hand. This is ably done. Those who want a quick reference to the literature on the themes of market failure, rationality in decision-making, value neutrality etc. will find it in different parts of the text as well as in the detailed bibliography.

On development economics as such the author's view is: "The challenge facing development economics is not one of devising docking strategies to join the monther-ship of neo-classical economics, nor is it one of declaring independence from neoclassical economics. What is required is the evolution of a synthetic view of economic process requirieng both macro and micro insights - one which is based on a wider set of social choice theories not restricted to Pareto-optimality". (p.146). To spell it out in greater detail, the new paradigm of development economics proposed in the book will include the

following: (a) It will give up social-choice theories (such as Pareto-optimality) which tend to rationalize the continuation of a socially undesirable status quo and take as its vantage-point other theories of social order with a strong accent on justice, especially `justice as fairness' of the Rawlsian kind; (b) Thus it will bring about a strong link between economics and ethics so that rationality will not be taken as a synomym for self-interest and the moral concern for others would not count as a sign of rationality; (c) On that basis it will aim at a rearrangement of the basic structure of society to make it `fair' and `just'; (d) In such a social order, it will provide a legitimate role for both the market and the state.

That is a fine recipe, to be sure; sugar and spice and all the nice things are there. But is prescriptive refinement the way to distinguish development economics from mainstream economics, and, indeed, the way to usher in a new paradigm? "Our discipline", says the author "cannot afford that Olympian detachment from the real world which has, unfortunately, become the hallmark of much of neo-classical economics" (p.177). Wouldn't the same divorce of logic from life continue to plague the "new paradigm" too if its main concern happens to be prescription, however comprehensive and radical it may be? For, wasn't this the bare of the "old" development economics - that it was busy prescribing, first to bring about growth, then growth with redistribution, then the eradication of poverty and so on, but never with adequate diagnosis about the nature of the malady itself? For neo-classical economics there is no problem on this score because, by structure it is prescription sans diagnosis; or its only diagnosis is that somebody is not playing the game, thus interrupting the smooth working of the market and the universal prescription is to let the market be the market to bring in the bliss of Pareto-optimality. A paradigm shift can come only if it can be established that there is need for a different understanding of the problematic of "development", not simply by handing out a new prescription, even a nobler and more diversified one. It is worth considering, in this context, whether the paradigm shift that Keynesian economics brought about if it did that - consisted of the policy prescription that public works can be a remedy for a depressed economy or the demonstration that unemployment was not always the result of inflexible wage rates.

Development, as the term clearly shows, is a process rather than a state of affairs. If so, the essential feature of a new paradigm in development economics must be a notion of change over time, but, that is almost totally missing in this volume. It is not a matter of surprise either because in spite of his many critical comments on neo-classical economics the author has not recognised that the central problem of neo-classical economics in relation to development is not the inadequacy of any of its derivations, but the fact that it is anchored on static equilibrium analysis. The crucial questions, therefore, are whether such a frame of analysis is suitable to lead to a proper understanding of the development problematic and whether the way forward is to keep on carping at a theoritical structure that, after all, is based on yesterday's - or was it day before yesterday's? - paradigm in physics.

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MADRAS INSTITUTE OF DEVELOPMENT STUDIES (MIDS)

The Institute was founded by Dr. Malcolm S. Adiseshiah in 1971 and was reconstituted in 1977 as a National Research Institute within the framework of the Indian Council of Social Science Research, New Delhi.

The aim of the Institute is to contribute to the economic and social development in Tamil Nadu and India.

The activities of the Institute are:

—Research leading to Ph.D. Degree

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MADRAS DEVELOPMENT SEMINAR SERIES

Vol. XXIII No. 8 August 1993

Consumer Redress in the Indian Context

Caste Disabilities in Perspective

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CONTENTS

EDITORIAL HIGHLIGHTS

Introduction

THIS August editorial covers the activities at the three levels for the month of June. At the **state level**, attention is called to the serious financial perspectives facing the state, adding to the deficit of Rs.500 crores and the hard options before it. The developing power sector including particularly foreign investment proposals are noted. So too is the problem of water scarcity which continues and intensifies during the month. On agriculture a good crop is reported on the one hand and serious drought conditions in Madras and most of the districts. In the industrial field, the government makes very important claims of industrial development and progress which is not sustained by the meeting of industrialists which met during the month.

At the **national** level the price situation and inflationary conditions are discussed and the government's inability to roll back prices to justify tax reductions is noted. In the economy sector the latest draft of the joint parliament committee report is analysed, as is the large foreign direct investment. The development of IRDP and urbansation trends are also reviewed, and the lack of stability in the economy, due to the BOP situation is stressed. In agriculture, the crop results are good leading the minister of food to predict wheat exports for the year. In plantation crops the good functioning of ISQ in the coffee area is noted. In industry a very low growth rate from April 1992 to February 1993 is noted with regret. The persisting recession particularly in the automobile industry and the proposed restructuring of SSI are of some concern. In the foreign trade field a future effect of the extensive draw back affected during the year and the low export rate growth are noted, together with the progress of Indian opinion on the Dunkel draft. The falling aid receipts and the low rate of utilisation are once more analysed. In the Human Resource Development field the problem of lead poisoning and the ambitious 5 year employment plan are outlined.

In the **International** area the uneven progress of the world economy expected this year and next year is reported by the United Nations. The limitations of privatisation as set forth by IMF and the World Bank also calls for serious attention. The declining world agricultural trade is noted with some concern. The **concluding section** deals with a few important events with which MIDS is concerned and the completion of the annual survey of Social Science Research is set forth.

State

Budget and Finance

The budget which provided over Rs.500 crores of deficit is under further strain and very probably the deficit will be increased.

Because: (a) the Veeranam type project referred to in the last issue may have to be financed by the state which will more than double or triple the deficit; (b) the revenue expenditures are increasing at 18 per cent while revenue receipts are increasing by 15 per cent. There is little possibility of increasing revenue tax receipts as the major source, sales tax has reached saturation. Central transfers are increasing by 15.5 per cent. This means that the surpluses which characterised past budgets have been eroded with revenue deficit increasing; (c) the states borrowing has increased at 16.1 per cent per annum, but loan repayments eat up 30 per cent of fresh loans. For 1993-94 Tamil Nadu, is raising Rs.125 crores (the fourth highest) of the total Rs.1200 crores by 14 states. This states borrowing together with the loans for grandiose state projects and plans have risen to l6 per cent per annum, totally Rs.91,000 crores in 1990. This means that loans repayment gobble up most (over 80 per cent) of fresh borrowing and leave the states in a precarious financial position. Confronted by this situation, the state faces hard options: (l) Cut some of the heavy subsidies for transport corporations, power for farmers, and even the public distribution system. Illicit liquor is growing and needs controls; (2) Reduce investment equities in state public sector under takings and sell of loss making ones. Some solutions to the situation suggest themselves: (l) there could be a sharing between the centre and states of all taxes at comparatively low rates rather than sharing only a few like income tax and excise at high rates; (2) make a serious effort to link central transfers to state level decisions on spending and raising of revenue atleast at the margin; (3) freeze all recruitments and so reduce the amount spent on wages and salaries. This should include also reduction of such expensive items as leave entitlements, redeployment of excess staff etc.

Power

Following the centre's liberalisation policy on power generation, the private sector, as noted in earlier issues of the Bulletin, is being encouraged to set up thermal plants with a total installed capacity of 5700 MW. Some of these are lignite based, others will be using diesel as in the proposed plants at Cuddalore, Semayanallur, Arni, Samalpatti. Those plants are part of the VIII and IX plan scheme of the state and will cost Rs.l7,l00 crores. The source are Indian and international lending agencies and equity raised from the public. This farming out of power plants to the private sector should enable TNEB to concentrate on transmission and distribution which are in a poor state. Of the Rs.500 crores annual capital budget, Rs.300 crores is for the above purpose and this should be continuously increased. The question is whether the Board should give up on generation, which should not however be posed in that fashion. Both T&D and some generation should be its responsibility. Some of the main private agencies referred to in previous issues are the Birla Khaitan in the Mcnally Bharat Enginering company combined with TIDCO with an investment of Rs.5000 crores, NRI Hormes' l000 MW plant at Cuddalore to be put up by the US International Contracting Marketing Corporation. Other projects include NRI Sharad Taka's Lignite project of 250 MW, the Coimbatore business man G M Swami's 250 MW plant in South Arcot and Vijayaragavalu Reddy's Gas based Dyanora project of 300 MW using the Cauvery off shore oil at Nagapattinam. The Tamil Nadu Energy Development agency reports that the memorandum of understanding for the setting up of an Ocean Thermal Energy Conservation plant (OTEC) near Tuticorin has been sent to the users for building the plant. The plant will use the difference in temperatures between sea water in deep and shallow levels to produce power. Sea

solar will supply the power to TNEB at a fixed cost. This mixture of private initiative with central and state government support should be followed carefully to see how far they help in creating the infrastructure of power, on which the state's industrialisation programme depends.

Water

Water continues to be a serious problem in the state with acute drinking water lack facing in Madras and several of the districts. In fact in some of the districts the lack of water not only for drinking but also for farming is creating near famine conditions. The long term programmes like the Telugu/Ganga project, the Veeranam project and the Rs.800 crores water resources consolidation project to be implemented in three states with resources from the World Bank seems somewhat far away in relation to the current lack of water faced by farmers and households. This should result in an urgent short term programme for conserving water in all ways possible.

Agriculture

The agricultural scene in the state is somewhat confusing. On the one hand the very good procurement programme during the kuruvai season in 1992-93 of over l8 lakh tonnes along with a continuous drop in PDS off take from an average of l.3 lakh tonnes to less than l lakh tonne, along with the centre's allocation of 70,000 tonnes of rice a month has resulted in a huge rise surplus. This surplus is reported at 3 lakh tonnes after meeting of PDS commitments. The demand to diminish the surplus by increasing the monthly supply to card holders from 12 kilogrammes to 20 kilogrammes will not only increase the government subsidy by an additional Rs.150 crores (over the present Rs.400 crores) but will also involve the kind of short term measure which will involve problems in the long run, as in the case of water facing the state. On the other hand the price of rice is continuously rising and does not seem to be affected by this large surplus stock. It is now selling at Rs.9 a kilo which is a 30 per cent increase over last year. A second feature of the agricultural scene is the government's decision to raise the kuruvai target by l lakh hectares over the current season's 7 lakh hectares. This is attributed to the decision of the government to release Mettur water for kuruvai from June 12, which is done for the second year and also to take account of the higher productivity recorded in the Kuruvai season. The other short term crops - kar and sornavari - will be using the normal 2.75 lakh hectares. Towards the end of June however, there is some uncertainty about the flow of water in Cauvery. The inflow into the reservoir is 1200 cusecs and it is only the good storage which stands at 89 feet that enables the outflow to be maintained at l8000 cusecs. Will Karnataka conform to the Water Tribunal decision and release into the river 10 - 16 tmc ft in June. Up to the 3rd week, only 4 tmcft have been received. This is serious because the storage in Mettur is getting depleted and the tribunal decision is urgent and should be enforced. The government is launching (Operation Green Revolution II) to increase the production and productivity of millets, pulses and oil seeds in rain fed areas through adoption of scientific strategies. During the South West monsoon 32 lakh hectares reporting 56 per cent of total cultivated land are rain fed. Under the above programme farmers are being advised on how to increase the production of millets, pulses and oil seeds through adoption of a package and proper services and exploitation of rain water. If this is done millets production could be increased by 30 lakh tonnes from the same 20 lakh hectares as is being cultivated. Also the department has recommended to the farmers that they grow sericulture S-13 and S-34 mulberry varieties. These are drought resistant and suitable for the state. On the side of research and extension June recorded 28 projects which the farmers have adopted. Of these 3 are cereal based, 17 are for vegetables and fruits, 4 on farm fisheries and 4 on animal husbandry. This is a rather uneven distribution, but need not cause much concern because this is not the long term trend as recorded in previous issues, where there is a trend for more of a balance between fruits, vegetables and animal husbandry.

Industrial Development

Industrial development in the state during June faces several problems. The small scale sector is facing several problems. The ancillary and small scale units depending on large plants like BHEL, Trichy in this state have closed down 50 units and are facing difficulties in another 150. Unemployment has touched 4000 including some highly trained engineers. This is a reflection of the order position of the large plants. BHEL which used to give 40,000 tonnes of steel for fabrication and machine jobs to the small units has this year reduced it to 4000 tonnes. In addition there are delays in payments by BHEL to the small units. The small units were given the annual rate contract and only a small number got orders. The problem for the small scale units is more general, not limited to the Trichy location. The central government is reported to be considering a proposal to completely do away with the reservation for the small scale sector as part of its ongoing exercise to encourage investments, particularly from the MNCs, and competition. At present 800 items are reserved for the small scale sector which has restricted the entry of MNCs. The government also feels that the small scale sector is not benefiting from the reservations in the fast changing market scenario where quality, innovation and marketing play an important role. As large industries are showing increasing interest in investing in the consumer sector, it is felt that foreign investment could be better attracted if the reservations are removed. This thinking is reflected in the decisions on the small scale sector arrived at in early June by the two day conference of state industry ministers, where some far reaching decisions which would affect SSIs have been taken. There is to be a comprehensive review by the centre and states of SSI legislation - law, statutes and rules. The six issues on which attention is being focussed are: prior approval and clearance should only be required in the case of SSIs using hazardous or dangerous processing; regulations should be enforced by exceptions with a negative list evolved for all clearances and controls; the environment related laws should not be generally applicable to SSIs; a system of core returns should be adopted abolishing most of the existing returns; many regulatory laws are over 40 years old and need to be reexamined; and a dialogue should be initiated on the scope and coverage of labour related laws. Provisional registration certificates will be finite time instruments with powers for the extension being delegated to the states. Application forms for provisional as well as programmes legislation to be further simplified and shortened. These far reaching suggestions and some decisions will affect the small scale sector seriously and need to be further considered. As far as the state's industrialisation is concerned the government states that the state's small scale industries have been registering an annual combined growth rate of 15.25 per cent, one of the highest in the country and that the state's share in the country's exports is around 12.5 per cent. It announced that it is planning registration for the creation of industrial development authorities for designated areas and industrial estates which would assume all powers to give the local body and related clearances. This would ease the burden of the entrepreneurs and give them all time for supervising their projects.

This point was emphasised by the Chief Minister at a meeting with the industrialists at the end of June. The government also states that it will set up markets for ensuring single window clearances at the district level and endow them with statutory powers. It expects that all this will promote foreign direct investment into the state. The Salem steel plant faces some pluses and minuses. Its minuses include a loss of Rs.13.76 crores for 1992-93. It has an inventory of Rs.80 crores which it hopes to reduce by 20 per cent during the current year. The plant attributes its losses to the apathy of the central marketing organisation through which its products are marketed. On the other hand the plant also reports that it has been awarded ISO 9002 certification by the world agency TUV CERT, Germany for its quality assurance systems. Its exports cover 23 countries including US, Australia, Switzerland, Italy, Turkey, Malaysia, Hongkong, etc. A positive development is the decision of TIDCO to set up in the joint sector an asset management company for launching mutual funds. Despite the current trend of the market, this initiative of TIDCO should be welcomed as in the long run companies with a sound contract record and good reputation will be encouraged. In the company being set up TIDCO will have a 26 per cent equity, with a private promoter providing 25 per cent, and the public 49 per cent. TIDCO has at present 12 companies in the joint sector on the above basis. A Rs.400 crore port based petro chemical terminal is being planned. Samsung of South Korea is being invited to participate in the project. The complex is to be used for storing imported petro chemicals for supply to the domestic manufacturers and also for reexport. The project will have a storage capacity of half million tonnes. This is parallel to the joint sector Tamil Nadu petro products, a leading manufacturer of LAB and the planned new project production of epichlorohydrin used in the electronic industries. This Rs.100 crores project is coming up in Manali and will service both the domestic and international market. On the negative side electronic output in the state is reported to have fallen from 15 per cent in the previous year to 5.5 per cent in 1991-92. CII reports that this slow down is mainly due to poor capacity utilisation, lack of technical infrastructure and test and development facilities. There is also the problem of limited credit, non available raw material and inadequate orders. Despite these shortcomings, CII reports that there is ample growth opportunities for the industry in the state and the country. A further minus point is the continued BIFR hearing on B&C mills. The reworked modernising package for B&C mills are being reexamined by BIFR. If the B&C mills are declared sick by BIFR the management will have to apply to the National Renewal Fund for funds. The NRF however, faces an empty treasury. Another negative feature is the discord among the trade unions caused by the signing of the interim between management and trade unions of Madura Coats. This is a set back to arriving at a new wage settlement to replace the present Varadaraj award which has expired. Some agrieved trade unions considered the signing of the agreement as a betrayal of the long standing common front, including some members of the joint action committee which had been formed to negotiate the issue.

National

Budget

The government reports that its revenue collections declined during the current year in April 1993 at about Rs.440 crores -10 per cent less than April 1992. The largest fall has come in customs duty collections at 18 per cent. Excise duty collections also were 3 per cent lower than April last year. This is at the effect of the customs and excise duty reductions provided in the budget. This together with continuing industrial recession which will be referred to later places the finances of the government in a difficult situation.

Prices

The inflation rate for May was +6.3 per cent and for the year stood at +6.1 per cent. The upward movement in the index is led by an increase of indices of two major groups - primary articles and manufactured products by 0.3 per cent. In this connection the government's decision in early June to increase coal prices by Rs.18 per tonne making the price Rs.381 per tonne adds to the inflationary forces. It is interesting to note that about two months after its budget was presented with sharp reductions in customs duty and excise, that the minister for civil supplies called the first meeting with industry to see to what extent industry had passed on the reduced taxes to the consumers. One of the objectives mentioned by the finance minister on February 27 in reducing excise duties was to give "some relief on articles of mass consumption", though industry drew the conclusion from the finance minister's presentation that the passing on of the excise duty relief will be assured only in two cases:(a) where the relief was meant for items of mass consumption and (b) where it was to help industries suffering from the recession. Industry states that both these objectives have been followed by it. Assocham in a survey of 42 companies in 19 product categories, states that 27 per cent of the companies have passed on Rs.1 crore or more per annum. In excise duty reduction however, nearly 14 per cent of companies report difficulty in passing on their excise duty concessions. CII also reports that out of the 55 companies contacted 33 reported that duty concessions have been passed on. The government however points out that this has not happened particularly in the case of 5 industries - biscuits, tooth powder, cosmetics, TV and tea. Thus as matters stand today there is little possibility of the industry rolling back prices in light of excise and customs concessions. For the consumer there is little to look forward to in the controversy between the government and the industry. In any case the warning by the government that it will withdraw the Rs.1200 crore excise duty concession announced in the budget if the benefits are not passed on to consumers cannot be taken seriously because the government has no means of taking back what it has granted to industry. Further the objectives of serving the consumers interest and controlling prices will not be served by withdrawing the duty concessions. It is hoped that the warning by the minister will provide an occasion for the private sector to do some soul searching on its record and not rest on the justification that these concessions are only a small compensation for the unchecked excise increases which have taken place over the years.

Economy

The joint parliamentary committee on the stock market/banks scam is in the process of finalising its report and its recommendations. In its second interim report it has arrived at the high figure of Rs.12,85,548 crores as the total quantum involved in the security scam from April 1991 to May 1992. The committee has censured the health minister who was then the minister for petroleum for some of the investments that he made amounting to Rs.544.59 crores. It has also criticised the finance minister for failing to check spiralling stock prices. It states that regulatory authorities like the ministry of finance, RBI, individual bank management, stock exchanges and public sector managements have not performed their supervisory controlling functions and are indicted by the committee. Citing their transactions between Vijaya bank, Reliance industries and the United Breweries group

the report says that in the case of Reliance the bank sanctioned sales as bills with the discount to 14 corporate borrowers which were front companies of Reliance aggregating Rs.69.38 crores. Referring to the investment of Canfin and Syndicate bank, the report states that the manner in which these two institutions had been chosen for investment on several occasions has exposed the system of processing of offers prevalent in the organisation. It had become a usual practice to entertain revised offers after the last date of submission and after the file had been submitted to the chairman of Oil India Development Board. Other details of recommendations will be available in the days to come.

As and when the final report is submitted, it will be possible to make a judgement on the functioning of the unique committee in which all parties in parliament are represented but which has worked out side party loyalties. The committee wants to break the link between the political leaders and brokers. It wishes that the place of brokers in stock exchange should be carefully reviewed and examined in order to avoid the repetition of this kind of serious distortion.

The government reports what it calls "an unprecedented response" from foreign investors to its new economic policy. During the first four months of the current year 1993, total foreign investment approvals amount to Rs.2970 crores. The approval during the 9 months of the second year of the new economic policy are reported to be twice of those of the previous year between August 1991 and April 1992 Rs.7271.86 crores investment were approved, 90 per cent of which are to be in high priority industries. If this is so, it is to be welcomed, because as of today the industries with foreign investment which are reported are Coco Cola (100 per cent wholly/foreign owned), Pepsi (51 per cent foreign equity), Cadburys, Proctor and Gamble, Gillet and Philips. It is hoped that foreign investment are also flowing into non consumer goods which will avoid giving the wrong signals to foreign investments.

The role of IRDP which was launched in October 1978 in 2300 blocks and extended to all the 5004 blocks in October 1980 need now to be looked at. The government's concurrent evaluation of the programme in June 1990 reports that 29 per cent of the beneficiaries belong to scheduled castes, 16 per cent to the scheduled tribes and 20 per cent women, 35 per cent to the very poor group. This is a good effort to rectify imbalances in the rural economy. In 1990 the modified scheme required that 50 per cent of assisted families should be from SC/ST and 40 per cent should be women which saw some progress, but the recovery of IRDP loans of the public sector banks for the year ending June 1990 declined to 30.8 per cent as compared to 39.1 per cent and 40.80 per cent to the previous two years. The VIII Plan has given further impetus to the programme in integrating it with agricultural and other rural rural development programmes, revising the poverty line to Rs.11,000 per family per annum, with families whose income is below Rs.6000 being given priority. Despite the programme's positive impact on the rural economy, there is need for better planning and systematic execution to block the loopholes in the programme. Weaknesses of the programme include diversion of funds, the continuous attempt by loanees to sell their assets and using the funds for consumption purposes. To transmit the utility of IRDP to the pulses of rural people, a lesson in IRDP in the schools at class V or class VI in the local dialect could be tried. The rapid urbanisation together with the population explosion in our big cities is a cause for concern. The country's population increase from 79 million in 1961 to 217 million in 1991 is of concern, while the population in small and medium towns during this period has declined. The strain on the 23 metropolitan cities of this growth is particularly on this weak infrastructure base, further deteriorates the quality of life. It is estimated that by the turn of the century 32 million people would be moving into slums in Calcutta, Bombay, Madras, Delhi and other fast growing cities. Here the scheme for the integrated development of small and medium towns launched during the VI Plan needs to be further developed. The outlay of Rs.100 crores in the VIII Plan is totally inadequate for this problem.

The economy would have profited considerably if the Rangarajan committee on Balance of Payment had reported earlier and its recommendations accepted in full. Its interrelated recommendations on external assistance and debt, commercial borrowing, NRI deposits and short term debt, foreign investment and trade are still sound and the committee definition of self reliance as the ability to finance all our imports with matching exports and normal capital flows will relieve us of the present heavy dependence on aid. Its advocacy of more reliance on foreign equity than debt, while watching the debt equity ratio which the committee suggests should be 2:1 is sound and will make the investment regime transparent and sustainable. Its suggestion of the Indian government supporting Indian businesses investing abroad and developing multinationals needs to be pursued. The committee visualises imports rising at 12 per cent per annum during the VIII Plan which means that Indian exports must rise by 50 per cent and foreign equity must flow in substantial amounts. A pre condition is for the RBI and SEBI to coordinate their approaches to foreign portfolio investment because at present SEBIs constraints are slowing foreign port folio investment.

The government towards the end of June announced a cut in the minimum lending rate by 1 per cent (from 17 to 16 per cent) and reduced savings deposit rate (from 6 to 5 per cent). There is some question of the effects of these changes on the interest rates structures. Will they increase the people's savings in the banking sector? On the other hand the reduction in the lending rate has not enthused, the business world which is will to recover from the effects of the stock exchange/bank *scam*.

Agriculture

The overall food position in the state is reported by the government to be comfortable. Infact the record procurement of 3.5 million tonnes of rice mainly through Andhra Pradesh has led to this region being classed as surplus. The Tamil Nadu procurement undertaken by the Tamil Nadu Civil Supplies Corporation extended the target in both the main samba, the short term kuruvai crops. The stock position is such the government is thinking of suspending the monopoly procurement, asking trade to do the job. This also resulted in May and June in the fact that Tamil Nadu lifted only 50,000 tonnes of rice against the monthly allotment of 70,000 tonnes from the centre. Also the rice offtake in the PDS is only 1.35 lakh tonnes a month because of the plentiful supply of rice in the open market. Now with the FCI reporting 100 per cent capacity utilisation in godowns the problem is the storage point for further procurement. This needs some temporary solution as Tamil Nadu is not normally a surplus state. The first fortnight of August will be crucial for agricultural production in the Thanjavur district. This applies to the standing kuruvai crop extending over 5 lakh

Plantation Crops

With regard to **coffee**, the coffee board recommends that the Internal Sales Quota (ISQ) allowing growers to sell 30 per cent of their produce directly to the domestic market should be continued for 1993/94 when production is projected at 2.25 lakh

tonnes. An increase in ISQ will not only support prices domestically will also expand the internal market. The Karnataka growers are pressing the parliament committee on subordinate legislation to throw open the export market to coffee producers and for an elected chairman to the Board. Both these are sound recommendation and should be acted upon. With regard to **tea**, the South is expected to do well this year and to some extent make up for any short falls in the northern gardens. Tea exports to the UK during the three months January - March 1993 have increased by 56 per cent to 5698 tonnes. This has sent up India's share of the UK tea market from 8 per cent to 12 per cent. The question of the tax burden on the tea industry is a live one. 40 per cent of the income earned by the the tea companies is paid in income tax compared to the normal rate applicable to other companies. 60 per cent of tea income is considered as agricultural income and so free from taxation. However, the tea industry is right in pointing to the high level of its tax structure vis a vis other plantation industries. On restructuration of the taxation systems this should be taken into account. The **coconut** and coconut oil industry is facing a crisis because of internal governmental differences. The Kerala government introduced two years ago a scheme to check illegal movement of copra to other states, which would in part help the 1600 copra crushing mills in the state to increase their capacity use. But the restrictions are preventing millers from fully utilising their capacity and is placing obstacles in the way of the 160,000 tonnes being exported to other states. This bottleneck should be straightened out speedily. With regard to **cardamom** higher domestic prices and low productivity has resulted in a decline of cardamom exports by about 500 tonnes. There was also a sharp increase in retail prices. In sharp contrast, despite a fall in the price of turmeric, pepper, chillies and seeds, spices in the domestic market, the export of these commodities do not show a corresponding increase. These downward fluctuations and uncertainty over prices deprived the farmers of remunerative prices and incentives, which it is hoped is only a short term phenomenon.

Industry

The index of industrial production for the 10 months of 1992-93 is 2.1 per cent compared to the previous year's 2.9 per cent and the economic survey's forecast of 3.9 per cent for the year. What is even more disturbing is that the 11 month record April 1992 to February 1993 shows an even lower growth rate at 2.1 per cent, which was a marginal growth of 0.2 per cent over that of the previous year. There are however, some limitations to this data which does not take into account the growth rate of the unorganised sector which as noted for Tamil Nadu earlier is very high. Further an average figure conceals a higher than average growth in certain sectors like rubber, plastic, petroleum products, non metallic minerals. Infact some select industries did well during this period, such as cotton and blended yarn increasing by 4 per cent, nitrogen fertilisers 1.7 per cent, viscose filament yarn and other petro chemicals rising by 2.35 to 4.3 per cent, steel production increasing by 5.4 per cent. This record is good when taken along side of the recession which hit particularly the automobile industries on account of rising costs and heavy incidence of excise duties. The working results on manufacturers of passenger cars, commercial vehicles for 1992-93 is disappointing. Commercial vehicles manufactures were lower by 1.48 lakh units and sales at 1.20 lakh units, passenger cars lower by 1.69 lakh units and sales at 1.65 lakh units. A question that is now a live one is the extent to which the reduction in excise duties on passenger cars and commercial vehicles will send up sales of production; but the continuing rise in costs has been eroding profitability and this needs attention. The automobile sector seems to be emerging now in June out of the recession and also on an effect of the excise duty concession. Commercial vehicles have picked up and the sales in March 1993 are higher than March 1992. This is seen in the reports from Telco and Ashok Leyland. The possibility of the reservations for SSIs being withdrawn in order to encourage investments by the MNCs and promote composition has already been referred to. As of March 31, 1993 the Small Industries Development Bank of India (SIDBI) is ranked I9th among the top 50 developing banks in the world and the third in India during the three years ended March 3I, 1993. SIDBI has sanctioned an aggregate assistance of Rs.9832 crores and has disbursed Rs.7629 crores. This has catalysed an investment of Rs.I9030 crores and generated employment of 48 lakh persons in the to public sector. The latest survey of public enterprises brought out by the department shows that 205 of the 237 units show marginal improvement for the year 1991-92 and sustain it in the first half of 1992-93. But this is still not good enough. The net profit earned by these 205 units is only I.66 per cent of total sales and is 0.98 per cent of total capital employed. The survey shows that 61 units have shown negative net worth for two successive years with 102 units being on the sick list and 44 referred to BIFR. These units which will not receive budgetary support this year will have to be restructured and sold to the private sector or closed. In the absence of an exit policy, there is lacking continuity in public sector movement. Though the performance of the public sector units for 1992-93 as noted earlier is a little better than that of the previous year, this is due very largely to the giant oil companies, which is a rather slender basis on which revival can be based. A study by the programme implementation department shows that the single most important reason for cost over runs in the above projects is due to poor planning with inadequate attention on the reliability of the cost estimates, the state of preparedness and absorption of new technologies. In this connection the recommendation of the Rangarajan committee on public sector enterprises or disinvestment is important. The committee was reconstituted in November 1992 and recommends to the government that public sector equity can be disinvested up to 74 per cent. It maintains that the target level of government ownership in the reserved category should be 5I per cent to enable control over the management and agrees to 26 per cent public ownership under exceptional cases. The committee however, states that no year wise target for disinvestment needs to be rigidly prescribed as hasty disinvestment of the past has led to losses to the public exchequers. The committee also sets forth various methods of sale.

Foreign Trade

In the foreign trade field, June starts with duty drawbacks being extended to 331 items increasing the total number from 352 in 1992/93 to 683 covering mineral, agricultural and horticulture products, relaxing the benefits to the exporters under rule 7A, dropping the draw back schedule to widen its coverage. The extent which it will push exporters which is badly needed as noted earlier is to be watched. One of the questions that is under consideration is whether the exchange rate will be stable not withstanding the freeze on oil prices, which account for 18 to 20 per cent of imports. For 1993-94 an export target of $22.138 billion has been fixed, being 20 per cent over the $18.420 billion of the previous year. Fixed in consultation with export promotion council and commodity boards, the target is realisable also in view of the new ex-imp policy, reduced customs tariff, particularly for export related imports and full convertibility of the Rupee. Within this overall target, that for GCA countries is increased by 15%. This must be achieved

as provisional estimates of the commerce ministry shows a low 3.6 percentage in Indian exports in dollar terms in 1992-93 against the target of 12.8 per cent. This was how the trade deficit for that year was contained to $3.3 billion. RBI predicted a current account deficit of $6 billion in 1992-93 which actually turned out to be $4.5 billion. Was this the reason why the government has decided not to ask IMF for an EFF loan in 1993-94. Its decision can hold, if GDP growth is more than 4 per cent. Import demand however should not increase as that will increase the deficit on trade account. This also means that current constraint on growth brought about by our poor infrastructure, power, ports, railways and shipping should improve. In any case it seems safer to provide for an EFF loan later in the year because of the uncertainty of the growth of the economy. On individual exports, cotton textiles and chemicals are doing well.

On the Dunkel Draft, the government seems to be speaking in several voices and phrases. First there has been a long period of silence which has disturbed those concerned with foreign trade programmes and policies in the country. The right of farmers to retain seeds for their own use as set forth in the Dunkel draft is opposed both by India and the US. There is also a move to accept the norms and standards in the Trade related Intellectual Property Rights (TRIPS) including the introduction of products patents in the drugs and pharmaceuticals sector and set forth in the Dunkel text. Thus it is expected to encourage the flow of foreign investment into the country. There are other areas of the draft such as the level of farm subsidy, mandatory import of farm products and the phasing out of MFA in which also India is involved. There is general agreement both in India and abroad that the reality of trade flows in a world of high speed communication and capital mobility will mean that all trading nations will be moving down the important path of some form of managed trade. Countries like the US which were once the apostle of free trade is now pressing Japan to adopt specific import targets in several industries and is insisting that Mexico agree to strict standards of voluntary labour rules. GATT itself acknowledges that atleast 79 formal restrains against imports were in place at the end of 1992, with the European community leading this with 33 different kind of restrictions. In this kind of world on managed trade in place of free trade, India has to think through and establish its position rather carefully in consultation with other trade blocks.

Foreign Aid

As noted in the previous issue foreign aid receipts are both declining and its rate of utilisation is low and falling. The World Bank for instance reports that India had a $13 billion backlog of the spent loans from the Bank in 1990, returned $2 billion of the loans to the Bank, of which it has used $1 billion as loans to other countries. The Indian loan backlog vis a vis the World Bank is now reported to be $10 billion. In 1991-92 external aid receipts were Rs.8878 crores, repayments of principal was Rs.2259 crores, and interest payments was Rs.2561 crores. In 1992-93 the total receipts were Rs.7785 crores, the principal repayment Rs.4510 crores, interest payments Rs.3896 crores. External aid receipts for 1992-93 were Rs.6507 crores as loans, Rs.610 crores as grants and Rs.668 crores as non government loans. Thus external aid receipts between 1992-93 were down II.7 per cent compared to the previous year. The record of India's external aid utilisation is equally depressing. Against $7.2 billion committed in 1992-93 the utilisation of assistance between April and February has been only 2.54 per cent. In addition there is a large quantum of loan assistance in the pipe line which has not been utilised against which the country keeps on paying commitments charges. Further India's estimate of exceptional financing needs have not been proved wrong. The trade deficit which was to have been $7 billion for 1992-93 is now placed at $3.3, reducing the need for exceptional financing to below $2.5 billion against over $3 billion earlier. But with the foreign debt over $70 billion, the government finds that most of past borrowings have now matured and the time for repayment has arrived. In 1992-93, for instance between April and February while receipts of foreign aid were Rs.7,785 crores, the repayment of principal and interest was Rs.84005 crores resulting in a net outflow of Rs.621 crores. In 1991-92 the net outflow was even higher at Rs.2798 crores. Thus the outflows are higher than the in flows and this is what the so called aid is being used for.

Human Resources Development

Education

In the educational area, the two developments during June were both related to developments in Tamil Nadu. The first was the allocation of Rs.6.6 crores for this year for the improvement of industrial training institutions as part of of the Rs.30 crores allocation by the World Bank and the central and state governments for the programme. There are 51 ITIs in Tamil Nadu, including 10 for women and two for SCs and the allocation for this year will improve about 20 per cent of the institutes. The other event is that the Anandakrishnan committee recommendation for an annual fee of Rs.45,000 under the payment seats category in medical colleges and Rs.6500 for students in the free seats category is under consideration of the government. Similarly for the BE courses the payment seat category recommended is an annual fee of Rs.26,250 and Rs.3,750 for the free seats candidates. This is a small effort to reduce the heavy subsidies for education which the government is paying.

Science

The power situation in the country would improve when solar heating systems become more generalised. The VIII Plan target for it has been quadrupled from 500 MW to 2000 MW. To this end, the Indian Renewal Energy Development Agency (IREDA) is providing soft loans for the manufacture, or assembly or installation of solar water heating systems. BHEL announces that it is getting the ISI certification for its 50 litre model suitable for domestic use. The government states that it is making it mandatory for all buildings and highways to install the system. Training is being given for the proper maintenance of solar heaters and for an adequate supply of spare parts. The state government announces that it is setting up a Rs.35 crores Forest Research Centre at Vandalur, the Centre will help develop fast growing trees and will be equipped with all model facilities.

Health

The rather worrisome findings of the department of foriensic sciences is that automobile workshop mechanics and drivers on busy thorough fares and police manning traffic junctions face the highest risk of lead poisoning of the blood. This is one of the conclusions of the very heavy vehicular air pollution in the city. These people who are more exposed to pollution and those working in petroleum related industries have increased lead concentration in blood as a function of the increase in number of vehicles in the road. It is necessary to reduce the lead in our petroleum or number of vehicles as much as possible.

Labour

The government announced an action plan to achieve near full employment in the country by the 2002. This would involve an acceleration of the rate of employment from 2 per cent to 2.8 per cent per annum. This would generate additional employment opportunities of 8.5 million per year. The back log of open unemployment at the start of the VIII Plan is estimated at 17 million, and labour force was estimated to grow by 36 million during 1997-82. This means that a 10 year perspective to achieve full employment would mean that employment must grow by 9.4 million per year between 1992 - 2002. If this was achieved the VIII Plan back log of open unemployment would fall to 10 millions. To attain this employment objective, the faster growth of sectors and sub sectors which have higher potential for employment for employment generation should be promoted. That is, diversified growth of agriculture towards high value labour intensive crops and development of agro processing in agriculture better developed areas should be envisaged and pursued. The development of waste land into cultivable land and its use for crop husbandry and forestry is another area. Similarly rural non farm activities and the infrastructurally developed rural towns will be required. In the industrial sector small scale and decentralised industries and industry related service sectors will be more employment generating. In the construction sector, infrastructure development particularly in the rural areas is essential. Housing deserves similar priority for meeting both the basic needs of shelter and for employment generation. The services sector like transport and tourism should also grow fast. The urban informal sector is identified as another important area for expansion of employment opportunities. More elaboration of this plan is to be found in India Prosperity 2000 published in the last issue. On the other side, over 27,000 bonded labourers who have been freed are still awaiting rehabilitation according to the annual report of the Ministry of labour for 1992-93. The incidence of bonded labour is heavy in Andhra Pradesh, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh. Most of the bonded labourers in Kerala, Gujarat, Maharashtra and Haryana are reported to have been rehabilitated. The state government reports that it has developed a plan to train 5 lakh men and women in the VIII Plan, providing them in technical skills in various areas like poultry, gem cutting, and electronic assembling. This employment is through S& T for which a support cabinet sub committee has been constituted. Thus today scientists and technologists are concentrating on actual application of technology to the field. This if expanded would be accelerate employment generation.

International

World Economy

Based on empirical evidence a JNU and Calcutta University study traces the evolution of financing activities during the last two decades, including the changing pattern of financial flows, the reversal of North-South flows and the qualitatively changing banking activities due in part to deregulation. Three processes are identified to explain and expand and contract the different regimes to the world economy income multiplier forces, debt devaluation processes and terms of trade processes. With regard to the growing and heavy indebtedness faced by the developing countries, it is stated that general debt relief is not a possible option and that relief could be decided only on a case by case basis. It is urged that the major portion of responsibility should be carried by creditor countries than at present. This would correct somewhat the asymmetry between the North and South and in the weight of debt burden control.

The latest UN World Economic Survey states that while Asia will grow vigorously, the world economy itself will record slow growth with no signs of accelerated output in developed countries. The resumption of growth is stated to be the over riding issue in the world economy. Asia is expected to grow at 5.5 per cent, with China registering ll per cent, the world output, however, is forecast to grow only by 1.5 per cent in 1993 and 3 per cent in 1994, Russia and its neighbouring economies will experience a further 10 per cent fall in output after a near 17 per cent decline in 1992, Africa and Latin America will record modest growth. A hesitant recovery will be under way in the US, Canada and UK and even Japan, France and Italy while Germany will record -0.5 per cent during the year.

IMF and World Bank

The periodical publication of IMF and World Bank, Finance and Development, states that mass privatisation is no solution to the problems of the state enterprises. Entire industries have to be restructured to ensure competitiveness for efficient gains to materialise. Even for natural monopolies regulation and supervision effective competition is necessary to prevent the privatised enterprises reaping substantial monopoly profits, leaving consumers worse off. Privatisation thus will not result in improvement in efficiency, while potential for efficieny gains from privatisation provides its usual rationale. Available evidence from large scale privatisation programme like those undertaken in Eastern Europe suggests that improvements in the allocation and use of resources may be at the cost of privatisation proceeds. This implies that the fiscal strain may not improve even when efficiency is enhanced. It is good that the two Brettonwoods agencies are now following the analysis set forth for long in this journey on privatisation.

World Agricultural Trade

FAO forecasts a slow down in world agricultural trade which would bear heavily on third world countries. Its forecast is that demand growth will be by 1.6 per cent annual during the 90s compared to 2 per cent in the 80s while production will drop a little from 1.8 per cent in the previous decade to 1.7 per cent, population growth following per capita income and increasing competition from synthetic substitutes will lower the income from trade in agricultural products.

Other Items

MANAR

After a long interval the core group with reduced attendance of the Mass Action Programme for National Regeneration (MANAR) met. It reviewed the difficulties being faced by the colleges and universities members because of the indecisiveness of UGC. It decided to suggest to the chairman of the UGC that autonomous committee be set for supervising and running MANAR and that it should be responsible for making available the UGC funds to the constituent units. It decided to meet at the end of July to follow up on these decisions.

National Centre for Industrial Harmony

A meeting of the Governing Body was held in mid June. It reviewed the activities of the Centre and recommended that the

Council should publish regularly the success stories in the field of sound and successful labour management relations as in the case of the Titan Watches. It also approved the Annual report for 1992-93 and recommended approval for the audited accounts for 1991-92. There is to be a meeting of the general body to receive the annual report, approve the audited accounts and take note of the programme of the current year at the end of July.

World Confederation of Productivity Sciences

A meeting in mid June of the Confederation to review productivity trends in the new economic programme was held with some 30 representatives of industries and government agencies. It paid special attention to the fiscal policies and problems of globalisation. It noted the advantages and more seriously the disadvantages of the fiscal policies which has landed the economy in a serious recession. As far as globalisation is concerned the view was that the priority to the country is programmes aimed at reducing mass poverty; while this is a priority the trend to make Indian companies and corporate sector competitive in international and national forums and should be pursued.

ICTT

There was a meeting of the Governing Body meeting of the Information Centre for Technology Transfer. It was noted with regret that the Body did not meet for more than a year because of staff shortage. It was decided that there will be further exchange of information between industries and educational institutions in order to promote understanding and cooperation of both sides. In this connection it was noted that when the Tamil Nadu Council publications on the state of natural and engineering sciences (Vol I) and Social and Human Sciences (Vol II) are published, it will further strengthen the work of ICTT.

TNSC S&T

There was a meeting of the Executive Committee of the Tamil Nadu State Council for Science and Technology. It reviewed the progress of work on the completed projects and the use of their reports by the user agency concerned. The committee examined item by item the various suggestions made at the General Assembly for follow up and took appropriate decisions. It reviewed and approved a rather lengthy programme of popularisation of sciences through schools, colleges and voluntary organisations which served the general public. The committee also approved the statement of accounts for the first six months of the current year and made decisions on various items presented to it.

IIC

There was a panel discussion for June concentrated on fiscal policies and the route to economic stabilisation. It was noted that policies being followed in regard to prices, bank credit, interest rates, and foreign trade were continued. The problems of lack of stabilisation, to correct this various suggestions were made, some contradictory, to achieve greater stabilisation. The discussion was followed on the day after by a seminar on SAARC, its functioning and strengthening. There was a general agreement that SAARC is necessary for the development of the region and would have to be created if it did not exist. Some of its lacks such as its weaknesses on the economic side and the need to develop inter-country regional trade, monetary arrangements etc. were emphasised. Some of the regional documentary programmes on South Asia run by JNU were made known to the seminar.

First Article

The paper for the July seminar "Consumer Redress in the Indian Context" by Shriram Panchu appears as the first article.

Second Article

A note on "Caste Disabilities in Perspective" appears as the second article.

Book Review

The review of the book "Planning for Social and Economic Development" by M. Thangaraj appears in the book review section.

Twentythird Census of Social Science Research in Southern States Part II of the Twentythird Census of Social Science Research in Southern States which deal with completed research project appears in this issue.

MIDS News

Prof. David Ludden, Department of History, University of Pennsylvania had an informal discussion on "The Political Economy of Water in South Asia" on July 19, 1993 in the Seminar Room.

Dr. Vyas, Director of Institute of Development Studies, Jaipur visited the Institute on July 20, 1993.

Ms. Molly Maguire Teas, Education Specialist and Dr. Marlaine E. Lockhead, Chief Education Specialist of World Bank visited the Institute with a team on July 20, 1993.

Dr. Paul Appasamy gave a lecture on "Environmental Economics" to the staff of the C.P.R. Environmental Education Centre on July 31, 1993.

Mr.S. Guhan gave a talk to Tamil Nadu Kisan Sabha on anti-poverty programmes on July 13, 1993. He also gave a talk on Cauvery dispute in seminar organised by Tamil Nadu Farmers Sangham and Kaviri Kappu Kuzhu at Trichy on July 15, 1993.

Dr. P. Radhakrishnan was away at the Centre of South Asian Studies, SOAS, London, from May 2 to July 16, 1993, as Charles Wallace Visiting Fellow. During his stay in London he presented a paper at an "in-house" workshop on Asian Themes at the Department of Anthropology, LSE, on "Caste Liabilities in Perspective" on June 9, 1993. He also presented a paper at an international workshop on "Caste Today" at the SOAS on "Caste, Politics, and the Reservations Issue" on July, 12 to 13, 1993.

July Seminar

CONSUMER REDRESS IN THE INDIAN CONTEXT

Shriram Panchu

CONSUMER protection is a movement of recent orgin in India. I would trace its beginnings to the 1970s. Prior to that, of course, we have had innumerable causes for consumer complaints, many instances of protest, some cases of individual efforts to claim redress, fewer success stories, very few instances of class action or public benefit measures and hardly any structured or organised consumer groups.

From the 70s this began to change. I would identify the chief causes for the change to be the rising concern at the many faceted deterioration in the quality of life, muted protests moving to articulate protest to a willingness to take action, the slow realisation of organised citizen power, the formation of consumer groups and success stories against unfair business and bureaucratic forces.

Along with the emergence of a consumer lobby were improvements in the law and the emergence of public interest litigation. The Indian Supreme Court set the tone in a series of judgements which relaxed the rule of standing and displayed the willingness on the part of the Court to give administrative directions on various public interest issues thus filling a vaccuum created by political neglect and administrative inefficiency. Public interest litigation which originally started to protect the rights of the poor and underprivileged who could not articulate their grievances expanded by stages to include a range of public interest causes including consumer protection and environmental protection. So we saw greater use of the Court through its writ jurisdictions, and to a lesser extent the provisions of the Criminal Procedure Code and the Civil Procedure Code and other special enactments.

Among the list of legislative enactments some, like the Prevention of Food Adulteration Act, were amended to permit a little more consumer participation. The Monopolies and Restrictive Trade Practices Act underwent a change in focus, from regulating big business, to protecting consumers against unfair trade practices. Of course, the most important in the legislative field has been the Consumer Protection Act. This is a significant and innovative piece of legislation especially in its focus on complaints of defects in goods or deficiencies in services, the effort to cut down technical requirements and delay, the constitution of an adjudicatory panel with a majority of non judicial personnel and the encouragement to citizens to use what is designed to be a user friendly Forum. I would say that the unstated objective of the Act is the deciding of consumer cases on the basis of first principles, common sense, notions of fairness and rightness without getting diverted into technicalities, tangential arguments and artful legal quibbles.

We now have quite a number of consumer groups, at last count about 800 in different parts of the country. Most urban areas seem to be well represented. Groups vary in size, resources and objectives. We have single-issue and multi- issue groups using direct action, research, education, advocacy and legal redress. We are witnessing an increase in the number of groups, increased specialisations, increased resources and the opportunity to exert a decisive influence in various issues seen as consumer issues. We are also seeing more networking, formal and informal, and a significant network effort is the meeting of consumer groups at the Central Consumer Council and the formation of the Consumer Co-ordination Council.

With all this has also come about greater public awareness of consumer rights and methods of redress. Consumer forums and consumer success stories are very much part of the news these days. Along with rising public awareness is the raising of public expectations.

With this background I would examine the present state of the redress systems in India.

a) Consumer durables and related services

These come within the purview of the Consumer Protection Act. Moreover manufacturers and service providers, especially in the private sector, usually face competition, would like to avoid an adverse reputation and increasingly are unwilling to tangle with consumer groups. Our observation is that many cases get sorted out at a pre litigative stage. Consumer groups can also play useful roles in settlements. Areas requiring examination and improvement are class actions, withdrawal and recall of products, observance of safety parameters and in-house redressal systems.

b) Private professional services

Right now the doctors are up in arms against their inclusion under the Consumer Protection Act. Following them are the lawyers. The Supreme Court has a pending appeal against the judgement of the National Commission holding that doctors fall under the Consumer Protection Act. The general public welcomes such inclusion, but is also concerned about possible rising costs of medical practice. Key issues are how to curb vexatious and non-meritorious litigation, the advisability of pre-trial screening procedures, the keeping of medical records and the patient's right to information. Other areas of concern are the inaction of professional regulatory bodies, falling standards of teaching and professional ethics.

c) Hospitals

The National Consumer Disputes Redressal Commission held that services in public hospitals were outside the purview of the Act since no fee was charged for such services. The Commission seems to have ignored the aspect that doctors working in such hospitals were paid by the State and were not rendering gratuitous service. This decision is an unfortunate one; it deprives poor people of compensation and perpetuates the appalling standards in public hospitals, while giving better off citizens the right to sue private practitioners. Despite appeals from consumer groups, Government has resisted an amendment for bringing public hospitals under the Act. The licensing of hospitals and nursing homes is also a very important issue. Available information points to very little regulatory control in this area. Similarly, work needs to be done on blood banks, both public and private, in the areas of screening, testing and availability, and this has assumed greater focus because of the Acquired Immuno Deficiency Syndrome (AIDS). Drug safety and pricing continue to be concern areas.

d) Housing

Builders are frequent targets in the Consumer Courts. The sale of a house takes the matter out of the purview of the Consumer Forums, since transfers of immovable property are excluded. However, the activity of housing construction falls under the Act. While relief is available in individual cases these arise at a post construction stage. We should find ways and means of preventing illegal construction, and put the rights of occupants on a firmer footing by appropriate legislation and regulation.

e) Civic services - roads, water, sewage disposal, garbage collection, electricity, transport

As per the National Commission's ruling, the Act would apply only if a specific fee is charged for the service; the Commission rejected the argument that services run from taxes collected from citizens should also qualify for redressal under the Act. Thus, only those civic services where a fee is charged come under the Act eg. electricity, water supply, transport. Services such as roads, sewage disposal, garbage collection would not qualify. Again, the National Commission's conservatism has made life easier for providers of our deplorable civic services. In the area of public services the distinction between a fee and a tax ought not to be made. Consumer groups are pressing for this major amendment.

The Act has some notable features. No Court Fee is charged. Aggrieved persons may appear and argue their case themselves. The adjudicatory forums have a majority of lay persons; only the President is required to have a legal background. Incidentally, one of the judges, by legislative mandate, should be a woman. The Act lays down a time limit of ninety days for disposal of a case. This was being adhered to at the inception when fewer cases were filed. With the rate of complaints increasing, the Forums are not able to observe this time limit. What is needed is the establishment of more consumer courts.

I would categorise specific improvement and reform areas as under :

a) The Act should be amended to include all public services especially those relating to health, safety, civic amenities and essential commodities and services.

b) Apart from the legislative amendments, it is of prime importance that the Consumer Forums perform the stated objectives of speedy resolution and a non-legalistic approach. Vigilance is necessary to ensure that an adequate number of Forums and Commissions exist to service the rapidly expanding number of cases that are going to be brought to these Forums. With inclusion of public services and increased public awareness and expectations we can expect the work of these Forums and Commissions to multiply at geometric rates. Training for handling of consumer complaints is necessary. We should also consider training for the non-judicial members of the Forums and Commission to enable them to function well.

c) Legislation is needed to deal with unfair terms of contract to mitigate the hardship of unequal and non existent bargaining power and the imposition of prejudicial standard clauses on consumers. A Product Liability Act is also necessary. Need exists for a Public Utilities Commission to regulate quality, pricing and other aspects of consumer relevance. The problems with our public utilities are too serious to confidently expect

that individual complaints will bring about generic change. A Public Utilities Commission seems to be the only hope of making monopolistic and government controlled organisations more customer responsive. In the environmental field, I would target the necessity for regulation of disposal of hazardous waste, encouraging eco-friendly products and bio degradable packaging.

d) Compensatory costs should be awarded by Courts and Consumer Forums and Commissions for class actions and public interest benefit measures brought by consumer groups. Abroad, this is a significant source of funding for consumer groups. In India, unfortunately, we are still at the level of early twentieth century cost figures. Similarly, I would say that there is a case for increasing tax benefits for donations made to consumer groups. I cannot understand why when research in social sciences qualifies for a hundred percent tax deduction, the activity of positive action for public benefit brings only a fifty percent tax deduction. Is this so as to be in keeping with our national pattern of encouraging solutions on paper but minimising action?

e) Another significant measure in my view would be the statutory representation for consumer groups on a host of official bodies which have or should have provision for public interest representatives. The Telephone Department has it but limits it to an advisory committee. I am talking about Board level representation on a wide range of service utilities such as electricity, water, telephones, housing boards, transport organisations and so on. Such public representation should be on the basis of nominations by recognised consumer bodies and not, as is the case now, at the sweet whim of ministers and bureaucrats.

Having considered the situations and issues on hand, may I move forward and outward to a wider range. My subject is consumer redressal in the Indian context and I must be mindful of the fact that the Indian context is a context of a country not just of a growing and more affluent middle class, but a country where large sections are poor, illiteracy widespread, shortages rampant, low quality in education, health facilities, civic amenities, and housing, massive bureaucracies and entrenched bureaucratic methods and almost universal corruption.

It would be unfortunate, if the consumer movement stays limited or focused only on consumer durables and the needs of an urban relatively affluent society. In the satisfaction of basic wants of food, clothing, shelter, education, heath care, transport, civic amenities, the under privileged have far more pressing needs. There is a strong case for consumer groups to take up such issues either directly or by offering our skills of research, representation and advocacy to other social action groups concentrating on these issues. Similarly, we need to focus on extending the spread of the consumer movement to rural India by building up a network of consumer groups and by providing training, information and access to qualified skills.

I would also plead here for attention on the issues of the commons - clean air, safe drinking water, pollution of earth and water, preservation of public places. The problem about what ought to be everybody's concerns is that they quickly becomes nobody's concerns. I view the protection of the commons and environment protection as integral consumer issues.

And as we spread out increasing the ange of consumer concerns, we must, I nink, also spread out to draw resources of people to ally with us in these efforts o maintain and advance public interest. There are possible alliances with professionals (individuals and professional bodies), resident and welfare associations, universities, media. I think the MIDS would be a very valuable ally for a consumer group. Consumer issues are increasingly becoming complex and require expertise of different kinds and while consumer groups may find it difficult to pay for such expertise, they could draw upon the skills of well motivated members of the community.

In the midst of all these, you might well think that I see the consumer movement a long way from its conventional association with products and services. My response would be that we have to meet the demands and challenges of our times. In the Indian system today there is a vaccuum of those who represent the grievances and problems of the public in the range of issues that have to do with provision of basic needs and health, safety, environment and the quality of life. Consumer groups are moving into these areas, moving from the individual to class action to public action, moving from goods to services to government services and to the functioning of all systems which interface with the consumer. In good enough time we will even come to examine the justice system, the problem of corruption and perhaps even electoral reforms. As I said, this is a significant departure from the conventional expectation of consumer groups. But I speak in the Indian context and this context demands a response to its challenging problems.

In summary and conclusion, I would therefore submit that:

a) Consumer groups in India are here to stay. The demands on them are going to grow. The range of problems they will need to tackle are going to widen.

b) Consumer groups should develop in-house resources, networking, specialisations, linkages with other social action groups and form alliances with disciplines such as law, media and academics. It is now time for consumer activists to broaden their vision and view themselves as serving not just their individual groups but the wider consumer constituency.

c) The Consumer Protection Act has become a valuable tool for consumer protection and its scope needs to be expanded. We will need more adjudicatory bodies to handle the increasing volume of cases.

d) We also need to examine alternative conflict resolution methods such as in house redressal for business and government organisations, pre trial screening and negotiation for medical and legal complaints.

e) Representatives of consumer groups should have a place on the boards of public regulatory bodies and public service bodies.

There are two other submissions I would place before you. These are days when winds of change are blessing and we are taking a fresh look at our economic structure. Consumer groups need to take a stand which reflects the legitimate rights and concerns of consumers and to demand economic policies to be consumer oriented rather than have the consumer be at the receiving end of the impositions of economic dogma. Inefficient government or government controlled services such as banking, transport, communications, etc., ought not to be regarded as an unchangeable aspect of Indian

life. Monopolies are inherently anti-consumer since no market force demands high levels of quality or efficiency. We are all fed up with Government controlled monopolies. However, I am sceptical of the claims made for corporatisation and privatisation of publicly owned facilities and services. They might well result in consumers having to deal with private monopolies which neither achieve the efficiency intended by privatisation nor possess the accountability and sensitivity to public opinion and public interest. We need a system which is more consumer responsive, which promotes quality, efficiency, choice and redress but which at the same time has adequate regulation. And we need far more attention in the areas of health, education and environment protection. I think we need to articulate these concerns since otherwise the only voices in the new economic policy will be those of foreign investors and local business houses who would welcome minimum regulation and low accountability.

And I think that we must bear the caution in mind that in the Indian context the consumer cannot be equated to the consumer in a consumerist society which is based on creation of wants, multiple choice and inexhaustible demand for more and more goods and where possession in terms of quantity and price has become the index and bench mark of success and satisfaction. For us to do so would put an unbearable strain on our resources - natural and financial - and a strain on the social fabric which cannot take large scale grave inequality. In India, the emphasis should be on the provision of the basics to the great majority of people; the emphasis should be on quality, reasonable pricing, safety, on health, on performance of public utilities, redress, the quality of life and the development of a pattern of sustainable consumption.

CASTE DISABILITIES IN PERSPECTIVE*

CASTE,[1] "[t]he greatest Indian mystery... known to modern writers" (Smith 1919: 33), "the most remarkable of all human institutions" (Gould 1987: 3), and "the most elaborate version of ascription-oriented social stratification ever known" (Gould 1990: 166), dominating the lives of the inhabitants of the Indian sub-continent for nearly three millennia (Srinivas 1992: 59), has also been one of the greatest scourges (Ward 1822, 1: 143-44) of Indian society. The disabilities arising out of this scourge, reducing the bulk of the Indian population to a hapless majority of disadvantaged groups, may be understood in terms of the use of caste as traditional India's principal category of social ordering and control, and organised protests against such disabilities. That is the concern of this paper.

The Scourge of Caste

Stating that "[t]he real triumph of the caste system lies not in upholding the supremacy of the Brahmin, but in conditioning the consciousness of the lower castes in accepting their inferior status in the ritual hierarchy as part of a natural order of things", Mandal, a highly controversial figure in India's recent reservation politics, wrote:

> No social institution containing so large an element of inequality and discrimination towards majority of the people can survive that long in a purely social context. It was through an elaborate, complex and subtle scheme of scripture, mythology and ritual that Brahmanism succeeded in investing the caste system with a moral authority that has been seldom effectively challenged even by the most ardent social reformers (Government of India 1980, Part 1: 14).

How religion and mythology were used to weave this "magic web", as Mandal termed it (ibid.), is a larger issue. *Manusmriti*, the pivotal text of the dominant form of Hinduism, probably composed around the beginning of the christian era, is undoubtedly its most important manifestation. As Doniger and Smith would have, like all other works we have from the ancient period in India, it was composed not only by "priests" (Brahmins) but to a large extent for priests, "embedding within a conceptual structure that encompassed the universe as a whole their self-appointed role as the minds and mouths of ancient India", with the priest as "the paradigmatic human being, the most complete and perfect representative of the species, a metonym for the 'real human'" (Doniger and Smith 1991: xxiii).

Having suffered for centuries its "unconscious injunctions",[2] and discovered that far from being sacred and divine it has been a well-organised fraud on the majority of the society, for at least a century now it has been condemned as a highly provocative symbol of social oppression, and consigned to flames repeatedly, along with repeated attacks on the masterly class, purportedly a minuscule group of Aryan

* Paper presented by P. Radhakrishnan at a Workshop on South Asian Themes, on June 9, 1993, at the Department of Anthropology, London School of Economics and Political Science.

invaders, by which and for which it was supposedly composed to continue its socio-cultural hegemony. So, a brief look at the principal prejudices, perversions, paradoxes, and contradictions in the long-arm of the law of Manu, his "dos" and "donts" for the four chief castes (*Varnas*), should give a general idea of how caste has been the most appalling and divisive social institution, in particular of its most hideous treatment of the Sudras and the castes below them.

To turn them to these "dos" and "donts": Let the Brahmana take even the whole of a treasure-trove when he finds it, restrain the Kshatriya when he becomes overbearing in anyway towards him, and confidently seize the goods of his Sudra slave. Let him not stay together with low-castes and untouchables, or dwell in a country which is ruled by Sudras, or is swarming with men of the lowest castes. Let him not recite the *Veda* (his exclusive possession), in the presence of a Sudra, explain it to him or dictate to him a penance. Let him, even in times of dire distress, rather die with his knowledge (sacred learning, his treasure) than sow it in "barren soil".

Let the king after rising early in the morning, worship learned Brahmanas and follow their advice. Let him honour Brahmanas in everyway even if they are employed in mean occupations, and when he finds a treasure-trove, give one-half to them and place the other half in his treasury. Let him never take the property of a Brahmana, conceive the thought of killing him, and though fallen into the deepest distress, provoke him to anger. Let him fine the *Kshatriya* one hundred *panas*, and the Vaisya 150 to 200 panas, and punish the Sudra corporally for giving pain to Brahmanas; and order the Vaisyas and Sudras to discharge their ordained duties,[3] for if these two castes swerved from their duties they would throw this whole world into confusion. Let him pour hot oil into the mouth and ears of a Sudra if he arrogantly teaches Brahmanas their duty; thrust a ten-fingers long red-hot iron-nail into his mouth if he mentions contumely the names and castes of twice-born men, banish him, have his hip branded, and buttock gashed if he tries to place himself on the same seat with them, and cut off his tongue if he insults them with gross invective.

A kingdom will sink low like a cow in a morass if its king looks on while a Sudra settles the law; and will soon entirely perish, afflicted by famine and pestilence, if Sudras are very numerous in it, and is destitute of the twice-born castes.

There is no fifth caste according to *Manusmriti;* but it contains several references to "mixed-castes" which first emerged from the union of the three twice-born castes with women of the next lower castes, anc gradually multiplied into many more castes of lower origin through a variety of cross-breedings. Of these, the most despisec are Chandalas. *Manusmriti* often club: these debased castes with Sudras, despise(animals, and women for its contempt an(discriminatory rules against them.[4]

Manusmriti's Varna order does nc convey the complexity of the caste syster with hundreds of castes in each regio squeezed into the Varnas system. It als does not reveal the great diversity in th caste structure across the regions. Thi is only to be expected, considering th: when *Manusmriti* was master-minded th caste society might have been still nascen What is, however, more to the point i one important effect of this four-fold Varr order, the "mingled system of civil ar religious polity", with each division inclu ing further divisions and subdivisions (s(Ward 1822, 1: 64), has been the fragme tation of the social consciousness of Indi: society and the crude and cruel treatme of the Sudras and the untouchables.

In the context of the recent reservation controversy India's judiciary has often deplored this seamy side of Indian society:

> [The Hindu religion] divided its adherents into four water-tight compartments. Those outside this four-tier system (Chaturvarnya) were the outcastes (Panchamas), the lowliest. They did not even belong to the caste system—ugly as its face was. The fourth, Shudras, were no better, though certainly better than the Panchamas. The lowliness attached to them (Shudras and Panchamas) by virtue of their birth in these castes, unconnected with their deeds. There was to be no deliverance for them from this social stigma, except perhaps death. THey were condemned to be inferior. All lowly, menial and unsavoury occupations were assigned to them... It was their 'Karma', they were told, the penalty for the sins they allegedly committed in their previous birth. Pity is, they believed all this. They were conditioned to believe it.

A related observation is that the concentration of the executive power in the few high castes which had the monopoly of learning had its natural consequences, the most invidious and self-perpetuating of which was their strangle-hold over the administration of the country: They controlled, directed and regulated all aspects of life mostly to suit their sectional interests.[5]

Persistence Despite Challenges

Asserting that there is no code of laws on social rights more infamous than of Manu, in his 1936 work *Annihilation of Caste* Ambedkar offered the following reasons for the mass of people tolerating the social evils to which they have been subjected:

> [T]he lower classes of Hindus have been completely disabled for direct action on account of this wretched system of Chaturvarnya. They could not bear arms and without arms they could not rebel. They were all ploughmen or rather condemned to be ploughmen and they never were allowed to convert their ploughshare into swords. They had no bayonets and therefore everyone who chose could and did sit upon them. On account of the Chaturvarnya, they could receive no education. They could not think out or know the way to their salvation. They were condemned to be lowly and not knowing the way of escape and not having the means of escape, they became reconciled to eternal servitude, which they accepted as their inescapable fate (Government of Maharashtra 1989, 1: 63).

While the persistence of caste, still hanging like a millstone round the neck of every Indian, is thus understandable, it is important to note that the caste system seldom had an unchallenged existence. In fact, protest movements have been a feature of the caste society ever since the sixth century BC when Buddhism and Jainism arose in opposition to Brahminism and rejected, among other things, the supremacy of the Brahmins and the inequality of caste.

The *Bhakti* (devotional) movements which maintained themselves in different parts of the country throughout the middle ages challenged the established hierarchy of caste in the name of equality among men. They "produced a revolution without the uproar of a rebellion" since the 13th century, as Ghurye wrote in the context of Maharashtra where a number of Sudra saints such as Namdev and Tukaram freed Sudras from Brahminic domination in their spiritual life (see Ghurye 1979: 103-5).

However, as Beteille has observed, "they all came to grief becauseof their inability to cut through the existing divisions of society"; and with the normal cycle of what started as a social reform movement hardening into a sect, and the sect transforming into a caste, and then finding

a place for itself in the established order of castes (Beteille 1992: 42-43), over the centuries either became castes, or reproduced caste like structures. A case in point is Veerasaivism (Lingayat sect) which emerged in twelfth century Karnataka against Brahminical dominance and the caste system and created a set of religious institutions parallel to that of the Brahmins.

When Islam and Christianity made their entries and ruled India, many from the lower castes embraced them for escaping the tyranny of caste. But, more often than not the converts carried with them their castes and occupations. Consequently, as Ambedkar observed in his *Annihilation of Caste*, caste being primarily the breath of the Hindus, "the Hindus have fouled the air all over and everybody is infected, Sikh, Muslim, and Christian" (Government of Maharashtra 1989, 1: 80).

With the advent of British rule, many educated Indians came in close contact with the religion of the rulers, and some of the outstanding personalities among them. As a result, several socio-religious movements emerged to liberalise Hinduism and rid it of its many evil customs.

Thus, Rammohun Roy, the first great reformer of Hinduism in modern India, blamed the caste system for India's political subjugation for centuries, its slow progress, and its interference at every step with the free exercise of human rights. The Brahmo Samaj in Calcutta which he founded in 1828 repudiated caste, opposed idolatry, preached monotheism, and established brotherhood of man irrespective of caste or creed.[6]

Parallel to the fostering of such anti-caste movements were attempts by Dayananda Saraswati to remodel Hindu society by returning to Vedic Hinduism before there was idol worship. He preached the substitution of the manifold ramifications of contemporary caste by *Chaturvarnya*. The Arya Samaj in Punjab which he founded in 1875 removed the element of birth as the basis of hierarchy, promoted inter-caste marriages, and encouraged admitting the untouchables into the category of touchables (see Ghurye 1979: 286; Rao 1979: 133-34).

Jotirao Phule, born in the low Mali caste who founded the Satya Shodak Samaj (Truth Seeking Society) in Poona in 1873 blamed the Hindu religion for creating inequality in society, and the Brahmins for fabricating "sacred scriptures" to maintain their social dominance, asserted the worth of man irrespective of caste, and exhorted the non-Brahmin castes not to engage Brahmin priests to conduct their marriage rituals, which he tried to simplify. His movement, as Ghurye wrote, "was a revolt against caste in so far as caste denied ordinary human rights to all the members of Hindu society, and not merely a non-Brahmin movement to cast off the domination of the Brahmins" (see Ghurye 1979: 287; also Zelliot 1992: 37-46).

Sri Narayana Guru, born in the low Izhava caste, became learned in the Vedas and Vedanta (of Sankaracharya), and was active as a socio-religious reformer for four decades since the 1890s:

> His ideology was stated in a cryptic form, as belief in one God, one religion and one caste. He made a direct attack on the caste system, especially on the supremacy of the Brahmins... It was the Nambutiris and other Brahmins,...[he] had in mind as the opposition reference groups, because they had denied the Izhavas and other low caste Hindus the right to participate in brahmanical Hinduism, including the right to study the *Vedas* and the right to worship non-alcoholic and vegetarian deities. The strategy that he adopted was to deny the caste system, which was what provided the social basis for the Brahmins to acquire a high ritual status... He wanted his followers not to believe in differences

> based on caste, and to work for the abolition of the caste system. One of the programmes of action, directed toward the achievement of this goal, was to promote commensal relations with the members of the lower castes, such as, the Cherumas and Pulayas. In his hermitages *(ashramas)* he not only brought up Pulaya and Pariah boys but also employed the Pulayas as cooks (see Rao 1979: 36-38).

E.V. Ramasamy Naicker (popularly known as Periyar) who launched the "self-respect" movement in the early 1920s, extolled Dravidianism, and tried to root out superstitions and discriminations based on religion and caste. Like Phule and Narayana Guru, Periyar exhorted his followers to relinquish the ritual services of Brahmins. The "self-respect marriages" which he introduced in the late 1920s were intended to eschew priests and rituals (see Ghurye 1979: 455-57; Rao 1979: 215-16).

Gandhi's campaign for abolition of untouchability and amelioration of the position of the untouchables, though persistent was only persuasive and did not attack the caste system. Viewing untouchability as harmful to Hinduism, he appealed to the caste-Hindus for "change of heart", for elevating untouchables to the status of Sudras in the Varna System, and making their unclean work honourable. He had admitted that *Manusmriti's* story of the creation and similar things had made him "incline somewhat towards atheism" (Gandhi 1976: 24). Despite this, he extolled Chaturvarnya. In reply to Ambedkar's *Annihilation of Caste,* in the *Harijan* of July 18, 1936, he wrote:

> The law of Varna teaches us that we have each one of us to earn our bread by following the ancestral calling. It de..nes not our rights but our duties. It necessarily has reference to the callings that are conducive to the welfare of humanity and to no other. It also follows that there is no calling too low and none too high. All are good, lawful and absolutely equal in status. The callings of a Brahmin—spiritual teacher—and a scavenger are equal, and their due performance carries equal merit before God... (Government of Maharashtra 1989, 1: 83).

Ambedkar had argued that there cannot be a more degrading social organization than Chaturvarnya which deadens, paralyses and cripples the people (Government of Maharashtra 1989, 1: 63). In the *Harijan* of July 11, 1936, he refuted Gandhi's claim:

> The Mahatma is a Bania by birth. His ancestors had abandoned trading in favour of ministership which is a calling of the Brahmins. In his own life, before he became a Mahatma, when occasion came for him to choose his career he preferred law to scales. On abandoning law he became half saint and half politician. He has never touched trading which is his ancestral calling... It may be wrong and uncharitable to judge an ideal by its worst specimens. But surely the Mahatma as a specimen [is] no better and if he even fails to realize the ideal then the ideal must be an impossible ideal quite opposed to the practical instincts of man... To me his ideal of following one's ancestral calling is not only an impossible and impractical ideal, but it is also morally an indefensible ideal (Government of Maharashtra 1989, 1: 90).

In another rejoinder, in the Harijan of August 15, 1936, Sant Ramji, Secretary of the Jat-Pat-Todak Mandal, Lahore, an organisation of caste-Hindu social reformers working for the eradication of caste, wrote:

> [Y]our philosophical difference between Caste and Varna is too subtle to be grasped by people in general, because for all practical purposes... Caste and Varna are one and the same thing, for the function of both... is one and the same i.e. to restrict inter-caste marriages and inter-dinnings. Your theory of *Varnavyavastha* is impracticable in this age and there is no hope of its revival in the near future. But Hindus are slaves of caste and do not want to destroy it. So when you advocate your ideal of imaginary *Varnavyavastha* they find justification for clinging to caste. Thus you are doing a great disservice to social reform by advocating your imaginary utility of division of Varnas, for it creates hindrance in our way. To try to remove untouchability without striking at the root of *Varnavyavastha* is simply to treat the outward symptoms of a disease or to draw a line on the surface of water. As in the heart of their hearts dvijas do not want to give social equality to the so-called touchable and untouchable Shudras, so they refuse to break caste, and give liberal donations for the removal of untouchability simply to evade the issue. To seek the help of the Shastras for the removal of untouchability and caste is simply to wash mud with mud (Government of Maharashtra 1989, 1: 84-85).

What emerges from this polemic is the paradox of Gandhi's *Varna* theory that all *Varnas* have only equality of status, that too only in the perception of Gandhi and not of the Hindu society, but not equality of opportunity.

No doubt, with the several social reform movements Hinduism has undergone certain changes. But, as Ambedkar observed in 1919 with the growth of political agitation, the agitation for social reform subsided and even vanished (Government of Maharashtra 1989, 1: 268).

Exceptions are, however, the few movements such as by Phule, Narayana Guru, Periyar, and Ambedkar, which gave a certain militancy to their anti-caste thrust. Of these the most significant is the movement by Ambedkar himself. This is for at least two reasons. First, though Ambedkar launched his movement primarily for the emancipation of the untouchables, the shock-waves which it sent through the Hindu society have helped it in having a closer look at it, if not in cleaning its Augean stable. Second, it is the new political culture he built up in articulating the socio-political rights of the untouchables which culminated in the Constitutional provisions for formal equality to all and special dispensation to the historically disadvantaged, in particular the Scheduled Castes and Scheduled Tribes.

While Ambedkar was always critical of Hinduism and the caste system, it was in his *Annihilation of Caste,* a highly polemical work centering on the malignancy of Hindu society, that he dwelt at length on the problems created by the caste system and on the ways and means of overcoming them: He made a scathing attack of the morality and reasonableness of Vedas and other religious works of the Hindus, and of the pernicious effects of the caste system. He exhorted the Hindus for the annihilation of caste and their religious notions upon which it was founded, by discarding and denying the authority of the Shastras, the real enemy of the people. More importantly, he propounded his ideal of an alternative society based on liberty, equality, and fraternity, the battle-cry of the French Revolution and the motto of the Indian Constitution of which he was the chief architect.

As the Constitutional provisions fo reservation are mostly his legacy, it i important to note that Ambedkar did no see the oppressed in India as a homo geneous category. This was primaril because of his perception of the cast system: As "an artificial chopping off c the population into fixed and definite units each one prevented from fusing into anothe through the custom of endogamy (Government of Maharashtra 1989, 1: 9 "a gradation of castes forming an ascenc ing scale of reverence and a descendin scale of contempt — a system which give no scope for the growth of that sentime of equality and fraternity so essential for a democratic form of Government" (Government of Maharashtra 1982, 2: 506); and not merely a division of labour, but also a division of labourers into gradations one above the other, not natural or spontaneous but based on the social status of the parents, involving the subordination of man's natural powers and inclinations to the exigencies of social rules, which is positively pernicious (Government of Maharashtra 1989, 1: 47-48).

Despite this understanding of the complexity of caste, it is doubtful if Ambedkar really made an overall assessment of the assortment of disabled castes which are entitled to the reservation benefits. However, it is possible to discern four principal social categories to which he applied this term from time to time.

The first is untouchables. In his written statements and oral evidence before the Simon (Indian Statutory) Commission of 1928, and the Round Table Conferences of 1930-31 and their sub-committees, Ambedkar used the term "depressed classes" in this limited sense (see Government of Maharashtra 1982, Vol.2).

The second is "untouchables" and the "aboriginal and hill tribes", whom he also called "backward classes" and for whom he demanded special treatment in education. This was in the Bombay Legislative Council where he was a member for twelve years since 1927 (see Government of Maharashtra 1982, Vol. 2).

The third is "untouchables" plus the "criminal and hill tribes" and other people very low in the social scale though not untouchables in the narrower sense. This was also before the Simon Commission (see Government of Maharashtra 1982, Vol. 2). The last group which he did not elaborate, is presumably the lower Sudras, the layer just above the untouchables, comprising castes such as barbers, potters, and washermen. The first all - India Backward Classes (Kaka Kalelkar) Commission had also identified such a layer. Though their socio-economic and cultural conditions were as low as of the Scheduled Castes, as they did not 'satisfy' the requirement of untouchability to be treated as Scheduled Castes, this commission treated them as "most backward classes" within the backward classes listed by it (see Radhakrishnan 1990: 517).

The fourth is Sudras as a whole. Going by Ambedkar's argument that when the Indo-Aryan society recognised only three Varnas, Sudras were part of the Kshatriya *Varna*, that following oppression and tyrannies by the Sudra kings the Brahmins refused to invest the Sudras with the "sacred thread", and with its loss the Sudras landed below the Vaishyas as the fourth Varna (Ambedkar 1970: 237), one may be tempted to treat all Sudras as oppressed. But, going by his own frequent references to the tyrannies by caste-Hindus, majority of whom are Sudras, and his contempt for caste-Hindus and their social reforms, one may not really succumb to such temptation; more so, when the closest approximation to the Varna social order prevails only in the Ganga valley (Bihar-Uttar Pradesh region, *Manusmriti's* Aryan heartland), whereas in other regions with localized jati configurations Sudras as a stratified cluster of high and low castes comprise the oppressors and the oppressed.

In the light of the above discussion, the Scheduled Castes, Scheduled Tribes, other tribals, lower Sudras, and corresponding groups among other religions presumably comprise the broad category of the oppressed in Indian social context and in Ambedkar's understanding of the Indian social reality.

Criticising the economic reform contemplated by the Indian socialists through a revolution resulting in the seizure of power

by the proletariat, in *Annihilation of Caste* Ambedkar wrote:

> To excite the proletariat to bring about an economic revolution, Karl Marx told them: "*You have nothing to lose except your chains*". But the artful way in which the social and religious rights are distributed among the *different castes* whereby some have more and some have less, makes the slogan of Karl Marx quite useless to excite the Hindus against the Caste System. Castes form a graded system of sovereignties, high and low, which are jealous of their status and which know that if a general dissolution came, some of them stand to lose more of their prestige and power than others do. You cannot, therefore, have a general mobilization of the Hindus, ...for an attack on the Caste System (Government of Maharashtra 1989, 1: 72).

Firmly believing that there cannot be economic reform without social reform he also cautioned them: "turn in any direction you like, caste is the monster that crosses your path. You cannot have political reform, you cannot have economic reform, unless you kill this monster" (Government of Maharashtra 1989, 1: 47).

Conclusion

The basic question that one might ask now is, despite all the attempts to reform the caste system, and even to annihilate it, why this monster is still on the prowl, or why, as Ambedkar wrote, Manu still lives like a disembodied spirit (Government of Maharashtra 1989, 1: 16). Stated differently, why, as Gould has observed, "the hopes and/or expectations of modernist politicians and social scientists alike that caste and other particularistic structures would melt away under the searing impact of an industrial economy, a Westminster-style democracy, and the coercive powers of the modern state have simply not materialized" (Gould 1990: 3); and instead, why caste has emerged as a significant basis of action in politics and public life.

In this sense Smith's 1918 critique of the Report of the Indian Constitutional Reform is still relevant. He had seen as futile the prophecies or hopes expressed since the preceding half a century by English men interested in India that "caste was destined to disappear within a measurable period, as the result of secular education combined with missionary effort". He viewed tha passage in the Report that "everything that breaks down the barriers between communities, and makes men regard each other as neighbours and not as the wearers of some caste or creed insignia, hastens on the day when self-government within the Empire will be attained", as betraying an inability to conceive the real nature of the institution. His reasoning was "[t]he caste of an Indian is not to him a matter of insignia to be worn or doffed at pleasure", but the "bone of his bone and flesh of his flesh", and "[s]o long as Hindus continue to be Hindus caste cannot be destroyed or materially altered" (Smith 1919: 33-41).

This persistence of caste like the proverbial cat with nine lives, is often attributed to its great resilience. But resilience is only one of the factors. While Beteille is right in his assertion that "[i]f caste has acquired a new lease of life in independent India, this is almost entirely because of the increasing use made of it in politics" (Beteille 1992: 88), as use of caste in politics long ante-dates India's independence, at least two related factors have to be taken into account:

First, the British legal conceptions of a rank ordering of all Hindu groups in a scheme of articulated prerogatives and disabilities (see Galanter 1968), perceptions of caste-based structures of power and privilege, the related patronage, concessionist, communal, and countervailing policies and politics from the late 19th century, and classification of social groups into caste and communal categories for purposes like employment, education, and political representation. These in effect sharpened the self-awareness of the different castes, increased their organised demands for better treatment by the government, and introduced a strong caste idiom into their fast emerging bargaining culture. The result has been strengthening of the nexus between caste and politics.[7] Second, and probably more important, the inadequate treatment of caste in the Indian Constitution. This needs elaboration.

The ideal set out by the Constituent Assembly which drew up the Indian Constitution after prolonged deliberations of about three years from 1946 to 1949 is often seen as a clear rejection of the existing social order and ushering in of a casteless society. The Objective Resolution moved by Jawaharlal Nehru on December 13, 1946 and adopted on January 22, 1947, and the Preamble of the Constitution solemnly resolving on behalf of the nation to constitute India into a sovereign socialist secular democratic republic, and secure to all its citizens justice (social, economic, and political), liberty (of *thought, expression, belief, faith* and worship), equality (of status and opportunity), and *fraternity*, are all seen in this light.

The Constitutional provisions for equality of status and opportunity are in keeping with these lofty ideals. These include: 1) equality of opportunity before the law or the equal protection of the laws (Article 14); equality of opportunity in matters relating to employment or appointment to any office under the State (Article 16(1); 2) of prohibition of a) discrimination against any citizen (Article 15(1); b) against subjecting any citizen to any disability, liability, restriction, or condition with regard to access to shops, public restaurants, hotels, and places of public entertainment, or the use of wells, tanks, bathing ghats, roads, and places of public resort maintained wholly or partly out of State funds or dedicated to the use of general public (Article 15(2)); c) of discrimination in any employment or office under the State (Article 16(2));; and d) of denying admission into educational *institutions* maintained by the State or receiving aid out of State funds (Article 29(2), all only on grounds of religion, race, caste, sex, place of birth or any of them; 3) abolition of caste-based untouchability and prohibition on its practice in any form (Article 17); and 4) consideration of the claims of the Scheduled Castes and Scheduled Tribes consistently with the maintenance of efficiency of administration in the making of appointments to services and posts in connection with affairs of the Union or States (Article 335), reservation of seats in proportion to their numbers in *the* Lok Sabha (Article 330), and Vidhan Sabhas (Article 332), and of appointments or posts for any backward class of citizens which, in the opinion of the state, is not adequately represented in the services under it (Article 16(4)), and making any special provision for the advancement of any socially and educationally backward classes of citizens or for Scheduled Castes and Scheduled Tribes (Article 15(4)).[8]

The judicial interpretations of these provisions have been too liberal and optimistic: the Constitution has completely obliterated the caste system; reference to caste in Articles 15(2) and 16(2) is only to obliterate it; prohibition on the ground of caste is total, the mandate is that never again in this country caste shall raise its head, and so run these interpretations.

All these pronouncements are, however, wishful thinking. For, notwithstanding the common rhetoric about the "casteless" society, the Constitution is quite unclear about the position of caste groups in Indian life (see Galanter 1968: 299, 325). Whether the Constitution could have

abolished an institution which has survived for centuries is a different issue. But, one ought to recall the repeated attempts to do away with caste, the widespread condemnation of caste and its persistence, and Ambedkar's own apprehension in his speech of November 25, 1949 on his motion for the *adoption* of the Constitution:

> I am of opinion that in believing that we are a nation, we are cherishing a great delusion. How can people divided into several thousands of castes be a nation?...These castes are anti-national: in the first place because they bring about separation in social life. They are anti-national also because they generate jealousy and antipathy between caste and caste. But we must overcome all these difficulties if we wish to become a national in reality. For fraternity can be a fact only when there is a nation. Without fraternity, equality and liberty will be no deeper than coats of paint (see Rao 1968, IV: 945).

Ambedkar had also cautioned that in addition to our old enemies of castes and creeds we are going to have many political parties with diverse and opposing political creeds *(ibid.)*

In the Foreword to Shiva Rao's five volumes on the Constituent Assembly and the drawing up of India's Constitution S Radhakrishnan, President of India, had written that adult suffrage "is the most powerful instrument devised by man for breaking down social and economic injustice and destroying the walls that imprison men's minds". But, moving his motion introducing the Draft Constitution on November 4, 1946, Ambedkar had observed:

> Constitutional morality is not a natural sentiment. It has to be cultivated. We must realize that our people have yet to learn it. Democracy in India is only a top-dressing on an Indian soil, which is essentially undemocratic (see Government of India 1966-67, VII: 38).

That Ambedkar himself did not pursue the abolition of caste in the Constituent Assembly; but chose to leave Hinduism a few years later itself could be seen as an indication of the enormity of the problem and his disenchantment with Hinduism and the prevailing political processes. What is, however, more important to note is that seen against the fact that India had all along been a segmental society in the sense in which Ghurye characterised the caste society, its hitherto phase of electoral democracy characterised by adult franchise has been more in the nature of a vocal and vociferous articulation of "caste patriotism" through political and electoral processes. This new role of caste in politics itself is an important area of research. So also its likely effects on caste disabilities.

Notes

[1] Caste is seldom defined precisely because of its complexity as a social phenomenon. But, going by Ghurye the principal features of the traditional caste society are its *segmental division*, with membership and status determined by birth and members owing moral allegiance to their caste first than to the community as a whole within which it subsists; hierarchy, with definite (though not always clear-cut and undisputed) scheme of social precedence amongst the castes; commensality, with restrictions on feeding and social intercourse; *segregation* of castes; with corresponding civil and religious privileges and disabilities; hereditary occupation; and *related* lack of unrestricted choice of occupations; and endogamy with restrictions on marriage from outside the sub-caste. See Ghurye 1979: 2-22.

[2] The reference is to Nietzsche's observation on *Manusmriti:* "To set up a law-book of the kind of Manu means to concede to a people the right henceforth to become masterly, to become perfect to be ambitious for the

highest art of living. *To that end, the law must be made unconscious:* this is the purpose of every holy lie". See Doniger and Smith 1991: XV.

[3] According to *Manusmriti* the duties and occupations ordained for the Brahmins, Kshatriyas, and Vaisyas are, respectively: a) teaching and studying the Veda, sacrificing for themselves and others, and making and receiving gifts; b) protecting the people, making gifts, sacrificing for themselves, studying the Veda, and abstaining from attaching themselves to sensual pleasures; and c) tending cattle, making gifts, sacrificing for themselves, studying the Vedas, trading, lending money, and cultivating land. Serving meekly these three twice-born castes alone is the duty and occupation ordained for the Sudras who have only one birth, and hence have no right to fulfil the sacred law of Aryans (the twice-borns). Among these duties and occupations, teaching the Veda, protecting the people, trading, and serving the Brahmins are the most commendable for the Brahmins, Kshatriyas, Vaisyas, and Sudras respectively. Teaching the Veda, sacrificing for others, and accepting gifts are forbidden to the Kshatriyas and Vaisyas, leave alone the once-born Sudras.

[4] For *Manusmriti's* account of the caste system, see Buhler 1988; Doniger and Smith 1991.

[5] See judgement of November 16, 1992, by Chief Justice MH Kania, and Justices M.N. Venkatachaliah, AM Ahmadi, and BP Jeevan Reddy, pp. 2-3; and of Justice J Sawant, pp. 6-7, on writ petitions by Indra Sawhney and others vs Union of India and others.

[6] The Trust Deed of the Brahmo Samaj is on worship of only one god, non-idolatrous, and non-sanguinary, open to any theist including non-Hindus, meant to *unifying men of all religious persuasions and creeds.* See Grover 1992: 202-3.

[7] For a discussion of these factors in the context of Madras Presidency, see Radhakrishnan 1990, 1992.

[8] Article 15(4) was added to the Constitution by its first amendment, following court rulings that preferential treatment to backward communities in the matter of admission to educational institutions contravened the Constitutional provisions. For more on the circumstances of this addition see Radhakrishnan 1993.

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Book Review

Planning for Social and Economic Development edited by R. Bharadwaj and M.V. Nadkarni, Sage Publishers, 1992, New Delhi, pp. 274, Rs. 275.

M. Thangaraj

THE book under review is a collection of essays by eminent and well known scholars on various aspects related to planning for development. This volume has been brought out in honour of Prof. D.M. Nanjundappa, a leading economist from Karnataka. The volume contains eighteen articles. The important issues addressed are: planning, education, land reforms, energy, capital market, technology spread and human resource development.

Prof. V.K.R.V. Rao, in his article "Economic growth and social justice", discusses at length the crucial issues of planning in India. He points out that the development model adopted in India is a mixure of Capitalism and Socialism, and it failed to pay special attention to human resources devolopment. There has been economic growth but it has not been accompanied by the expected measure of social justice. The missing element in the Indian strategy has been the absence of mobilisation of the political, social, ethical and cultural forces that are needed for socialist transformation. The planning for development has to be on an integrated basis that would ensure economic growth with social justice without affecting individual freedom. He has given a few suggestions for economic development in India. The first suggestion is to bring about the people's active participation in the development process and planning. The second suggestion is to dissociate the concept of freedom from that of the economic freedom associated with private enterprise, market forces and the profit-maximising motive, and place it on a firm footing of social equality, reduction of economic disparities within the limits of tolerance and functional efficiency, equality of opportunity, maintenance of cultural diversities, encouragement of creativity and innovation directed to the development goals, and protection of basic civil liberties for all citizens. The third suggestion is that we should primarily take into account the limits set by our human and natural resources and the need for fostering self reliance and abandoning dependance. He insists that financing of development should be through domestic resource mobilisation. If foreign borrowing is resorted to, it should only be for productive investment, return from which should make

the borrowing self-liquidating within a defined period. Foreign grants should be avoided as far as possible. His views on self reliance and foreign dependance is highly valuable in the present Indian context as there is lot of criticism against borrowing from the IMF and the World Bank under the guise of New Economic policy.

Prof. Adiseshiah, in his article "Education-why, how and whither of its planning", lists a few positive achievements made in the field of educational development during the past four decades. They are: Access to education is thrown open to all section of the society with special incentive to the socially and economically weaker sections. There has been a remarkable increase in the educational institutions and students enrolments. India has the largest pool of educated skilled persons and scientists in the world. There has been the development of institutions of excellance in such field as engineering, medical and agricultural sciences. He also lists a few shortcomings of the educational development. They are: Achieving the target of universal elementary education is still elusive. The gap between education and job opportunity is widening. There has been wastages in the educational system. He advocates the replacement of the outmoded examination system with semester system and greater autonomy to the educational institutions.

Prof. Abdul Aziz, in his article, "Beyond output growth: Human resource management for improved productivity", points out that productivity improvment through better management resources should be the concern of economists. Managing human resource appears to be more urgent and important for improved productivity. He also argues that worker participation in decision making will improve productivity.

In his paper on "Land Reforms: The Next Phase", Prof. V.M. Rao discusses the need for further implementation of land reforms in India. He wants that the next phase in land reforms should focus on the following objectives: Providing access and incentives to rural poor to earn their livelihood from land subject to land use being consistant with planning, fixation of lower limit and upper limit in the distribution of land holdings, preventing the emergence of dominant land owners and thereby to reduce their influence. He also suggests that improvement in land records and clarity regarding critical concepts is necessary to implement the land reforms in the next phase. He gives equal importance to equity and productivity. The author's view on fixing the lower limit in the size of land-holdings may not be relevant in India, as there is a large number of landless agricultural households in the rural areas and most of them could not get even two meals a day.

Radhakrishna and Ravi argue in their paper on "Food, nutrition and prices: Some macro issues", that the Government intervention is necessary in redistribution of income and lowering the prices of essential food items for the poor through subsidies to increase their consumption to achieve improvement in nutritional status of the poor.

Bisaliah's study on "Three epochs of technology-extension nexus in Karnataka agriculture: Some policy issues", clearly shows that the growth rate of technology spread was higher in the second epoch (1968-69 to 1978-79) than in the third epoch (1979-80 to 1987-88). Increase in productivity was also higher in the second epoch than in the third epoch.

Satish Chandran's study on "Planning and energy: Some macro issues" shows that there is a close correlation between GDP and energy consumption. The study also shows that there is a difference in the inter-sectoral consumption of electricity. He further indicates that there is difference in the interpersonal energy consumption.

Table 1 : Subject Classification

Sl. No.	Area	Ph.D	M.Phil	Total
5	Commerce & Management Studies	20	20	40
6	Economics	42	239	281
7	Econometrics	7	-	7
8	Education	10	39	49
9	Educational Technology	-	8	8
10	Futurology	-	2	2
11	Geography	24	15	39
12	History	1	72	73
13	Humanities of Social Sciences	6	-	6
14	Psychology	12	17	29
15	Political Science	3	7	10
16	Population Studies	2	10	12
17	Rural Development	-	8	8
18	Sociology	23	40	63
19	Social Work	9	4	13
	Total	205	508	713

TABLE 2 : No. of completed M.Phil/Ph.D/1987-1992

Sl. no.	Name of the Institute/ Department		No. of completed M.Phil/Ph.D/ 1987-1992																		
			Ad.Co. En.	App. Eco.	Anth.	Comm.	CMg. Std.	Econo.	Educa.	Ed.Tec.	Emt.	Futuro.	Geogr.	Hist.	HSS.	Pol. Sci.	Pop. Stud.	Psyc.	Rural Dev.	Soc. Work	Socio.
1	Annamalai University	{M.Phil							14					65							
		{Ph.D							1					1							
2	Andhra University	{M.Phil																		3	
		{Ph.D			9															7	
3	Bangalore University	{M.Phil					1											17			
		{Ph.D					4											8			
4	Bharathiar University	{M.Phil				7		62									10				
		{Ph.D				4		7									2				
5	Bharathidasan Univ.	{M.Phil						37		8		2									10
		{Ph.D						3													
6	Cochin University of Science & Technology	{M.Phil					7														
		{Ph.D		12			9														
7	Gandhigram Rural Univ.	M.Phil																	8		
		{Ph.D																			
8	Karnatak University	{M.Phil											5								
		{Ph.D							6				11								
9	Kakatiya University	{M.Phil														7					
		{Ph.D														3					
10	Indian Institute of Technology	{M.Phil																			
		{Ph.D													6						
11	Madras Institute of Development Studies	{M.Phil																			
		{Ph.D						3													
12	Madurai Kamaraj Univ.	{M.Phil						108	19												26
		{Ph.D						13	2												8

TABLE 2 (Contd.)

Sl. no.	Name of the Institute/ Department		Ad.Co. En.	App. Eco.	Anth.	Comm.	CMg. Std.	Econo.	Educa.	Ed.Tec.	Emt.	Futuro.	Geogr.	Hist.	HSS.	Pol. Sci.	Pop. Stud.	Psyc.	Rural Dev.	Soc. Work	Socio.
			No. of completed M.Phil/Ph.D/ 1987-1992																		
13	Madurai Institute of Social Sciences	{M.Phil																		1	
		{Ph.D																			
14	Mangalore University	{M.Phil																			
		{Ph.D																			
15	School of Social Work	{M.Phil																			
		{Ph.D																			
16	S K University	{M.Phil																			
		{Ph.D																			
17	S V University	{M.Phil																			
		{Ph.D																			
18	S V University PG Centre	{M.Phil																			
		{Ph.D																			
19	University of Hyderabad	{M.Phil																			
		{Ph.D																			
20	University of Calicut	{M.Phil																			
		{Ph.D																			
21	University of Kerala	{M.Phil																			
		{Ph.D																			
22	University of Madras	{M.Phil																			
		{Ph.D																			
23	University of Mysore	{M.Phil																			
		{Ph.D											9								

Ad.Co.En. - Adult & Continuing Education; App.Eco.- Applied Economics; Anth - Anthropology; CMg.Std - Commerce & Management Studies; Econo - Economics; Educ - Education; Futuro - Futurology; Emt. - Econometrics; Ed.Tec - Educational Technology; HSS - Humanities of Social Sciences;Geogr - Geography; Hist - History; Pol.Sci - Political Science; Psyc - Psychology; Soc.Work - Social Work; Socio - Sociology; Rural Dev - Rural Development.

ANDHRA UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.: Anthropology						
1	S.Sachidevi	J.M.Naidu	A Population genetic study of Konda Dora	1987	1990	Yes
2	G.V.Ramana	J.M.Naidu	An Anthropogenetic study of Manne Dora tribe	1987	1991	NA
3	Yasmin	J.M.Naidu	An Anthropological profile of Koti tribe	1988	1991	No
4	R.Ganapathi Rao	J.M.Naidu	Demography and Anthropology	1991	1993	NA
5	B.V.Babu	J.M.Naidu	A Population Genetic study of Mali tribe	1991	1993	No
6	P.Malleswara Rao	Bhaskara Rao Busi	An Anthropo-Serological study of Gadaba	1973	1987	No
7	B.V.Ravi Prasad	Bhaskara Rao Busi	Aramadravida Brahmins: A Demo-Serological study	1986	1988	Yes
8	G.Rajarajeswari	Bhaskara Rao Busi	Demo-genetic studies of Yadavas & Vadatalijas	1984	1989	Yes
9	B.Dharma Rao	Bhaskara Rao Busi	Physical growth and develment of Yadavars and Vadatalijas	1987	1992	Yes
Ph.D: Social Work						
1	P.S.Dixit	K.V.Ramana	National Service Scheme in AP - An appraisal of the Programme and performance of key functionaries	1977	1986	No
2	B.Devi Prasad	K.V.Ramana	Dowry Practice in an urban setting: A casual study	1979	1987	No
3	V.Kanaka Durgamba	K.V.Ramana	Candidates of Hysteria-A Psycho-social study	1979	1989	No
4	P.Koteswararaju	K.V.Ramana	Tribal Development: A case study of Polavaran Tribal Development Block in AP	1978	1990	No
5	T.K.Nair	K.V.Ramana	Community case for elderly	1984	1991	No
6	B.V.Jagadish	K.V.Ramana	Employee Deviance: A study of correlates of mirco conduct among workers in selective public sector undertaking in AP	1980	1991	No
7	H.Anand Raj	B.Vijayalakshmi	Adjustment among adolescents in slums - A study in the city of Hyderabad	1984	1990	No

S. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: Social Work						
1	K.Visweswara Rao	B.Vijayalakshmi	A study of the problem of the disabled persons in Visakapatinam Steel project	1986	1987	NA
2	A.Satyanaravana	B.Vijayalakshmi	A study of socio-economic and working conditions of contract labour in Visakapatnam	1986	1988	NA
3	K.E.Ratnaprabha	B.Vijayalakshmi	Women construction workers of Visakapatnam steel project : A study of their living and working conditions	1989	1990	NA

KAKATIYA UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: Political Science						
1	P.Hussainkhan	B.Venkateswarlu	Scheduled Castes, Political participation: A case study of Khammam district in A.P.	1986	1989	NA
2	B.Satyanarayana Reddy	B.Venkateswarlu	Ravi Narayana Reddy: Political biography of a political activist	1987	1990	NA
3	E.Sudhakar	B.Venkateswarlu	SAARC- A study of issues problems and prospects	1987	1992	NA
M.Phil: Political Science						
1	K.Ramkishore	B.Venkateswarlu	Caste,class and Politics - A study of a Telengana village	1989	1991	NA
2	K.Narasimha Reddy	B.Venkateswarlu	Political ideology of the Telugu Desam party	1989	1992	NA
3	M.Anjaiah	P.Hussain Khan	Students Political- Culture- A case study of Kakatiya University	1989	1991	NA
4	P.Radha Rukmini	K.Bhaskaramma	Working women's political culture- A study of Singareni collenes-Kothagudam, A.P.	NA	1991	NA
5	Malathi Maharani	K.Bhaskaramma	Political awareness among Christians - A case study of a town in A.P.	NA	1992	NA
6	K.Tirumala Srinivas	K.Bhaskaramma	Jawaharlal Nehru and Agrarian questions in India (1947-64)	NA	1992	NA

S. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
7	G.Veeranna	K.Bhaskaramma	Tribal political leadership- A case study of Lambada tribes in Warangal district	NA	1992	NA

SRI KRISHNADEVARAYA UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: Economics						
1	K.Suresh	M.Lakshminarasaiah	The role of Andhra Pradesh State Financial Corporation in Smallscale Industrial development of Anantapur District.	1988	1990	NA
2	G.Jaya Raj	M.Lakshminarasaiah	Development of Sericulture in Anantapur District.	1990	1992	NA
3	N.Anuradha	M.Lakshminarasaiah	Growth and Performance of Small Scale Industry - A case study of the Industrial Estate, Anantapur.	1990	1993	NA

SRI VENKATESWARA UNIVERSITY POST-GRADUATE CENTRE

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.:Education						
1	Jabawara Begum	Sdmanabhaiah	Institutional Climate and teaching effectiveness	1986	1992	NA
Ph.D.:Geography						
1	B.Balamma	N.Nagabhushanam	Identification and Development of wastelands in Swarnamukhi River Basin of Chittoor District, A.P.	1989	1992	NA

SRI VENKATESWARA UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.:Adult Education						
1	V.Narayana Reddy	NA	Anthropological Study.	1980	1987	
2	V.B.Krishnaiah Chetty	V.L.N.Reddy	A study of the effect of the Development - Programmes on the Scheduled Castes in AP.	1982	1987	NA
3	M.C.Reddappa Reddy	V.L.N.Reddy	Spatial Variations of literacy in Andhra Pradesh.	1984	1989	NA

In his article on "The capital market in India", Patel clearly shows that the total capital mobilised through new issues registered more than a four-fold increase between 1985-86 and 1889-90. But the total amount raised from the capital market declined sharply in 1990-91. There was a decline in the funds raised by the private corporate sector in 1987-88 and 1990-91 but the fund raised by public sector units continued to increase. Indian capital market is relatively small when compared to the USA and Japan. Bombay stock exchange is the biggest and has the largest number of active brokers in the country and it accounts for about 70 per cent of the average daily trading turnover. The study further shows that about one-third of the total number of public limited companies in the country are listed on the stock exchanges. The number of listed companies increased from 1125 in 1946 to 5968 in 1990. The number of issues, paid-up capital and market value of paid-up capital have also gone up in 1990 compared to 1946. As far as the composition of securities are concerned, there was a decline in the equity and preference capital and increase in the debenture in 1990 in comparison with 1961. The author also gives evidence that a majority of the investors is concentrated in cities, particularly in a few metropolitan centres. The author is of the opinion that a better geographical spread of markets can be brought about by developing over-the-counter (OTC) markets instead of opening too many stock exchanges in India. The establishment of OTC markets would also help the stock exchanges to become more efficient markets.

In his paper on "Economic and Planning Council: An Insider's Evaluation", Prof. Thimmaiah critically examines the working of the state planning process initiated by the then chief minister of Karnataka. The former Chief Minister of Karnataka Ramakrishna Hegde constituted the economic and planning commission (EPC) in the place of the state Planning Board. The EPC came to be known as the Think Tank of Karnataka. In the beginning, the state planning commission was dominated by Bureaucrates and later it was reconstituted to induct academics and the distinguished persons like economists, a political scientist, an architect, a Gandhian activist and administrators as part-time members to advise the state government on all policy matters including planning. Many of these experts had been inducted from outside Karnataka to serve in the EPC. Initially the EPC assisted state level planning and planned to give expertise at the district level in future. He compliments that the EPC's contribution to the formulation of the policy of political decentralisation and minimum needs programmes was noteworthy. He says that the EPC also started reviewing the progress of the implementation of projects and programmes in the state. This task scared the government officers as they were subjected to searching questions and embarrassing comments by outside experts. Most of the policies, whether suggested by the department or conceived by the state Cabinet, were always discussed in the EPC before according the state government's approval. This novel experiment could not be carried out by the subsequent Congress (I) government in 1990.

The present publication has raised a number of policy issues which need to be taken care of by the policy makers and planners. The book is an important contribution and a welcome addition to the growing literature on planning in India. The volume will be of great utility to planners, economists and administrators.

Twentythird Census of Social Science Research in Southern States, 1993 - Part II

Introduction

PART II this year is new. It gives a complete list of Social Science Research completed during the past five years by the reporting institutions. Table 1 tabulates the entries according to disciplines - 19 as against 10 in the past years. Of the total 713 entries, Economics leads with 281 followed by History 74, Sociology 63, Education 49, Commerce and Management 40, Geography 39, Psychology 29, Adult Education 25, Anthropology 24, Social Work 13, Population Studies and Applied Economics 12 each, Commerce 11, Political Science 10 and the rest with less than 10 entries. It is interesting to note that of the 713 entries 508 relates to M.Phil research and the remaining to Ph.D research.

Table 2 classifies the entries according to disciplines and Institutions.

The Appendix I contains the address of all the Universities/Institutions who have responded to the census. Four Institutions and 21 universities have responded and the list is quite exhaustive as many of the leading universities have responded. Appendix II contains the university/institutions and their areas of specialisation. However, it may be noted that the response to this section has not been very encouraging since many of them have concentrated on just a few areas.

There is much scope to improve the content of the census if the various departments and research institutions in South India cooperate in this joint venture.

Comments on the census from users and suggestions for improving the presentation of the reports will be most welcome and may be sent to the Director of the Institute.

Table 1 : Subject Classification

Sl. No.	Area	Ph.D	M.Phil	Total
1	Adult Education	19	6	25
2	Applied Economics	12	-	12
3	Anthropology	11	13	24
4	Commerce	[illegible]	7	11

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
4	V.Sreedevi	V.L.N.Reddy	Knowledge, attitude and practices of motivation among adult education programme instructors in A.P.	1986	1989	NA
5	M.V.Lakshmi Reddy	V.L.N.Reddy	Background, selection and training of population education field functionaries at Degree college level.	1986	1990	NA
6	G.Lokanadha Reddy	V.L.N.Reddy	Knowledge and educational needs of unorganised workers in Chittoor District, A P.	1988	1991	NA
7	P.Vasantha Kumari	V.L.N.Reddy	A critical analysis of difficulty level of writing Telugu alphabets as perceived by teachers and learners informal, non-formal and adult education institutions.	NA	1992	NA
8	P.Adinarayana Reddy	M.V.Sudhakara Reddy	A study of certain Socio-Psychological related to Adult Education instructor effectiveness.	1981	1990	NA
9	D.Janardhana Reddy	M.V.Sudhakara Reddy	A stu.dy of certain factors related to persisters and drop-outs in adult education centres.	1987	1992	NA
Ph.D.:Economics						
1	P.V.Sesha Reddy	G.Raghava Reddy	Rural Financial Markets A study of Nellore Dist.	1984	1987	NA
2	K.Chakrapani Reddy	G.Raghava Reddy	Impact of Integrated rural development programme: A case study of Cuddapah District.	1984	1987	NA
3	M.Balasubrah manyam	G.Raghava Reddy	Role of commercial banks in the development of rural and cottage industries in Nellore Dist. of A.P.	1982	1989	NA
4	P.Kothandarami	G.Raghava Reddy	Economic analysis of primary agricultural credit societies in Nellore District since 1980.	1984	1990	NA
5	S.V.Sreekumar	G.Raghava Reddy	Industrial development in India with special reference to Andhra Pradesh.	1985	1990	NA
6	P.Ravindra Reddy	G.Raghava Reddy	Trade unionism in Nellore town: An analysis of union structure, finances and functions.	1984	1991	NA
7	C.Basavaiah	G.Raghava Reddy	Cost and finances of higher education: A case study.	1984	1992	NA
8	K.Obulesu	G.Raghava Reddy	Public expenditure in Andhra Pradesh since 1978.	1986	1992	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the disse is already published
9	P.Subrahmanyam	G.Raghava Reddy	New international economic order and India.	1981	1993	NA
10	K.Vijayabhaskar	G.Raghava Reddy	Impact of IRDP schemes on rural poor - A study of Nellore district.	1987	1993	NA
11	S.K.Mehar Ali	G.Raghava Reddy	Wages in tobacco processing industry in Andhra Pradesh	1984	1993	NA
12	N.Balaji	G.Raghava Reddy	Agrarian Relations in selected villages of Prakasam Dist.	1987	1993	NA
13	S.Ramanjeneyulu	G.Chandrasekar Rao	Money supply in India since 1970-71.	1987	1990	NA
Ph.D: Geography						
1	G.Venkateswara Reddy	M.V,Reddy	Groundnut cultivation and industry in Rayalaseema	1988	1991	Yes
2	C.Sujathamma	M.V.Reddy	City Land lord Relationship in Rayalaseema	1990	1993	Yes
3	P.Kesavulu Reddy	P.Narayanamma	The Pattern of landuse and Agriculture in Rayalaseema	1988	1991	Yes
M.Phil:Adult Education						
1	G.Subhashini	V.L.N.Reddy	A Comparative study of the difficulty levels of the communication barriers in teaching adults as perceived by the adult education organisers and adult learners.	NA	1988	NA
2	K.Indira	V.L.N.Reddy	A study of the reading interests and study habits of neo-literates NA	1992	NA	
3	S.Venugopal	M.V.Sudhakara Reddy	A study of certain factors influencing participation of S.Cs & S.Ts learners in adult education programme.	1986	1989	NA
4	G.Lokanadha Reddy	M.V.Sudhakara Reddy	Discrepancy between ideology and actual practice of role performance of instructors.	1983	1985	NA
5	K.Kanthamma	M.V.Sudhakara Reddy	Status of Women in relation to education employment and marriage.	1985	1988	NA
6	M.Sowjanya Reddy	M.C.Reddeppa	Motivational Factors influencing the Enrolment of Illiterates in Chittor Literacy Campaign.	1989	1992	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: Economics						
1	Y.Prabhakara Rau	G.Raghava Reddy	Rural and cottage industries in Gudur.	1984	1987	NA
2	C.Jonathan	G.Raghava Reddy	Rural industrialisation with reference to brick industry in Nellore.	1985	1987	NA
3	G.Venkateswarlu	G.Raghava Reddy	Marketing of tobacco at Duttalur, Nellore district, A.P.	1985	1989	NA
4	C.Basi Reddy	G.Raghava Reddy	Co-operative credit delivery system in Cuddapah district.	1987	1990	NA
5	T.Pothu Raju	G.Raghava Reddy	Rural unemployment in Prakasam District: A case study of Palukuru Village.	1985	1990	NA
6	V.V.Rama Prasad	G.Chandrasekar Rao	Tax structure and economic development in A.P.	1985	1987	Yes
7	N.Balaji	G.Chandrasekar Rao	Growth, Poverty and inequality in A.P.	1985	1987	NA
8	S.Ramanjaneyulu	G.Chandrasekar Rao	Money supply in India since 1970-71	1986	1987	NA
9	M.Novah Babu	G.Chandrasekar Rao	Muncipal Finances of Gudur	1985	1988	NA
10	A.Rrveez Ahmed	G.Chandrasekar Rao	Poverty in Cuddapah Dist.	1985	1988	NA
11	M.S.Rama Devi	G.Chandrasekar Rao	Female literacy in A.P.	1987	1988	NA
12	K.V.Ramaiah	G.Chandrasekar Rao	Economy of a Cuddapah village - Pedda Jonnavaram.	1986	1988	NA
13	K.Subrahmanyam	G.Chandrasekar Rao	Agrarian relations in Indukurpet Mandal.	1988	1990	NA
14	R.K.Sathyanarayana Rao	G.Chandrasekar Rao	Trends in balance of payments of India since 1970s.	1988	1991	NA
15	B.V.Ramakrishna Reddy	G.Chandrasekar Rao	Burden of internal debt of the Government of India	1990	1991	NA
16	P.Sanyasamma	G.Chandrasekar Rao	India's trade with Canada since 1970s	1989	1993	NA
17	Z.Prathap Kumar	G.Chandrasekar Rao	Fiscal crisis in India	1989	1993	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: Education						
1	P.Balakrishna Reddy	A.Venkata Rami Reddy	Job satisfaction of primary school teachers	NA	1989	NA
2	G.Mary Sakuntala	A.Venkata Rami Reddy	Creativity of VI and VII classification in relation to some variables.	NA	1992	NA
3	M.Subramanyam Reddy	A.Venkata Rami Reddy	Job satisfaction, attitude towards teaching and job involvement of university teachers	NA	1991	NA
4	B.Krishna Reddy	Sdmanabhaiah	Criteria for selection of student teachers in A.P.	1986	1987	NA
5	Murugaiah	Sdmanabhaiah	Correlates of teaching effectiveness of science teachers	1988	1989	NA
6	Krishna Moorthy	Sdmanabhaiah	Coorelates of low and high achievers	1989	1991	NA
M.Phil:Geography						
1	K.Vijaya Kumar	M.V.Reddy	Regional Imbalances in Chittoor district (A.P.)	1988	1989	Yes
2	K.Brahmananda Reddy	M.V.Reddy	Changing pattern of landuse in A.P.	1991	1993	NA
3	A.V.Geetanjali	P.Narayanamma	Development of Dairy Industry in Chittoor District, A.P.	1986	1988	NA
4	K.Vijayalakshmi	P.Narayanamma	Impact of Industrialisation on urban growth in Chittoor District.	1987	1989	NA
5	D.S.Anjaneya Reddy	P.Narayanamma	Nutritional Resources and carrying capacity of land in Nellore District, A.P.	1990	1992	NA
6	M.Venkataramana	N.Nagabhushanam	Pattern of Growth of Industries in Cuddapah District, A.P.	1985	1987	NA
7	K.Sudhakara Reddy	N.Nagabhushanam	Agricultural Landuse in Warangal District, A.P.	1986	1988	NA
8	B.Balamma	N.Nagabhushanam	Identification and Development of Wastelands in Swarnamukhi Riverbasin, Chittoor District	1987	1989	NA
9	K.Harinatha Reddy	N.Nagabhushanam	Agricultural landuse and cropping pattern in Nellore District, A.P.	NA	NA	NA
10	T.Umashankar Reddy	N.Nagabhushanam	Transport-Geography of Tirupati Town, Chittoor District, A.P.	1990	1992	NA

UNIVERSITY OF HYDERABAD

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: History						
1	O.Rani	Rekha Pande	Economy and Society under the Qutub Shahid.	1988	1989	NA
2	Adma	Rekha Pande	Sri Vaishnavism in mid Andhra in pre Vijayzopar period.	1989	1990	NA
3	D.Bhaskar	Rekha Pande	Bhaktism in 15th century with special reference to Kabia.	1990	1991	NA

BANGALORE UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: Commerce and Management						
1	M.Ramesh	P.N.Reddy	Marketing Management in the Textile Industry	1984	1987	No
2	M.Shankara	P.N.Reddy	Labour Welfare in Industries in Bangalore	1987	1990	No
3	Surendranath	P.N.Reddy	Effective measures of Agricultural credit in Malnad area	1988	1991	No
4	T.V.Raju	K.Aswathappa	Tariff fixation in KSRTC	1988	1992	No
Ph.D: Psychology						
1	Dharitri R.	Vinoda N.Murthy	A psychological study of hearing handicapped children	1981	1987	No
2	C.V.Geetha	Vinoda N.Murthy	An enquiry into pattern of curiosity among children and the influence of parents teachers on it.	1981	1988	No
3	Tanya Machado	Vinoda N.Murthy	A multi-dimensional study of psychosomatic disorders	1980	-	NA
4	Manju Mahadevan	Vinoda N.Murthy	A study of factors affecting human resources development	1985	1993	No
5	Sudha Nair	Vinoda N.Murthy	Clinical-neuro psychological study of stuttering	1986	1993	No
6	Brinda Sitaram	Indira Jai Prakash	Effectiveness of behavioural intervention in the management of chronic pain in cancer patients	1985	1989	No
7	Ashok H.S.	Indira Jai Prakash	Organisational and inter-per sonal implications of job stress on prison peorsonnel	1985	1989	No
8	Prema Seshadri	G.Mohan Kumar	An empirical investigation of motivational processes and genetical effectiveness	1984	1989	No

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: Commerce & Management						
1	Prathima	K.Aswathappa	Cost Control Technique in BHEL	1990	1991	No
M.Phil: Psychology						
1	Vijayasri	Vinoda N.Murthy	Child-Adjustment problems and institutionalised children	1986	1987	NA
2	Manda Stil	Vinoda N.Murthy	Attitude personality perception of burden and coping styles adopted by mothers of handi-capped children	1987	1988	NA
3	Saraswathi V.	Vinoda N.Murthy	Sibling relationship involv-ing an mentally retarded sibbling	1989	1990	NA
4	A.S.Pinto	Indira Jaiprakash	Work role quality and attitude toward retirement of mid life men & women	1987	1988	NA
	Aarthi Venkatesh	Indira Jaiprakash	Sex role attitude personality and quality of marriage of dual career couples	1988	1989	NA
6	Shylaja M.	Indira Jaiprakash	Menstural distress in college workers- a psychological study	1989	1990	NA
7	Asha Valecha'	G.Mohan Kumar	Organisational climate and motivational projects of execution	1986	1987	NA
8	Bhagavathi	G.Mohan Kumar	Career profiles of women in public relations profession	1987	1988	NA
9	Girija Kumari	G.Mohan Kumar	Psychological factor contribu-ting to the purchase of consumer durables	1988	1989	NA
10	Manjula V. Malaimathi	G.Mohan Kumar	Analysis of organisational climate and dynamic power among senior managers	1989	1990	NA
11	Niveditha K	G.Mohan Kumar	A study of relationship between Burnout and locus of control among athletes	1990	1991	NA
12	Swarna B.J.	Achala Umapathy	A comparative study of personality, interpersonal orientation and sensation seeking among working journalists and non-journalists	1984	1985	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
13	Sandhya I.G.	Achala Umapathy	Social acceptance in relation to interpersonal cognitive problem solving skills and health resources of pre-adolescents	1988	1989	NA
14	Anjana M.R.	Achala Umapathy	Normal, neurotic and the physically ill children:A comparison on psychological factors	1987	1988	NA
15	Kamala H.	Achala Umapathy	Personal orientation, psycho-logical freedom and mental health in women: A comparison of age differences in relation to mental and employment status	1989	1991	NA
16	Sulata Shenoy	Sudha Bhogle	Traditional and non-traditional careers - a psychological study	1987	1988	NA
17	Anuradha T.S.	Sudha Bogle	A psychological profile of sport persons	1988	1989	NA

KARNATAK UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D Education						
1	R.I.Jantli	Shashikala Deshpande	Relationship between teacher behaviour, pupil personality and public growth outcome	1981	1988	No
2	S.S.Desai	Shashikala Deshpande	Interactive effect of sources of feedback and student teacher personality on student teacher competence	1982	1992	No
3	D.Brahadeeswaran	K.Ramachandrachar	Analysis of effectiveness of science curriculum of poly-technics	1980	1986	No
4	S.S.Ambli	K.Ramachandrachar	Effect of educational technology	1980	1992	No
5	M.Gtted	H.M.Kasinath	Teacher education factors associated with changes in educational perceptions of student-teachers	1989	1992	No
6	M.S.Talwar	H.M.Kasinath	An investigation into the adjustment problems of students studying in Navodaya Vidyalayas	1989	1992	No

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: Geography						
1	Shantaveerappa	S.S.Naregal	Shimoga-A study in Urban Geography	NA	1980	No
2	A.R.Kulkarni	S.S.Naregal	A Geographical Analysis of Rural Settlements in Belgaum District	NA	1984	No
3	S.B.Nhalde	S.S.Naregal	Population Geography of Ratna-giri District with special reference to unemployment problem	NA	1985	No
4	N.G.Kabbur	S.S.Naregal	Some aspects of land use and settlement Geography of coastal Karnataka	NA	1986	No
5	D.Y.Aherao	S.S.Naregal	Impact of irrigation on Agriculture and socio-economic change: A case study of Ahmadnagar district	NA	1988	No
6	G.V.Togarsi	S.S.Naregal	Agriculture Geography of Drought Prone Area- A case study of Bijapur district	NA	1989	No
7	V.S.Bhadrapur	S.S.Naregal	Dynamics of Agriculture in Bellary district	NA	1989	No
8	V.C.Roddannavar	S.S.Naregal	Agricultural Geography of Dharwad district	NA	1992	No
9	C.N.Mattimani	S.S.Naregal	The Spatio-Temporal analysis of agriculture development in Hassan district	NA	1991	No
10	A.S.Raymane	S.S.Naregal	Temporal variations in agri-cultural development of Belgaum District: A Geographical analysis	1991	-	NA
11	R.M.Ausarkar	S.S.Naregal	An integrated development of Solapur district	NA	1992	No
M.Phil: Geography						
1	A.S.Rayamane	S.S.Naregal	Some aspects of agricultural geography of Belgaum district	NA	1987	NA
2	C.N.Mattimani	S.S.Naregal	Agricultural development in Shimoga district: A geographical analysis	NA	1987	NA
3	H.Nagraj	S.S.Naregal	Trends in the development of agriculture in Chitradurga district	NA	1989	NA
4	A.V.Kurali	S.S.Naregal	Landuse and Agriculture pattern of Bidar district: A spatial analysis	NA	1990	NA
5	M.Mahadevappa	S.S.Naregal	Perspectives in agricultural aspects of Mysore district	NA	1990	NA

MANGALORE UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil:Sociology						
1	Saukath Azim	Mohammed Peer	Status of Muslim women: A case study of Mangalore city	1989	1990	NA
2	B.K.Niranjini	Mohammed Peer	The problems of communal riots: A study of Mangalore city	1989	1990	NA
3	P.Sreedhara Gowda	Mohammed Peer	Impact of Science and Technology on Tribal Malekudiyas of Belthangady Taluk	1990	1992	NA
4	M.Muktha Shet	Mohammed Peer	Participation of women under new fisheries technology	1990	1992	NA

UNIVERSITY OF MYSORE

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.: Geography						
1	B.Hymavathi	P.D.Mahadev	An Analysis of Water resources of Cauvery	1983	1988	NA
2	S.Mahadevaiah	P.D.Mahadev	Environmental aspects of Urban Landuse of Mysore city.	1982	1988	NA
3	Raquib Ahmed	P.D.Mahadev	Retail Marketing structure of Rajshabi city, Bangladesh.	1987	1990	NA
4	M.D.Nandeshwar	P.D.Mahadev	Agriculture and Cropping pattern of Kerala.	1986	1990	NA
5	B.N.Shivalingappa	P.D.Mahadev	The Process of Rural change and spatial dynamics of Population pattern in Western Ghats.	1989	1992	NA
6	R.Dinesh Rao	K.N.Udaya Kumar	Problems and prospects of agricultural development in Dakshina Kannada District.	1986	1990	NA
7	A.S.Somashekhar	Rajasekhekhara Setty	Impact of irrigation on Land use pattern: A case study of Haranji area (Karnataka)	1989	1993	NA
8	S.S.Hodgar	P.Jayaramaiah	Immediate Hinterland of new Mangalore port: A geographical analysis	1988	1992	No
9	D.V.Kavitha	P.Jayaramaiah	Irrigation in Regional Development: A geographical analysis of Mandya district	1987	1992	No

SCHOOL OF SOCIAL WORK - MANGALORE

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.: Social Work						
1	Gunasagari Rao	Philomena D'souza	Faith Healing	1984	1990	No
2	Lalitha K.S.	Philomena D'zouza	Prediction of Suicide	1988	1992	No

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: Applied Economics						
1	Mathew George	K.C.Sankara narayanan	Profitability and Employment in the handloom industry in Kerala	1983	1987	No
2	Rajasekar D.	K.C.Sankara narayanan	Fishing Industry in Kerala	1984	1987	No
3	Ravindran A.M.	K.C.Sankara narayanan	Impact of Gulf money with particular reference to Chawpak	1983	1987	No
4	Antony C.A.	K.C.Sankara narayanan	A financial estimate of environmental pollution control department schemes in Elwor	1985	1988	Yes
5	Ramakrishnan K.	K.C.Sankara narayanan	Edayar industrial project	1983	1988	No
6	Meera Bai M.	K.C.Sankara narayanan	Technological change and the development of the primary fishing industry in Kerala	1985	1988	No
7	Ajay Mathew	K.C.Sankara narayanan	An Economic Evaluation of industrial establishments in Kerala	1985	1988	No
8	Paulson	K.C.Sankara narayanan	A critical appraisal of the techniques of monetary control and the Efficiency of Monetary Policy in India	1985	1988	No
9	Thressiamma K.V.	K.C.Sankara narayanan	Agricultural movement of input and output prices of rice in Kerala and its impact on price,yield and output	1985	1988	Yes
10	Lizy M.B.	K.C.Sankara narayanan	Federal Financial relations with special reference to Kerala	1985	1989	Yes

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
11	Jose K.G.	K.C.Sankara narayanan	Model for developing rubber based industries in Kerala	1985	1989	No
12	Emmanuel A. Kadubose	K.Sankara narayanan	Socio-Economic Survey of a specific village	1985	1990	No
Ph.D: Management Studies						
1	G.Gopinatha Menon	N.Ranganathan	Processing procurement and marketing of pepper with particular reference to co-operative sector	1980	1987	No
2	C.A.Francis	N.Ranganathan	Export promotion process and potential	1988	1992	Yes
3	Md.Anwarul Islam	N.Ranganathan	Management of rural marketing institutions - A comparative study between India and Bangladesh	1984	1990	No
4	A.Ramachandran	N.Ranganathan	Studies on the production management in the seafood procuring industries in India	1986	1990	No
5	K.P.Mani	Jose Payyapilly	Tile industry in Kerala-Economics, problems and prospects	1985	1990	NA
6	K.V.Raju	Jose Payyappilly	Economics of rubber-based industries in Kerala	1988	1990	NA
7	K.V.Varghese	Jose Payyappilly	A study of occupational aspirations of college students in Ernakulam district	1983	1990	NA
8	M.T.Antony	Jose Payyappilly	Capacity utilisation in central public sector enterprises in Kerala	1987	1992	NA
9	S.Harikumar	Jose Payyappilly	Impact of agricultural credit on the agricultural development of Kuttanad	1983	1987	NA
M.Phil: Management Studies						
1	V.Sadanandan	P.Sudarsanan Pillai	A study of wages and salaries in Textile spinning mills in Kerala	1989	1990	NA
2	Anita Francis	Mary Joseph	Industrial Productivity : A case study of Travancore Cochin Chemical Ltd.	1988	1989	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
3	Sarathanan Velluva	Mary Joseph	Public Distribution of Food Grains in Kerala - An Evaluation	1989	1990	NA
4	Merry Zachaviah	Mary Joseph	Impact of Central Agency on Cashew Industry- A case study of Kollam District	1991	1992	NA
5	Joseph Kochukudy	Mary Joseph	The Performance of Public Cultivation in Kerala	1989	1990	NA
6	Bindu Balagopal	Mary Joseph	Water Scarcity and the socio-economic problems related to it in Palakad Dt.	1991	1992	NA
7	P.Geetha	Mary Joseph	Agricultural wages and productivity in Kerala Economy 1960-61-1989-90	1991	1992	NA

UNIVERSITY OF CALICUT

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.:Commerce & Management Studies						
1	P.Rajagopalan	T.Govindankutty Nair	A study on Productivity of Agricultural investment finance with special reference to Kerala.	1981	1986	No
2	M.K.Ramachandran	T.Govindankutty Nair	A study on the role of Commercial banks in Rural Development with special reference to Trivandrum District in Kerala.	1982	1987	No
3	K.Sasikumar	T.Govindankutty Nair	A study of the role of Consumers' Co-operatives on Public Distribution System in Kerala.	1983	1988	No
4	P.T.Raveendran	T.Govindankutty Nair	Rural Industrialisation in Kerala: A study with special reference to Mini Industrial Estates.	1985	1990	No
5	C.V.Jayamani	T.Govindankutty Nair	A Study of Management practices in Kerala Road Transport Corporation.	1986	NA	NA
6	A.Sukumaran	K.C.Vijayakumar	Budgeting in selected Public and Private undertakings	1986	1990	No
7	K.Sreeranganathan	K.C.Vijayakumar	Role of Fishermen Co-operatives in the Economic Development of Fishermen Community in Kerala.	1986	1990	No

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: Psychology						
1	M.K.Mathen	M.A.Farooqi	Time Analysis of Managerial tasks in relation to efficiency	1987	1989	No
2	Omana George	M.A.Farooqi	Study habits in relation to performance at the college level	1980	1992	No
3	Joseph Kushvilla	P N O Tharakan	A study into the job related stress among nurses in relation to locus of control, organizational climate and life change events	1988	1992	NA
4	K.A.Subrahamanian	C.B.Asha	Perception of Community support in relation to adjustment and role among the aged	1983	1992	NA
M.Phil:Commerce & Management Studies						
1	Rethi Thampatty	T.Govindankutty Nair	Impact of Incentive on Labour Productivity	1987	1987	NA
2	Aby Kurivilla	T.Govindankutty Nair	A Study on financial performance and social satisfaction in co-operative Hospital Societies.	1990	1990	NA
3	V.P.Ramadas	T.Govindankutty Nair	A study on the Economics of Tobacco cultivation in Kerala.	1990	1990	
4	P.V.Raveendran	T.Govindankutty Nair	A study on the Art of financial management in Kerala Dinesh Beedi Workers Co.op.Society Ltd.	1990	1990	NA
5	C.Abdul Majeed	K.C.Vijayakumar	Service Area approach of Banks - A study	1990	1990	NA
6	M.Narayanakutty	K.C.Vijayakumar	Industry Diamond Cutting and Polishing Industry with special reference to Trichur District.	1990	1990	NA
7	Jacob K.Mathew	K.C.Vijayakumar	Industrial Relations - A case study of TELK.	1990	1990	NA
8	K.K.Mohammed	K.C.Vijayakumar	Working of Textiles Mills in Mallapuram District.	1987	1987	NA
9	N.Chandradas	K.C.Vijayakumar	Impact of Coir Development Scheme 1974 on Coir Cooperatives in Kerala.	1986	1986	NA
10	M.Salim	K.C.Vijayakumar	Financial Management in Mini Steel Plans with special reference to Steel Complex Ltd. Calicut.	1986	1986	NA
11	Antony Draskal	K.C.Vijayakumar	Budgetary Control Systems in Kerala Chemicals & Proteins Ltd.	1985	1985	NA
12	S.Hareendranath	K.C.Vijayakumar	Finances of Trivandrum Muncipal Corporation.	1984	1984	NA

UNIVERSITY OF KERALA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.: Adult Education						
1	Y. Shahul Hameed	K.Sivadasan Pillai	A Comparative study of the Aims of education at primary and secondary levels as perceived by different sections of the society.	1980	1988	NA
2	Bernd Pflug	K.Sivadasan Pillai	Preventive Aspects of Ayurveda in People's Education.	NA	NA	NA
3	R.Gopalan Chettiar	K.Sivadasan Pillai	A study of the organisation and conduct of a few typical institution engaged in rural higher education in terms of their objectives.	1979	1987	NA
4	Usha Susan Varghese	K.Sivadasan Pillai	Evaluation of Teaching learning materials in Malayalam used in Adult Education centres in Kerala.	1985	1988	NA
5	Rama Devi	K.Sivadasan Pillai	A Comparative Study of the organisation and conduct of various agencies involved in the adult education programmes in Kerala.	1985	1989	NA
6	T.R.Sivapalan Unnithan	K.Sivadasan Pillai	An enquiry into the Worker's eduation programme in Kerala with a view to suggest improvements.	1982	1990	NA
7	M.A.Saradamma	K.Sivadasan Pillai	An enquiry into the learning needs of illiterate women in Kerala with a view to evolve a suitable curriculum.	1984	1991	NA
Ph.D: Economics						
1	K.Balan Pillai	K.Ramachandran Nair	The Economic Impact of Collective bargaining on cashew industry	1984	1988	Yes
2	V.Nandamohan	K.Ramachandran Nair	Capacity utilisation in manufacturing industries of Kerala	1986	1990	No
3	K.R.Radhakrishna	K.Ramachandran Nair	Financing of smallscale industries in Kerala - A case study of the pharmaceutical industry	1978	1990	No
4	A.Damodaran	K.Ramachandran Nair	Externalities of Borewell irrigation - A case study of Karnataka	1987	1992	No

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
5	G.Ravikumar	G.Karunakaran Pillai	Impact of socio-economic factors in the choice of transportation modes in Kerala	1985	1990	No
6	Jacob John	G.Karunakaran Pillai	Economics of public water supply system with special reference to Kerala	1987	1990	No
Ph.D:Sociology						
1	J.V.Jeya Singh	G.Ramachandra Raj	Criminology	NA	1989	Yes
2	R.Ashok	G.Ramachandra Raj	Social Anthropology	NA	1989	No
3	N.Ravindran	G.Ramachandra Raj	Industrial Sociology	NA	1990	Yes
4	Bala Viswanath	G.Narayana Pillay	Incentives and labour welfare	NA	NA	NA
5	Mohandas	G.Narayana Pillay	Culture change and Physical Characteristics of Tribes: Poliyans	NA	NA	NA
6	Sotha B.Nair	G.Narayana Pillay	Problems of old agricultural women workers.	NA	NA	Yes
7	Asha Mathew	G.Narayana Pillay	Women offenders	NA	NA	Yes
8	M.L.Leena	G.Narayana Pillay	Women on Medical Care	NA	NA	Yes
9	K.N.Vijayakumar	G.Narayana Pillay	Institutional influences and diseases.	NA	NA	NA
10	K.Sukumaran Nair	G.Narayana Pillay	Police Community Interaction A Sociological Study.	NA	NA	NA
11	P.Leela Kumari	M.Indu Kumari	Social mobility among Scheduled Caste Women in Kerala.	1984	1989	Yes
12	S.S.Jagnayale	M.Indu Kumari	Role of Libraries in Socio-economic, cultural and educational development among rural people	1984	1989	NA
13	M.G.Prasanna	Manu Bhaskar	Sociological Analysis of the Problems and Barriers in the Development of the Disabled.	1982	1990	No
14	K.Jose Boban	Jacob John Kattakayam	Changing Medical and Related Right Practices.	1987	1990	NA
15	A.K.Srihari	Jacob John Kattakayam	Impact of Modern Technology on traditional artisans of Kerala.	1987	1990	NA

Sl. no	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: Economics						
1	Thambinathan	K.Ramachandran Nair	The Economies of Lotteries-The Kerala case	1986	1987	NA
2	Mathew Varghese	K.Ramachandran Nair	Issues in Industrialisation At the District Level	1986	1987	NA
3	M.Jayaprakash	K.Ramachandran Nair	Printing Industry in Kerala	1986	1987	NA
4	P.Krishnakumar	K.Ramachandran Nair	Some Aspects of PDS in Kerala	1988	1989	NA
5	Mary George	K.Ramachandran Nair	Pattern of Fertiliser Consumption in Kerala	1988	1989	NA
6	J Suni George	K.Ramachandran Nair	Socio Economic Study of Small Scale Industries with Special Reference to Metal Fabrication Unit;	1988	1989	NA
7	Lalu Varghese	K.Ramachandran Nair	Impact of Pamba Irrigation Project - A case study of the Command Area of Chengannur Taluk	1988	1989	NA
8	J. Dasayyan	K.Ramachandran Nair	Some Economic Aspects of Tapioca Cultivation	1988	1989	NA
9	Sheela Varghese	K.Ramachandran Nair	Economic Aspects of Female Headed Households in Kerala	1988	1989	NA
10	Nirmala Jayakumar	K.Ramachandran Nair	Energy Consumption of Urban household-a case study of Trivandrum city	1989	1991	NA
11	Oommen Cherian	K.Ramachandran Nair	Smallscale washing soap industry in Kerala - A study of structure and marketing problems	1989	1991	NA
12	Icy K.John	K.Ramachandran Nair	District level planning - An analysis with reference to Quilon district	1987	1989	NA

ANNAMALAI UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: Education						
1	Santhanakrishnan	M.Andal	A Study of creativity in relation to selected variables	1986	1990	Yes

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: History						
1	C.Tamilchelvi	NA	Role of C.Rajagopalachari in the Indian Freedom Movement with reference to Tamilnadu	NA	NA	NA
M.Phil:Education						
1	R.Ramachandran	M.Andal	A study of the Relationship between academic performance of other psyell variables	1989	1990	NA
2	A.Vijaya Devi	M.Andal	Pupils' Academic achievement in relation to their intelligence, nutrition and locus of control	1988	1990	NA
3	M.Darikrishnan	M.Andal	A study of academic achievement of the Hr.Sec.course in relation to achievement motivation and S.E.S.	1990	1992	NA
4	R.Muthumanickam	M.Andal	A study of the academic achievement of the Hr.Sec. commerce group in relation to their reasoning ability, SES and their interest in commerce	1990	1993	NA
5	S.Gomathinayagam	D.Ramalingam	The perception of teachers towards the supervisory procedures adopted in the Hr. Sec.Schools of Tamilnadu	1991	1992	NA
6	K.Mahalingam	V.Natarajan	Gandhian thoughts and their relevance to contemporary education	1990	1992	NA
7	V.Srinivasan	B.Ellakka Kumar	Personality Traits of primary school teachers and their attitude towards teaching	1990	1992	NA
8	Udayakumar Sam	B.Ellakka Kumar	The teaching of general science and the development of scientific attitude among the pupils of high school	1990	1992	NA
9	T.Sivaprakasam	B.Ellakka Kumar	A study of the problems of higher secondary students	1991	NA	NA
10	R.Natarajan	C.Dandapani	School climate quality relation to job satisfaction of teachers and achievement of pupils	1990	1992	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
12	Jayanthi	C.Dandapani	Organizational climate and leadership behaviour of principles to the teacher morale	1990	1992	NA
13	R.Sankarappan	K.Balakrishnan	A study of some variables related to the achievement in English standard IX pupils in Madurai district	1990	1992	NA
14	S.Rajaram	N.O.Nellaiappan	An investigation into the relationship between certain variables and achievement in History of the H.Sc.students of South Arcot district	1990	1992	NA
M.Phil: History						
1	Cul Swayambu	A.Subbian	History of Trichrapalli Fort upto 1801	NA	1985	NA
2	M.P.Kalaiselvi	A.Subbian	Some Public Charities under the Maratha Rulers of Tanjore	NA	1986	NA
3	J.Mallika Punniyavathi	A.Subbian	The History of Betheleham Church at Porayar	NA	1986	NA
4	M.Boopathy	A.Subbian	A Historical study of Narasimhaperumal temple at Narasingapuram	NA	1986	NA
5	R.Devaki	A.Subbian	Social and Religious conditions under the Pallavas from the Nandivarma Pallava II	NA	1987	NA
6	N.T.Vijayakumar	A.Subbian	Formation of Madras State in 1956	NA	1987	NA
7	K.Rajendran	A.Subbian	A Historical Study of the Ganapureswarar Temple at Thirumakkottai	NA	1987	NA
8	J.Mary Emelde	A.Subbian	Freedom Struggle in Thanjavur district from 1919 to 1947	NA	1987	NA
9	N.Marisamy	A.Subbian	Sir. A.T. Panner Selvam - A study	NA	1988	NA
10	D.Sumathi	A.Subbian	The South Arcot District Board from 1947-56	NA	1988	NA
11	D.Purushothaman	A.Subbian	A study of Thiru vi.Kaliyanasundaram with special reference to Politics and Trade Union Movement in Tamilnadu	NA	1989	NA
12	P.Vijayalakshmi	A.Subbian	History of Female Work Participation in Tamilnadu	NA	1990	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
13	V.Ganesan	A.Subbian	Karur through the Ages	NA	1990	NA
14	C.Shyamala	A.Subbian	History of Women's property right with special reference to Tamilnadu Legislature	1990	NA	NA
15	M.Thahitthun Nisha Begum	A.Subbian	Status of Women in Tamilnadu from 1947-82	NA	1990	NA
16	D.Lakshminarayanan	S.Govindaraju	Art under Vijayanagar with special reference to Tamilnadu	1986	1987	NA
17	N.Sankaran	S.Govindaraju	The Aananteeswaraswamy temple at Udayarkudi - A study	1987	1988	NA
18	M.Perumalsamy	S.Govindaraju	A historical study of sri Thiyagarajaswamy temple at Tirukkuvalai	1987	1988	NA
19	S.Anuradha	S.Govindaraju	A historical study of Sirkali Temple	1988	1989	NA
20	P.Vavarasi	S.Govindaraju	A historical study of Sri Dhenupurisvarar temple at Pattiswaram	1988	1988	NA
21	M.Shanmughalu	S.Govindaraju	The Vira Hamesvaraswamy temple at Vazhuvoor-A study	1988	1988	NA
22	R.Vijayalakshmi	S.Govindaraju	Minor temples in Chidambaram - A study	1990	1991	NA
23	V.Seethalakshmi	K.S.Ramaswamy	Development of the Pudukkottai District since its formation	1983	1984	NA
24	Jamuna Rani G.	K.S.Ramaswamy	Nagapattinam through the ages	1984	1985	NA
25	Ponni V.	K.S.Ramaswamy	Kumbakonam Municipal Admn. since 1942	1984	1986	NA
26	Jagadesan	K.S.Ramaswamy	A Historical study of the Kalaiarkoil temple	1984	1987	NA
27	Jerome Fernando	K.S.Ramaswamy	Father Beshi's Services to the Tamils	1986	1987	NA
28	Rani	K.S.Ramaswamy	The Paluvur Temples - A Study	1986	1988	NA
29	Bharathi P.	K.S.Ramaswamy	Kali cult with special reference to Tillai	1987	NA	NA
30	Sethuramalingam S.	K.S.Ramaswamy	A Historical study of the Vaithyanathaswami temple Srivilliputhur	NA	1987	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
31	A.Rajalakshmi	K.S.Ramaswamy	A History of the Zingamatti Zamin	1988	1989	NA
32	P.Thanam	K.S.Ramaswamy	History of the Tamil Country-A study of the Siva Temple of Devadanam	1988	1989	NA
33	Muralidharan G.	K.S.Ramaswamy	History of the Cauvery Water issue	1989	1990	NA
34	P.Chandrasekaran	N.Alagappan	History of the Melur Region upto 1600 AD	1985	1987	NA
35	G.Jayalakshmi	N.Alagappan	The Tiruchengattangudi temple	1986	1987	NA
36	C.Mayathara	N.Alagappan	The Black Movement 1863-1963	1986	1987	NA
37	S.Nagarajan	N.Alagappan	History of Tamilnadu-The Tirunallaru temple	1986	1987	NA
38	S.Gnanabaskaran	N.Alagappan	Life and work of Baktavatchalam	1987	1988	NA
39	D.Venkateshvaran	N.Alagappan	Development of Rajapalayam town	1987	1988	NA
40	P.Rajan	N.Alagappan	The Tiruppadirippuliyur Temple	1988	1989	NA
41	E.Manamaran	N.Alagappan	The Tirukkurungudi temple	1989	1990	NA
42	J.Senguttuvan	N.Alagappan	Freedom Movement in Chidambaram taluk	1989	1990	NA
43	S.Rangarajan	N.Alagappan	Arulmigu Pralaya Kaleswar temple - A Study	1989	1990	NA
44	C.Vijayalakshmi	N.Alagappan	Life and work of AKA Abdul Samad	1990	1991	NA
45	M.Thilagarani	P.E.Mohan	Self-respect Movement in Thanjavur district	1985	1987	NA
46	D.Poonguzhali	P.E.Mohan	Herbert C.Hoover's approach towards the Great Depression	1986	1987	NA
47	G.Kamakshi	P.E.Mohan	The Thirukannapuram Temple a Historical Study	1986	1987	NA
48	A.Adaikalamery	P.E.Mohan	The History of our Lady of Lourdes Church at Thennur	1986	1988	NA
49	P.Ravi	P.E.Mohan	History of Salem Central Jail	1987	1988	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
50	K.N.Chandrasekaran	P.E.Mohan	V.O.Chidambaram Pillai his role in Freedom Movement	1986	1988	NA
51	S.Selvaraj	P.E.Mohan	History of Irrigational Development in Chidambaram and Kattumannarkoil taluks since 1800 AD	1987	1988	NA
52	G.Chandrasekar	P.E.Mohan	History of Tirumalperu Temple	1987	1988	NA
53	Manivannan	P.E.Mohan	The Kapadeswara Temple	1988	1989	NA
54	Muthu Arasu	P.E.Mohan	Siva temple at Aruppukkottai	1988	1989	NA
55	M S B Saravanan	P.E.Mohan	Chinnamannoor through the Ages	1990	1991	NA
56	D.Vedamoorthy	M.Deenadayalan	Role of Sardar Vedaratnam Pillai in the freedom movement	1986	1988	NA
57	M.Jayaseelan	M.Deenadayalan	Freedom movement of Tanjore	1986	1988	NA
58	Mathura Singh	M.Deenadayalan	Rev.Mead's work in south Tiruvancore with particular reference to Upper cloth mutiny	1987	1988	NA
59	P.Raju	M.Deenadayalan	Career and work of Kamaraj	1987	1988	NA
60	S.Subash	M.Deenadayalan	Social History of Pondicherry as gleaned from Ananda Rangay Pillai Diary	1988	1989	NA
61	S.Kalai Arasi	M.Deenadayalan	Sri Sankaranarayanaswamy Temple - A historical study	1988	1989	NA
62	R.Velmurugan	M.Deenadayalan	Edward Goubert	1988	1990	NA
63	D.Asokan	M.Deenadayalan	The Temples in Anbil village	1988	1990	NA
64	T.Ravichandran	M.Deenadayalan	Industrial History of Vridhachalam taluk since 1947	1989	1990	NA
65	S.Dhanapal	M.Deenadayalan	Tiruppalaipandal Temple - A study	1989	1991	NA

BHARATHIAR UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.: Commerce						
1	P.Kanagasabapathy	M.Manickam	Equity price behaviour in India	1985	1990	No
2	V.R.Nedunchezhian	M.Manickam	Financial Evaluation of major ports in India	1986	1991	No
3	N.Yeshodadevi	M.Manickkam	A study of cost of capital and capital structure in Indian industries	1984	1992	No
4	S.Benjamin	M.Manickam Christopher	A study of earnings in Indian industries	1985	1992	No
Ph.D.: Economics						
1	Sat'yavathi Manual	S.Perumalsamy	Agricultural credit in Tamilnadu with special reference to Thanjavur district	NA	1988	NA
2	Narayanasamy	S.Perumalsamy	Development of small scale industries with special reference to Coimbatore district	NA	1988	NA
3	R.S.Dhananjayan	S.Perumalsamy	Structural and regional patterns of industrial growth in India: A study of growth, productivity, factor substitution, technical change, employment and earnings of labour 1973-74 to 1982-83	1987	1990	NA
4	R.Sasikala	S.Perumalsamy	Adoption of technology package and gap analysis- A study on the impact of the HYVP with special reference to Coimbatore district	1987	1990	NA
5	S.Manickavasagam	S.Perumalsamy	Economics of leather industry pollution - A case study of Dindigul Anna District, Tamilnadu	1990	NA	NA
6	R.Sarojini	S.Perumalsamy	Role of rural financial market - A case study of Tamilnadu	1990	NA	NA
7	P.Bhuvaneswari	S.Perumalsamy	Transport Economics	1991	NA	NA
Ph.D: Population Studies						
1	Dhanabhagyam	S.Krishnamoorthy	Socio-economic determinants of some selected intermediate variables of fertility	NA	1992	No
2	Devaraj	S.Krishnamoorthy	Stages of development and nature of children in Tamilnadu	NA	1992	No

S. 74

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: Commerce						
1	P.Sakunthalamani	M.Manickam	Trends in value-added - A study of selected textile mills	1985	1987	No
2	G.Santhiyavalli	M.Manickam	Developing a financial forecasting model- An application to Cheran Transport Corporation	1985	1988	NA
3	M.Lingaraj	M.Manickam	Money supply, wholesale price, gold price, silver price and equity prices-An analytical study	1985	1988	NA
4	S.Vasanthakumari	M.Manickam	Equity prices, earnings and dividents-A study of selected industries	1985	1988	NA
5	V.Jeringali	M.Manickam	Financial forecasting in sugar industry-A case study of Sakthi Sugars Ltd.	1985	1988	NA
6	M.Kalavathi	M.Manickam	A study of behaviour of share prices	1988	1990	NA
7	A.Somu	M.Manickam	Developing a financial forecasting model-An application to cement industry	1988	1990	NA
M.Phil: Economics						
1	G.Udyakumar	S.Perumalsamy	Energy sector in Tamilnadu: A study of consumption pattern and revenue 1973-74 to 1980-81	1985	1987	NA
2	A.Vijayakumar	S.Perumalsamy	A study on IRDP with special reference to Nambiyur block Periyar district	1985	1987	NA
3	R.Santha	S.Perumalsamy	A study of rural development progrmames in India - A case study	1985	1987	NA
4	C.S.Ranjini	S.Perumalsamy	An economic analysis of textile industry in Tamilnadu with special reference to the Lakshmi Mills Co.Ltd. Coimbatore	1986	1987	NA
5	A.Rani	S.Perumalsamy	Housing conditions in Pollachi - A case study	1986	1987	NA
6	S.Manickavasagam	S.Perumalsamy	A study on cost of production of irrigated chilli in Theni block, Madurai Dt.	1986	1987	NA

S. 75

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
7	P.Jayasri	S.Perumalsamy	Savings and investments of slum dwellers - A case study of Vivekananda road slum, Coimbatore city	1986	1987	NA
8	N.Rukmani	S.Perumalsamy	Social forestry in Tamilnadu with special reference to Coimbatore district - A case study	1987	1988	NA
9	G.Prema	S.Perumalsamy	Industrial Development Bank of India - functions and performance with special reference to 1976-77 to 1986-87	1987	1988	NA
10	N.Santhamani	S.Perumalsamy	Agricultural credit - A case study of Indian Overseas Bank (IOB) with special reference to Sulur block	1986	1988	NA
11	W.Ziaudeen Ahmed	S.Perumalsamy	Earnings employment, and the levels of living of agricultural labourers - A case study	1987	1989	NA
12	R.Ravichandran	S.Perumalsamy	An evaluation of the off-farm income of rural house holds in Gudimangalam block	1987	1989	NA
13	N.Ramesh	S.Perumalsamy	Small scale industries in Tamilnadu with special reference to Coimbatore district	1988	1989	NA
14	R.V.Renukadevi	S.Perumalsamy	Cotton marketing in Udumalpet taluk - A case study	1989	1990	NA
15	M.K.Vinayaga moorthy	S.Perumalsamy	Constraints on rice production - A case study in Watrap block, Kamarajar district	1989	1990	NA
16	S.Kanakaraj	S.Perumalsamy	Agricultural credit - A case study of primary agricultural co-operative society in Thookanaickenpalayam block of Periyar district	1990	1991	NA
17	S.Hemavathy	S.Perumalsamy	A study on the selective credit control policy of the Reserve Bank of India (1980-81 to 1989-90)	1991	1992	NA
18	Sankara Ramakrishnan	R.S.Dhananjayan	A study of liquidity profitability and dividegds paid in large and medium public limited companies of India: 1973-74 to 1980-81	1985	1987	NA

S. 76

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
19	R.Radhika	R.S.Dhananjayan	Capital growth, liquidity and cost function in Indian croporate sector: A study of select large public ltd. companies, 1975-76 to 1980-81	1985	1987	NA
20	P.Kalavathi	R.S.Dhananjayan	A study of inventory and price-cost margin in State Government companies in India, 1973-74 to 1980-81	1985	1987	NA
21	C. Renuga Devi	R.S.Dhananjayan	A study of capital strucutre, liquidity and value added in central government companies in India, 1973-74 to 1978-79	1984	1987	NA
22	H.Geetha	R.S.Dhananjayan	A study of Corporate capital structure, investments and profitability in private Ltd. companies: 1970-71 to 1980-81	1984	1987	NA
23	V.Rajam	R.S.Dhananjayan	Inventory, business demand for money and profitability A study of private Ltd. companies in India, 1965-66 to 1973-74	1984	1987	NA
24	Mary Elizabeth Angelina, A.D.	R.S.Dhananjayan	Foreign controlled rupee companies in India: An economic analysis of inventory profitability and capital growth: 1975-76 to 1980-81	1984	1987	NA
25	Geetha Bai	R.S.Dhananjayan	Aspects of World Tea Industry: A study of area, production, import and export with special reference to India, 1966 to 1980	1984	1988	NA
26	Balachandran A	R.S.Dhananjayan	A study of costs of production inventory and value added in Indian large public Ltd. companies, 1975-76 to 1980-81	1985	1988	NA
27	Sheila Devi N	R.S.Dhananjayan	Industrial growth and trends in partial and total factor productivity: A disaggregated analysis of traditional industries in India, 1973-74 to 1979-80	1985	1988	NA
28	Sasikala Devi N	R S.Dhananjaya..	Corporate demand for money in India: A study of large limited companies: 1971-72 to 1980-81	1985	1988	NA

S. 77

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
29	Muthulakshmi P.	R.S.Dhananjayan	A study of technical change, factor substitution and wages share in value added in large manufacturing industries in India:1973-74 to 1970-80	1986	1988	NA
30	Chitra Submaniam	R.S.Dhananjayan	Capacity utilization cost economies and value added in select Indian manufactur-ing industries 1960 to 1980	1987	1989	NA
31	M.Radha	R.S.Dhananjayan	Employment, wages and factor substitution in Indian factory sector: A disaggregated study of inter-industry variations 1981-82	1987	1989	NA
32	Sarojini R.	R.S.Dhananjayan	Sources of growth technical change and factor substitution: A study of large non-metallic mineral and basic metals and alloys industries, 1973-74 to 1979-80	1987	1989	NA
33	N.Mani	R.S.Dhananjayan	Select aspects of energy A study of energy demand in Indian large corporate industries, 1965-66 to 1981-82	1987	1989	NA
34	T.Sivakumar	R.S.Dhananjayan	A study of trends in total factor productivity, exo-genous and endogenous technical change in large manufacturing industries in India, 1973-74 to 1979-80	1988	1990	NA
35	Shirley Kurie	R.S.Dhananjayan	Some aspects of World Economic Order: With special reference to trade and commodity structure of exports in developed and developing countries	1988	1990	NA
36	Uma Maheswari K.	R.S.Dhananjayan	Industrial diversification and price-cost margin in Indian industries: A study of traditional sector industries at three digit disaggregation: 1973-74 to 1979-80	1988	1990	NA
37	V.Sudhanthiramani	R.S.Dhananjayan	Trends in profitability and income sharing properties in the Indian manufacturing sector: An analysis of large public limited companies in India: 1970-71 to 1981-82	1989	1991	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
38	R.Nagarajan	R.S.Dhananjayan	Cost structure, cost functions and price cost functions in factory sector manufacturing industries, 1973-74 to 1983-84	1989	1991	NA
39	T.Sisili	R.S.Dhananjayan	Regional disparities in industrial growth: A study of inter-state variations in capital, employment, productivity and earnings of labour in India, 1974-75 to 1985-86	1989	1991	NA
40	P.Gowri	R.S.Dhananjayan	Growth of total factor productivity in large scale organised manufacturing industries in India, 1960 to 1980	1989	1991	NA
41	V.Lalitha	R.S.Dhananjayan	Growth, productivity, technology and exports: A study of Indian Engineering Industry during 1974-75 to 1984-85	1990	1992	NA
42	H.K.Jaya Gowri	R.S.Dhananjayan	A study of growth, factor substitution and demand for labour in India's major industrial sectors: 1973-74 to 1974-75	1990	1992	NA
43	M.Arun Rasith	R.S.Dhananjayan	A study of income, expenditure profit and investment in large and medium public Ltd. companies: 1970-71 to 1981-82	1990	1992	NA
44	O.Nirmaladevi	P.Arumugam	Private rates of return to investment in higher education with social sciences specialisation	1991	1992	NA
45	V.P.Maragatham	P.Arumugam	Rates of returns to investment in science and technical courses	1991	1992	NA
46	C.Kamalatha	P.Arugmugam	Food subsidy in Tamilnadu- A study of an alternative proposal	1991	1992	NA
47	N.Dhandayuthapani	P.Arumugam	Internal debt burden of union and states in India 1969-84	1984	1987	NA
48	V.S.Ganesamurthy	P.Arumugam	Evaluation of training and visit system in Periyar district - A sample study	1984	1987	NA
49	P.Latha	B.Muniyandi	A study on production and marketing of coconut in Anaimalai block of Coimbatore district	1990	1991	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
50	N.B.Premkumar	B.Muniyandi	Financial appraisal of investment on tea plantation in Nilgiri district	1989	1992	NA
51	D.Ananthan	V.Anbumani	Lead Bank Scheme	1988	1989	NA
52	C.Thiruneelakantan	V.Anbumani	Tea Industries	1988	1989	NA
53	K.Gunasekaran	V.Anbumani	Food Industries	1988	1989	NA
54	R.Elango	V.Anbumani	Paper and Paper Boards	1988	1989	NA
55	D.Elango	V.Anbumani	Textile Machinery	1989	1990	NA
56	S.Uma Maheswari	V.Anbumani	CTC, Coimbatore	1989	1990	NA
57	K.J.Rajkumar	V.Anbumani	Electricity- TNEB	1989	1990	NA
58	R.Chandrakanthi	V.Anbumani	Paper Mills	1990	1991	NA
59	R.Kalamani	V.Anbumani	SAIL	1990	1991	NA
60	P.Rajendran	V.Anbumani	Cheran Transport Corpn.	1990	1991	NA
61	T.S.Subramaniam	V.Anbumani	Synthetic Fibres	1991	1992	NA
62	K.Amuthavalli	V.Anbumani	Chettinad Cement Corpn.Ltd.	1991	1992	NA
M.Phil: Population Studies						
1	S.Rani	P.M.Kulkarni	Fertility transition in China and India: A comparative view of changes during 1951 to 1981	1988	1990	NA
2	M.Ramasamy	P.M.Kulkarni	Contraceptive practice in South Asia: The roles of programme and non-programme factors	1989	1991	NA
3	V.Savithri	P.M.Kulkarni	Fertility decisions and behaviour of women engaged in household industries and non-working women: A study in Seeranaikenpalayam	1989	1991	NA
4	Kannan	P.M.Kulkarni	Old age security and fertility behaviour in a rural society-A study in a village of Coimbatore Dt.	1989	1991	NA
5	N.Thenmozhi	N.Audinarayana	The influence of status of women on fertility behaviour: A study in Coimbatore city	1988	1989	NA
6	M.Senthilnayagi	N.Audinarayana	Determinants of age at marriage in village of Tamilnadu	1988	1989	NA
7	V.A.Uma	N.Audinarayana	Determinants of ideal and intended age at marriage: A study of two successive generations in a Tamilnadu village	1988	1989	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
8	R.Shakilarani	N.Audinarayana	Contraceptive behaviour and its determinants in a Tamilnadu village	1988	1989	NA
9	K.Marthandavarma	N.Audinarayana	Determinants of differential preference and adoption of contraceptive methods among rural menfolk.	1988	1989	NA
10	C.Gnanamani	N.Audinarayana	Socio-cultural determinants of fertility behaviour among the Scheduled castes and caste Hindus in a Tamilnadu village	1989	1990	NA

BHARATHIDASAN UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: Economics						
1	G.Balakrishnan	C.Thangamuthu	A study on the industrial relations in cotton textile mills in Tamilnadu with special reference to NTC mills	1985	1991	No
2	N.Manimekalai	C.Thangamuthu	A study on development of entrepreneurship through industrial estates	1986	1992	Yes
3	R.Venkataravi	C.Thangamuthu	Economic aspects of seri-culture in Dharmapuri district of Tamilnadu	1986	1992	Yes
M.Phil: Educational Technology						
1	V.Antony Stella Rose	S.Purushothaman	Effectiveness of computer assisted instruction with special reference to under-achievers	1989	1992	NA
2	M.Baskaran	S.Purushothaman	Systems approach to English language teaching at higher secondary level in Trichy district	1989	1992	NA
3	K.Nagamadhes waran	S.Purushothaman	Impact of CAI on Maths achievement at secondary level	1989	1992	NA
4	P.N.Sehar	S.Devanathan	Impact of video technology in the teaching of neuro-physiology at plus 2 level	1991	1992	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
5	S.Sankaran	T.K.Swatantra Devi	Educational administration system approach	1989	1992	NA
6	L.Nobie Richards	T.K.Swntantra Devi	Objective based instruction in History Applied to educa-tional technology at secondary level	1989	1992	NA
7	S.Thimmavalavan	T.K.Swatantra Devi	Pupils achievement in physics practical at Hr.Sec.Level	1989	1992	NA
8	S.Sankaranaryanan	T.K.Swatantra Devi	Leadership behaviour and inter-personel communication	1989	1992	NA
M. Phil.: Futurology						
1	P.Asokan	R.Shankar	A study on anticpating ad-ministration cuture - with special reference to financial administration in Pudukottai Municipality	1990	1992	NA
2	Syed Mohammed	Chellam Balasundaram	Future of management styles in Textile industry	1990	1991	NA
M.Phil: Economics						
1	T.Prema	C.Thangamuthu	A study on the industrial incentives and concessions in Pudukottai district	1985	1987	NA
2	P.Elayaperumal	C.Thangamuthu	The performance of public sector enterprises in India: An evaluation	1985	1987	NA
3	D.Radha	C.Thangamuthu	A study on the socio-economic conditions of the teacher pensioners households in Tiruchy	1985	1987	NA
4	G.Annadurai	C.Thangamuthu	A study on the socio-economic conditions of handloom weavers in Sengumthapuram village in Tiruchi district	1985	1987	NA
5	R.Rajendran	C.Thangamuthu	A study of fuel consumption by the factory sector in Tamilnadu: 1970-71 to 1982-83	1986	1988	NA
6	N.Ulaganathan	C.Thangamuthu	A study on the locational aspects of industrial development in Tamilnadu	1988	1990	NA
7	P.Arunachalam	C.Thangamuthu	A study on the economic conditions of village artisans in Thiyagadurgam block, South Arcot District	1988	1990	NA
8	M.Dharmalingam	C.Thangamuthu	Industrial entrepreneurship in Pudukottai district	1988	1990	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
9	R.Annadurai	C.Thangamuthu	An economic study on Marine fishing Nagapattinam taluk	1988	1990	NA
10	M.Nagesh	C.Thangamuthu	A study on farm size and productivity in sericulture	1989	1990	NA
11	S.Vijayalakshmi	C.Thangamuthu	A study on the economics of silk weaving in Thanjavur	1989	1991	NA
12	P.Usha	C.Thangamuthu	A study on the socio-economic profile of the entrepreneur-ship in Thanjavur taluk	1990	1992	NA
13	R.Jeyaraman	C.Thangamuthu	A study on the income expenditure pattern of rural households	1990	1992	NA
14	N.Durairaj	C.Thangamuthu	A study on the economics of coir industry in Thanjavur district	1990	1992	NA
15	J.Gunasekaran	S.Lakshmi	Performance of metal products industries and machinery and machine tool products industries in Tiruchirapalli district	1987	1988	NA
16	P.Saravanan	S.Lakshmi	Performance of sugar industry in Tiruchirapalli district	1987	1988	NA
17	A.Kalyani	S.Lakshmi	A study of some economic aspects of the West Sarvodaya Sangh, Khadi and Village Industries Unit,Thanjavur	1987	1988	NA
18	R.Rajendran	S.Lakshmi	Evaluation of NREP: A study in Ariyalur block in Trichy district	1988	1989	NA
19	C.Vijayan	S.Lakshmi	Cropping pattern in Lalgudi Taluk of Tiruchirapalli District	1988	1989	NA
20	K.Ushakumari	S.Lakshmi	An economic analysis of land use and cropping pattern in Tamilnadu	1989	1991	NA
21	M.Kalaimathy	S.Lakshmi	Economic impact of Adult Education programme - A study in Mannachalur Panchayat Union, Tiruchirapalli district	1989	1991	NA
22	R.Madiazhagan	S.Lakshmi	Evaluation of NREPs-A Study in Tlur block of Tiruchi-rapalli district	1990	1992	NA
23	Chitra	S.Lakshmi	Yield gap analysis in Sugar cane cultivation in Tiruchi and Kulithalai taluks	1990	1992	NA
24	S.Suseela	S.Iyyampillai	Land marketing in Trichy	1987	1988	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
25	K.Kaliyamurthy	S.Iyyampillai	Market surplus	1986	1988	NA
26	Shanthi Getzie	S.Iyyampillai	Economic status of women	1987	1989	NA
27	K.Subrmaniyan	S.Iyyampillai	SSI in Pudukkottai district	1987	1989	NA
28	S.Liyakath John	S.Iyyampillai	Entrepreneurship in Salem	1987	1990	NA
29	G.Lakshmi	S.Iyyampillai	Women's entrepreneurship in Nagapatinam	1988	1989	NA
30	Bhuvaneshwari	S.Iyyampillai	Employment programmes in Pudukkottai district	1988	1989	NA
31	Karunaharan	S.Iyyampillai	TRYSEM in Lalgudi district	1988	1990	NA
32	M.Karuppiah	S.Iyyampillai	Employment in SIPCOT	1989	1990	NA
33	R.Karthikeyan	S.Iyyampillai	Marginal farmers and landless labourers	1989	1990	NA
34	S.Selvi	S.Iyyampillai	Fertilizer application	1989	1990	NA
35	Samson Martin	S.Iyyampillai	Impact of Liberalisation	1989	1990	NA
36	S.Santhi	S.Iyyampillai	Money supply in India	1990	1992	NA
37	Gdma	S.Iyyampillai	Bank loan repayment	1990	1992	NA
M.Phil: Sociology						
1	A. Parthiban	R.Shankar	A study on the inter-caste marriage in Thanthon Panchayat union of Karur	1989	1991	NA
2	Sujatha Purushothaman	R.Shankar	Attitudes towards women	1989	1991	NA
3	Ilango Henry Dass	M.Thavamani	Canal irrigation and social order	1988	1990	NA
4	A.Ganesan	M.Thavamani	Sociology of Education	1989	1990	NA
5	S.Martin Selvaraj	M.Thavamani	A sociological study of landless labourers in Enungur village (Trichy)	1989	1991	NA
6	A.Thandeeswaran	M.Thavamani	Sociology of education	1989	1991	NA
7	S.Kalaivanan	S.Palaniswamy	A study on the problems of girl children schools in Trichy districts	1989	1990	NA
8	Dolly Pranuka	S.Palaniswamy	A Psycho-social study of the institutionalised handicapped women in Trichy city	1989	1990	NA
9	R.Ramaraj	S.Palaniswamy	Problems of women college teachers in Trichy district	1989	1991	NA
10	Gingle Gnanamuthu	S.Palaniswamy	Problems of women police in Tamilnadu	1990	1992	NA

GANDHIGRAM RURAL UNIVERSITY, GANDHIGRAM

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: Rural Development						
1	R.Kannan	R.Murugesan	Agricultural Marketing: A micro model	1983	1984	NA
2	N.Chandrasekaran	R.Murugesan	Rural Marketing Plan in Dindigul Taluk	1985	1980	NA
3	S.Ramakrishnan	R.Murugesan	A Plan for Rural Roads - Karnataka	1986	1987	NA
4	N.Varalakshmi	R.Murugesan	A Plan for Watershed Planning in Madurai District	1988	1989	NA
5	C.Santharam	R.Murugesan	A Plan for Vadipatti Block for total employment	1989	NA	NA
6	S.Vaira varajan	R.Murugesan	An action plan for tourism for Madurai District	1990	1991	NA
7	A.Ganesan	R.Murugesan	An employment plan for Manamadurai Block	1990	1991	NA
8	S.Kandavel	R.Murugesan	An employment plan for Vedasandur block	1986	1988	NA

INDIAN INSTITUTE OF TECHNOLOGY - MADRAS

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: Humanities and Social Sciences						
1	G.Venkataraman	C.Ramachandran	History of the Mettur Cauvery India project and its impact on Tamilnadu	1980	1984	No
2	Alfred Sudhaker Reddy	C.Ramachandran	Agrarain relations in the coded districts of Madras Presidency 1800-1850	1982	1987	No
3	D.Veeraraghavan	C.Ramachandran	Working clean movement in Madras city 1919-1939	1983	1988	No
4	T.Thangappan	C.Ramachandran	Working clean movement in Madras Presidency - A study of the Districts Madurai, Tirunelveli and Coimbatore	1984	1989	No
5	G.A.L.Satyarani	C.Ramachandran	Commercialisation of Agriculture and its impact on the socio-political awakening in Godavari and Krishna districts of Madras Presidency 1858-1914	1985	1990	No
6	Ananda Vijayakumari	C.Ramachandran	Working class movement: A study of the conservancy workers in the city of Madras 1920-1947	1986	1991	No

MADRAS INSTITUTE OF DEVELOPMENTAL STUDIES

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.: Economics						
1	Asha Krishnakumar	A.Vaidyanathan	Groundnut Economy of Tamilnadu	1985	1991	No
2	V.Chandrasekara Naidu	C.T.Kurien	Economic processes and the weaker sections: A comparative study of two villages in Tamilnadu	1981	1991	No
3	K.T.Thomson	C.T.Kurien	Growth of Technology and Levels of Living of Fishermen in Tamilnadu	1986	1990	No

MADURAI INSTITUTE OF SOCIAL SCIENCES

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
M.Phil: Social Work						
1	V.Vijayakumar	J.Christopher Daniel	Perception of Professionals on Alcoholism in Madras City.	1990	1991	NA

MADURAI-KAMARAJ UNIVERSITY

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D: Economics						
1	S.Srinivasan	R.Sankara Ramalingam	Economics of grape cultivation in Dindigul and Nilakkottai areas in Madurai district	NA	NA	NA
2	K.Mohideen Pathusha	R.Sankara Ramalingam	Labour Management relations in cotton textile mills in Madurai district	NA	NA	NA
3	M.Ramalakshmi	R.Sankara Ramalingam	The silk-weaving industry of Kancheepuram	NA	NA	NA
4	Chellam Subramanian	R.Sankara Ramalingam	A study of employment, income and levels of living of landless agricultural labourers in Thirumangalam taluk, Madurai	1985	1989	NA
5	B. Padbhanaban	R.Sankara Ramalingam	Economics of mango cultivation at Natham of Madurai district	NA	1992	NA
6	P.Rajendran	M.V.Satchita nandam	A study of municipal farmers in Tamilnadu	1989	NA	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
7	R.Haridoss	G.Subramaniyan	A study of relative efficiency of Sugarcane production in Madurai district	1982	1987	NA
8	V.Nirmala	G.Subramaniyan	The economics of irrigated rice cultivation in Tamilnadu	1986	1989	NA
9	Pathusa	G.Subramaniyan	Labour management relation in cotton textile mills in Madurai district	1986	1990	NA
10	S.Ramachandran	G.Subramaniyan	Growth of public expenditure in Tamilnadu	1985	1993	NA
11	M.Mathusoodana	N.Durairaj	An economic appraisal of the working of the Pandian Roadways Corporation - Madurai	1985	1990	NA
12	N.Mathiarjunaa	N.Durairaj	A study of Marine fishing industry in Tuticorin	1984	1990	NA
13	D.Barathan	N.Durairaj	Financial incentives and industrial development in the backward regions of Tirunelveli district	1987	1991	NA
Ph.D.: Education						
1	A.Emmanuel Raj	K.Krishnan	Functional efficiency of autonomous colleges	1988	1990	No
2	A.Meenakshmi sundaram	K.Krishnan	Socio-Psychological variables in relation to hostel adjustment among professional college students	1989	1991	No
Ph.D: Sociology						
1	B.Nalini	R.Venkataratnam	The impact of Western culture on professionals: A study on professionals who have visited foreign ountries	1983	1991	No
2	S.Kesavan	R.Venkataratnam	Taxanomy of social classess in Madurai city	1984	1989	No
3	P.Jayasingh	R.Venkataratnam	Medico-social correlates of sexually transmitted diseases: Their prevalence and spread	1985	1988	No
4	S.Gokilavani	R.Venkataratnam	Reference groups of doctors in organisational set up: A comparative study of two hospitals in Madurai city	1983	1987	No
5	G.Karunanithi	R.Venkataratnam	The role of caste and class in industrial organisation in Tamilnadu: A comparative study of two industrial organisation	1979	1986	Yes

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
6	M.R.Annapoorani	R.Venkataratnam	A study of professional socialisation of women medical and nursing students in a Medical college	1979	1986	NA
7	S.Muthu chidambaram	L.Tharabhai	Role conflict among the professionals: A study among the women doctors and engineers	1985	1989	NA
8	B.Dharmalingam	L.Tharabhai	Collective mobilisation of forward castes: A study among the Brahmins	1986	1991	NA
M.Phil: Economics						
1	Maria John Kennedy	R.Sankara Ramalingam	Labour migration to Gulf countries - An Economic study of a village-Azhagappapuram village in Kanyakumari Dt.	1985	1987	NA
2	T.Vishaperumal	R.Sankara Ramalingam	Wages, working and living conditions of coir workers in Agasteeswaran block of Kanyakumari district	1985	1988	NA
3	A.R.Sugunasheela	R.Sankara Ramalingam	Socio-economic conditions of handloom saree weavers in Madurai city with special reference to Krishnapuram colony of Madurai	1986	1989	NA
4	N.Ananthalakshmi	R.Sankara Ramalingam	Study of share price performance with special reference to share prices of textiles, pharmaceuticals and cement industries	1988	1989	NA
5	J.M.Rajan	R.Sankara Ramalingam	A study on the overdues of borrowers of three primary co-operative banks in Agasteeswaram block of Kanyakumari district	1987	1989	NA
6	Meston N.R.Fenn	R.Sankara Ramalingam	An analysis of income and expenditure pattern of teaching and non-teching staff of the American College Community, Madurai	1986	1990	NA
7	R.Baskaran	R.Sankara Ramalingam	Employment and earning of the automobile workshop workers in Madurai city	1989	1990	NA
8	S.Arunagiri	R.Sankara Ramalingam	A study on dairy loan of Madurai district Central Co-operative Bank in Vadipatti Block, Madurai district	1990	1991	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
9	P.Yasodha	R.Sankara Ramalingam	An economic study of income and expenditure of Nagercoil municipality 1979-80 to 1988-89	1989	1992	NA
10	M.Selvaraj	N.Durairaj	A study of income distribution of fishermen in the Environs of Tuticorin	NA	1987	NA
11	C.Kannambal	N.Durairaj	Socio-economic conditions of palmyrah workers in Paramakudi taluk	NA	1987	NA
12	M.Babu	N.Durairaj	Socio-economic conditions of workers in Coir industry, Municheri, Kanyakumari district	NA	1987	NA
13	Solomon	N.Durairaj	Salt industry in Tuticorin	NA	1987	NA
14	C.Thaniappan	N.Durairaj	Returns to scale in paddy cultivation in Perungudi village	NA	1988	NA
15	T.L.Lillikutty	N.Durairaj	A study on the indebtedness of small and marginal farmers in Sholavandan village	NA	1988	NA
16	I.Ismail	N.Durairaj	A study of weaker sections in Madurai city	NA	1988	NA
17	Rzhani	N.Durairaj	Socio-economic conditions of fishermen in Uvari village in Tirunelveli district	NA	1989	NA
18	R.Lingasamy	N.Durairaj	Entrepreneurship in small scale units in Sattur	NA	1990	NA
19	A.Vasanthakumar	N.Durairaj	Production and marketing in marine fishing in Kanyakumari	NA	NA	NA
20	M.Vijayakumar	N.Durairaj	A study on employment, wages and working conditions of agricultural labourers in Sholavandan panchayat	NA	1991	NA
21	A.Gopalakrishnan	N.Durairaj	A study of overdues and recoveries in the Land Development Bank, Periakulam	NA	NA	NA
22	R.Gopi	N.Durairaj	India's foreign trade	NA	1992	NA
23	K.Nhazer Sheriff	V.Dhulasi Birundha	Labourers in urban informal sector	1986	1992	NA
24	B.Vaijayanthi	V.Dhulasi Birundha	Labour welfare measures in Madura Coats	1986	1987	NA
25	N.Saradha	V.Dhulasi Birundha	Leather tanneries in Dindigul	1987	1988	NA
26	A.Somasundram	V.Dhulasi Birundha	An economic study of cultivation of selected crops	1987	1988	Yes

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
27	S.Fahima Baby	V.Dhulasi Birundha	Cost benefit analysis of bio-gas plant	1988	1989	Yes
28	K.Sampoornam	V.Dhulasi Birundha	A study of personal income tax assessee	1987	1989	NA
29	P.Gurusamy Babu	V.Dhulasi Birundha	Rural energy consumption pattern	1988	1989	NA
30	E.Neelaperumal	V.Dhulasi Birundha	Impact of IRDP on rural artisan	1989	1990	NA
31	V.Subramanian	V.Dhulasi Birundha	Environmental pollution of oil based road transport	1990	1991	Yes
32	K.R.Jeyakumar	V.Dhulasi Birundha	Economics and wind energy	1990	1991	NA
33	V.Murugavel	V.Dhulasi Birundha	Economic study of animal energy	1991	1992	NA
34	B.Harihara Das	V.Dhulasi Birundha	A study of electricity distribution	1989	1990	NA
35	R.Kamatchi	M.S.Subramanian	A study on economic conditions of landless agricultural labourers in Sholavandan panchayat	1988	1989	NA
36	K.Shahul Hameed	M.S.Subramanian	A cost-benefit analysis of IR 20 paddy cultivation in Uthamapalayam village, Madurai district	1988	1989	NA
37	K.Ayyasamy	M.S.Subramanian	A study on the living conditions of landless agricultural labourers in Andipatti panchayat union of Madurai dt.	1988	1989	NA
38	M.Chinnan	M.S.Subramanian	Economics of cotton cultivation in Nakkalapatti panchayat union, Madurai district	1988	1989	NA
39	S.Arul Pragasam	M.S.Subramanian	The Economics of IR 20 paddy cultivation in Thiruvengampet village, Ramnad district	1989	1990	NA
40	M.Anbalagan	M.S.Subramanian	Wages and working conditions of powerloom workers in Aruppukkottai town	1989	1990	NA
41	Jeya Singh	M.S.Subramanian	A study on poverty among small farmers, Alwarthirunagari union, Chidambaranar dt.	1989	1990	NA
42	P.Prabaharan	M.S.Subramanian	A study on State Bank of India's agricultural credit to farmers in Theni block, Madurai dt.	1989	1990	NA
43	S.Ramakrishna moorthy	M.S.Subramanian	Economics of shell crafts women in Agasteeswaran block of Kanyakumari district	1989	1990	NA

S. 90

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
44	P.Dhavamani	M.S.Subramanian	Income, expenditure and saving pattern of agricultural households of Pudukkottai revenue village in Kamarajar dt.	1989	1990	NA
45	P.Vairan	M.S.Subramanian	A study on the production and marketing of Guava in Palamadu Madurai district	1989	1990	NA
46	S.Shanthi	M.S.Subramanian	A study on the status of women employees of government dept. in Tirunelveli Kattabomman dt.	1989	1990	NA
47	G.Perumalsamy	M.S.Subramanian	A study on the impact of National Rural Employment Programme in the Virudunagar block of Kamarajar district	1990	1991	NA
48	Swamianthan	M.S.Subramanian	A study of Agricultural Finance of Canara Bank with special reference to Sholavandan, Madurai district	1989	1991	NA
49	A.Dhanapaul	M.S.Subramanian	A study on poverty among Scheduled Caste households of Palayamkottai municipality in Tirunelveli district	1990	1991	NA
50	Pakalavan	M.S.Subramanian	Economics of pulse production in Tamilnadu - A macro Time series analysis	1991	1992	NA
51	M.Chitra	M.S.Subramanian	A study on acreage and yield responses of major crops in Tamilnadu	1991	1992	NA
52	A.Jothirajan	M.S.Subramanian	Economics of Groundnut cultivation in Checkanurani Madurai district	1990	1991	NA
53	M.Essakiammal	N.Manonmoney	An economic study of sarvodahya sangh agarbathi unit in Mukkudal, Tirunelveli District	1988	1989	NA
54	S.Ivy Jeno	N.Manonmoney	A study on the role of co-operatives agricultural bank in financing agriculture with special reference to Vadivekarai Co-Operative Agricultural Bank in Madurai district	1988	1989	NA
55	N.Rajeswari	N.Manonmoney	A study on the functionings of Family Planning association of India (Madurai Branch)	1987	1989	NA
56	L.Ganesan	N.Manonmoney	The economic status of women workers in Manjolai Tea Plantation	1989	1990	NA

S. 91

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
57	N.Katturaja	N.Manonmoney	An economic analysis of long-term agricultural credit in the co-operative land development bank in Usilamppati taluk	1989	1990	NA
58	M.Manappan	N.Manonmoney	A study of environmental pollution in Madurai city	1989	1990	NA
59	L.Chandra Kantha	N.Manonmoney	An economic study of landless agricultural labourers in Vadamadurai Block of Dindigul district	1988	1990	NA
60	G.Kulanthaivel pandian	N.Manonmoney	Impact of community well irrigation scheme under drought prone area programme in Sattur block of Madurai dt.	1989	1991	NA
61	S.Palani	N.Manonmoney	A study of Canara Bank loan for dairy development with special reference to Usilampatti block in Madurai district	1990	1991	NA
62	K.Sankaravel pandian	N.Manonmoney	An economic study of production and marketing of co-operative handloom cloth in P.Thottapalli village of Madurai district	1990	1991	NA
63	N.Aruna	N.Manonmoney	Envionmental impact of motor vehicles in Madurai city	1989	1991	NA
64	S.Vallivittan	N.Manonmoney	Development of small-scale industries in Madurai district during 1981-82 to 1990-91	1991	1992	NA
65	Vrthiban	N.Manonmoney	A study of trade union movement in leather tannery industries in Dindigul	1991	1992	NA
66	Selvaraj	N.Manonmoney	An economic study of income and expenditure of Palani Municipality in Tamilnadu	1989	1990	NA
67	Thusreef Jahan	N.Manonmoney	An economic analysis of sericulture in Melur taluk in Madurai district	1988	1990	NA
68	S.Esakkiappan	N.Manonmoney	A study of fertiliser consumption in agriculture in Tamilnadu during 1969-70 to 1981-86	1990	1991	NA
69	M.Vasantha Devi	N.Manonmoney	An economic study of living and working condition of handloom weavers in Avaniapuram Madurai	1988	1990	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
70	Latha Ivine Marthal	N.Manonmoney	Performance of integrated rural development programme with special reference to women in Manamadurai block	1989	1990	NA
71	A.Samyselvan	N.Manonmoney	An economic study of sources and supply of wind energy in Tamilnadu	1990	1991	NA
72	M.Karikolraj	S.Vijayalakshmi	Regional Rural Bank in Kamarajar District	1987	1988	NA
73	S.Murugaperumal	S.Vijayalakshmi	Impact of self employment schemes in Chinnamanur municipality	1988	1989	NA
74	A.Manohari	S.Vijayalakshmi	An economic study of roller flour mill at Madurai city	1989	1990	NA
75	L.M.C.Lingom*	S.Vijayalakshmi	Brick industry in Thovalai taluk	1990	1991	NA
76	K.Sadasivam	S.Vijayalakshmi	Causes and extent of adoption of new technologies in Madurai district	1990	1991	NA
77	A.Planichamy	S.Vijayalakshmi	Finance of Periyakulam Muncipality	1990	1991	NA
78	M.Thirumalairajan	S.Vijayalakshmi	A study on sericulture in Bodinayakanoor block, Madurai district	1991	1992	NA
79	R.Manoharan	M.Mohamed Mustapa	An economic study of the welfare programmes of Tamilnadu Slum Clearance Board in Madurai city	1989	1990	NA
80	T.Srirenganayaki	M.Mohamed Mustapa	Nutritional status of households at Kottaram, Kanyakumari district	1989	1990	NA
81	P.Rengarajan	M.Mohamed Mustapa	A study on the National Rural Employment Programme in Singampunari block, Pasumpon Thevar District	1988	1990	NA
82	M.Jeyaprakasam	M.Mohamed Mustapa	A study on the Virudunagar Co-operative Milk Supply Society Ltd, Virudunagar	1988	1990	NA
83	P.Devakanmalai	M.Mohamed Mustapa Manosai	A study on the plantation labourers of tea estates in Pachakumachi hills, Madurai distrit	1989	1990	NA
84	M.Pugalendiran	M.Mohamed Mustapa	Sericulture in Vadipatty taluk, Madurai district - A case study	1990	1991	NA
85	M.Renuga Devi	M.Mohamed Mustapa	An economic study of Marthandampatti Primary Cooperative Bank in Vilathikulam Taluk, VOC district	1990	1991	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
86	A.T.N.Abubacker	M.Mohamed Mustapa	An economic study of the primary agricultural cooperative banks in Ilayangudi taluk	1988	1991	NA
87	T.C.Shanthi	M.Mohamed Mustapa	An economic study of income and expenditure of Ambasamudram town panchayat in Tirunelveli Kattabomman	1990	1991	NA
88	V.Suriagandi	M.Mohamed Mustapa	A study on the Aravind Eye Hospital, Madurai	1991	1992	NA
89	P.Sekar	N.Saraswathy	A study of Cooperative Bank in Cheranmahadevi	1988	1989	NA
90	S.Muneeswaran	N.Saraswathy	An economic study of paddy cultivation - A case study of Chinnamanur village Madurai district	1988	1989	NA
91	A.Kurusamy	N.Saraswathy	A comparative study of high yielding variety and local variety of paddy in Kanyakumari district	1989	1990	NA
92	M.Ravichandran	N.Saraswathy	An enquiry into income and expenditure pattern in Madurai	1990	1991	NA
93	V.Rajalakshmi	N.Saraswathy	An economic study of paddy cultivation in Ambasamudram block,Tirunelveli district	1990	1991	NA
94	K.Madasamy	N.Saraswathy	The impact of bank credit: A case study of Canara Bank in Ambasamudram, Tirunelveli	1990	1991	NA
95	N.Lydia Nimoni	N.Saraswathy	An economic analysis of agricultural primary cooperative bank- A case study of T.A.79 Ambasamudram Agricultural Primary Co-operative Bank	1990	1991	NA
96	V.Subramanian	N.Saraswathy	Energy consumption in Rural households	1991	1992	NA
97	V.Thamilmani	S.V.Hariharan	Export trend of handloom products in Tamilnadu	1987	1988	NA
98	S.Zaffarullahkhan	S.V.Hariharan	Inter-State trade: Tamilnadu and other States	1987	1990	NA
99	Harigopal Mallick	S.V.Hariharan	India's trade with SAARC countries	1989	1990	NA
100	Sarat Chandra Patia	S.V.Hariharan	NAM & NIEO: Changing perspective of N.S.interdependence	1989	1990	NA
101	B.Ambrose	S.V.Hariharan	Intra-regional and inter-regional trade of SAARC countries	1989	1991	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
102	Bejoy Abraham	S.V.Hariharan	External Debt trend of SAARC countries	1989	1990	NA
103	Dharmar	K.Deivamani	Working and living conditions of match workers in Kovilpatti	1988	1989	NA
104	P.Chandrasekaran	K.Deivamani	Labour welfare measures in Madras Cements Ltd.	1988	1989	NA
105	V.Raju	K.Deivamani	An economic analysis of local finance in Tamilnadu with special reference to Theni-Allinagaram Municipality	1990	1991	NA
106	Srvatham	K.Deivamani	Labour welfare measures in India Cements Ltd.	1989	1991	NA
107	A.Umarani	K.Deivamani	Analysis of sugar-cane cultivation in Tamilnadu	1991	1992	NA
108	A.Ravindran	K.Deivamani	Impact and implementation of Integrated Child Development Services Scheme in Dindigul block	1991	1992	NA
M.Phil: Education						
1	M Muruganandam	P.N.Muthiah	Education under Madurai Nayaks 1529-1736	1985	1987	NA
2	M Murugesan	P.N.Muthiah	Education of the disabled students in Tamilnadu	1986	1987	NA
3	S.Bose	P.N.Muthiah	Art-education in Tamilnadu since Independence	1986	1987	NA
4	S.Sukendar	P.N.Muthiah	Educational values of Medieval sculpture	1987	1988	NA
5	V.Shyamala	P.N.Muthiah	Teacher effectiveness and students 'interest'	1988	1989	NA
6	Pitninathar	P.N.Muthiah	Economic parameters and interest of vocational stream students	1988	1990	NA
7	P.Subramanian	P.N.Muthiah	Socio-economic status of students of poly-technic and their attitude towards manual jobs	1988	1990	NA
8	J Packiadhas	P.N.Muthiah	Job satisfaction of special school teachers in Tamilnadu	1991	1993	NA
9	Alaguraj	J.P.Gabriel	Promotors to see advertisements in TV	NA	1992	NA
10	P.K.Sujakumar	K.Krishnan	Contribution of Economists towards economics of education	1986	1987	NA
11	R.Viji Thamby	K.Krishnan Soloman	Objectives leaving experiences and problems of adult education programmes: Workers reaction	1986	1987	NA

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
	P.Ganesan	K.Krishnan	Education,occupation and role of railway employees	1986	1987	NA
	V.M.Jayanthi	K.Krishnan	A comparative study of B.Sc and M Sc chemistry curricula of affiliated and autonomous colleges	1987	1988	NA
	M.Nagarajan	K.Krishnan	Educational predecessors in Chola kingdom (850-1279AD)	1987	1988	NA
	G.Bhuvaneswari	K.Krishnan	Construction and Standardization of a scientific temper	NA	NA	NA
	M Savarimuthu	K.Krishnan	Chemistry curricula potentials of chemical based small scale industries	1988	1989	NA
	R.Amudharani	K.Krishnan	A comparative study of B.Sc and M Sc physics curricula of affiliated and autonomous colleges	1989	1990	NA
8	V.Sreekumar	K.Krishnan	Biology curricular potentials of small scale industries in Kanyakumari district	1991	1992	NA
9	P.Rajasekaran	S.Sinnathambi	College teacher's perception of History	1990	1990	NA
M.Phil:Sociology						
1	Roopa Sundramoony	R.Venkataratnam	An understanding of the research environment: A study of agricultural scientist in Madurai	1991	1992	NA
2	B.Subaschandran	R.Venkataratnam	Content analysis of Tamil films	1990	1991	NA
3	K.Purendradas	R.Venkataratnam	Content analysis of Tamil films	1990	1991	NA
4	D.Saravanan	R.Venkataratnam	Content analysis of Tamil films	1990	1991	NA
5	Fr.Micheal Dass	R.Venkataratnam	UGC countrywide class room programme: A content analysis	1990	1991	NA
6	S.Murugesan	R.Venkataratnam	Impact of UGC countrywide class room programme on under graduate students in Madurai city college	1988	1989	NA
7	Gonsalvez Andria	R.Venkataratnam	An evaluation of the erception of cinema by Madurai public with reference to Railway employees	1989	1990	NA
8	Arasappan	R.Venkataratnam	An evaluation of the perception of cinema by Madurai public	1989	1990	NA

Appendix II

Specialisations

Area of Specialisation	Centre
Community Development, NSS,NGDO	Andhra University
Medical and Psychiatric social work,	
Correctional Social Work, Women and Family Studies	
Physical Anthropology	
Pre-history	
Social Anthropology	
Computer Education	Annamalai University
Educational Psychology	
English language education	
History of Education	
Language education	
Mathematics Education	
Philosophy of Education	
Science Education	
Clinical Psychology	Bangalore University
Child and Adoloscent Psychology	
Child and Gender Roles	
Cost/Accounting/Financial Management/Accounting	
Taxation/Marketing	
Organisational Psychology	
Organisational Behaviour	
Women's Studies	
Development Economics	Bharathiar University
Finance	
Money and Banking	
Population Studies	
Agricultural Economics	Bharathidasan University
Agriculture and Development	
Agrarian Social Strucutre	
Computers in Education	
Environmental Economics	
Environmental Education	
Educational Video	
Educational Technology, Leadership behaviour and organisational climate	
Fish culture in rainfed ponds	
History and Science of technology	
Industrial Economics	
Mass Communication	
Medical Sociology	
Media material production	
Research methodology	
Rural Transformation	

Area of Specialisation	Centre
Rural Sociology	
Rural Sociology Development and Administration	
Sociology of Science	
Sociology of Education	
Social and Economic futurology	
Study skills	
Sociological theories	
Teacher Effectiveness	
Urban Sociology	
Agricultural Economics	Gulbraga University
Industrial Economics	
Public Finance	
Political Sociology	Kakatiya University
Women's Studies	
Gandhian Studies	Karnatak University
Educational Psychology	
Educational Technology	
Educational Planning/Administration	
Teacher Behaviour	
Teaching of Languages	
Agricultural Development	Madurai Kamaraj University
Agricultural Economics	
Agricultural Finance	
Economic Theory	
Environment/Natural Resource Economics	
Fisheries Economics	
Human Resource Development	
Industrial Economics	
International Economics	
Mass communication	
Medical Sociology	
Plantation Economics	
Political Sociology	
Quantitative Economics	
Quantitative Techniques	
Rural Development	
Social Change and Social movements	
Personnel Management	Madurai Institute of Social Sciences
Banking	Mangalore University
Minority Studies	
Sociological Theories	
Sociology of Education	
Financial/Accounting/Transport	University of Calicut
Marketing	
General Management/Industry	
Psychopathology/Clinical/Measurement	

Area of Specialisation	Centre
Social/Organisational/ Experimental/Community/ Counselling	University of Kerala
Change and Development	
Industrial Economics	
Industrial Relations	
Mass Communication	
Medical Sociology	
Economic Policy	
Economic Theory	
Planning	
Public Finance	
Quantitative Methods	
Social Gerontology	
Tribal Economy	
Women's Studies	
Adult Education	University of Madras
Agricultural Economics	
Economics of Regulation	
Econometrics	
Economic History	
Economics of Human Resources	
Health Economics	
Management Studies	
Non-formal/Distance/Population Education	
Physical Anthropology	
Public Economics	
Social Anthropology	
Socio-cultural Anthropology	
Women's Studies	
Agricultural Economics	University of Mysore
Landuse	
Livestock	
Transport	
Urban and Regional Geography	
Development Planning	Sri Venkateswara University P G Centre
Public Finance	

Publications of the Institute consist of the following categories:

1 **Publications brought out by Messrs Sangam* Publishers :** These consist of a series of monographs mainly relating to Rural Development of Tamil Nadu brought out between 1972 & 1980. Detailed list including prices available on request from the Programme Coordinator of MIDS. Orders may be placed with Sangam Publishers, 11, Sunkurama Chetty Street, Madras - 600 001 for these.

2 ...styled Publications : These consist of Working Papers, Digest Series, Data S... Popular Series, Interns Reports and Offprint Series brought out since 1978. De...ed list available on request from the Programme Coordinator of MIDS.

3 **Occasional Publications of the Institute Include :**

a) *A Manual of Sources of Data on Tamil Nadu Economy* (1979) published by MIDS, pp. 92, priced at Rs. 10/- per copy and Rs. 6.50/- for bonafide research scholars.

b) *Area Studies Bibliography Tamil Nadu* (1984) published by MIDS, pp. 226 Rs. 30/-for paper cover and Rs. 40/- for bound volume.

c) Social Science Research in South Indian Universities—Listing and Review of Ph D. Dissertations (1989) Published by MIDS and ICSSR, SRC, pp. 260, Rs. 20/-
a), b) and c) obtainable from the Programme Coordinator of MIDS.

4 **Special Publications***

a) *Poverty — An Interdisciplinary Approach edited* by B. Sarveswara Rao and V. N. Deshpande (1982) & published for MIDS by M/s Somaiya Publishers Pvt. Ltd., Bombay, pp. 296, Rs. 125/-

b) *Guide to Research in Economics*, edited by C.T. Kurien (second edition) (1985) & Published for MIDS by M/s. Rainbow Publishers, Coimbatore, pp. 390 Rs. 100/-

c) *Some thoughts on the Seventh Plan* by Dr. Malcolm S. Adiseshiah (1985) and published for MIDS by M/s. Dialogue Publishers, New Delhi, pp. 136, Rs. 70/-

d) *Shaping National Events* by Dr. Malcolm S. Adiseshiah (1985) and published for MIDS by M/s Dialogue Publishers, New Delhi, pp. 335, Rs. 180/-

e) *Tamil Nadu Economy : Performances and Issues* by MIDS (1988) and Published for MIDS by Oxford and IBH Publishing Co. Pvt. Ltd., Delhi, Rs. 60/-

* These publications may be ordered directly from the respective publishers.

Regd. No. M. TN/MS(S) 485

MADRAS INSTITUTE
OF
DEVELOPMENT STUDIES
(MIDS)

The Institute was founded by Dr. Malcolm S. Adiseshiah in [illegible]1 ar reconstituted in 1977 as a National Research Institute within the framework of the Indian Council of Social Science Research, New Delhi.

The aim of the Institute is to contribute to the economic and social development in Tamil Nadu and India.

The activities of the Institute are:

—Research leading to Ph.D. Degree

—Studies and action-oriented research in micro-development problems

—Documentation and library service in development problems

—Exchange and dialogue at the State, National and International levels on development issues

— Publication of papers and results of the Institute

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BULLETIN

MADRAS DEVELOPMENT SEMINAR SERIES

Vol. XXIII No. 9 September 1993

Export efforts from South in the Light of Liberalisation

Role of Agriculture and Employment in Indian Plans

CONTENTS

EDITORIAL HIGHLIGHTS

Introduction

THIS editorial for the September issue covers the main activities at the state, national and international levels for the month of July. At the **state** level attention is called to the problems raised by the union government's criticism of the reduction in excise not being passed on to consumers which the tea industry in the state for example states that does not apply to it because the tea industry's prices are determined by global supply and demand. Also attention is called to the need to raise funds for the state both from international agencies like IDA and ADB and the corporate sector as the means of meeting the needs of growing budgetary demands and keeping the budget deficit under some kind of control. The World Bank advises the state to monitor its expenditures closely as a further contribution to deficit control. In the field of power the proposals for an additional power plant by TNEB or the private sector is examined. The question of free power and the heavy subsidy that it involves is also touched upon. In the field of water the declining water flow from the Cauvery into Mettur is referred to along with chief minister's fast to get the water tribunal award implemented. In agriculture the bursting food stocks and the godowns problem and the spread of shrimp farming are particularly noted. In industry the lack of entrepreneurial initiatives and action in Tamil Nadu has been underlined by the Madras Chamber of Commerce study. Other items such as the Singapore Corridor and the MRL unit which is the first small petroleum plant in the state are set forth. Among individual items Ashok Leyland's programme, the Standard Motors closure, the problem with the salt manufactures face and the bifurcation of the industry department are referred to. At the **national** level, the failure of the states to mobilise resources which they have promised for the first year of the VIII Plan amounting to annual 1/8 of their pledge places the whole planning mechanism in question according to the chairman of the Planning commission who is the Prime Minister. In the power sector the possibility of stripping the SEBs of distribution and transmission responsibility so they can concentrate on generation is looked at. In the economy section the new computation of India's GDP by the IMF is reviewed critically together with the Finance Minister's three year programme of financial reforms conveyed to the IMF and the World Bank. The fall in tax revenues and fiscal deficit are examined and the need for freezing recruitment and salaries and wages is emphasised. In agriculture the large procurement of wheat and rice is referred to along with the good monsoon for the current year. Under plantation crops the development of tea, coffee, rubber and pepper are reviewed. In the industrial field the low state of industry in 1992-93, the continuing recession particularly in the automobile sector and the industrial sickness (Goswami) report are reviewed. Individual items referred to includes cement, sugar and steel. In foreign trade the falling trade

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
9	John Joseph	R.Venkataratnam	Social background of agri-cultural scientists and their scientific productivity	1988	1989	NA
10	Meenakshmi sundaram	R.Venkataratnam	Patterns of energy utilsa-tion in Irumbadi village	1988	1989	NA
11	P.Deivendran	L.Tharabhai	Content analysis of Tamil films	1990	1991	NA
12	P.Sambasivan	L.Tharabhai	Children's programme in Television: A content analysis	1988	1989	NA
13	Balaji Naidu	L.Tharabhai	Farmers programme in tele-vision: A content analysis	1988	1989	NA
14	Ramalingam	L.Tharabhai	The socio-economic back-ground of scientists in a research institute	1987	1988	NA
15	B.Savitri	L.Tharabhai	Patterns of — energy utilisa-tion in Arumbanoor village	1987	1988	NA
16	V.Ragendran	L.Tharabhai	A study of the problems of hygiene sanitation and morbidity in Vadivelkarai village	1988	1989	NA
17	R.Sridharan	L.Tharabhai	The impact of higher educa-tion among the Scheduled Caste students	1986	1987	NA
18	P.Veeramalai	L.Tharabhai	Application of Mertons' theory of relative depriva-tion on school teachers	1985	1990	NA
19	Balakrishnan	B.Nalini	Women in police force	1984	1985	NA
20	Ganesan	B.Nalini	Immunization of children: Mothers perspective	1985	1986	NA
21	Pandi	B.Nalini	A study on the problems of sanitation & Hygiene	1985	1986	NA
22	Palani Kumar	B.Nalini	Social background of scientists and their scientific productivity	1986	1987	NA
23	Madhuraiveeran	B.Nalini	Pattern of utilization of energy	1987	1988	NA
24	Murugesan	B.Nalini	Socio-economic condition of female agricultural labourers	1988	1989	NA
25	Ayyannan	B.Nalini	Social bakground of scientist and their scientific productivity.	1987	1988	NA
26	Jeeva Nagarajan	B.Nalini	Film appreciation	1989	1990	NA

UNIVERSITY OF MADRAS

Sl. no.	Name of the Scholar	Name of the Supervisor	Title of Research Topic	Year of Commencement	Year of Completion	If the dissertation is already published
Ph.D.: Adult Education						
1	Ashalatha Boac	N.V.R.Kapali	Perception acceptance of Family Welfare Programme.	1991	1994	NA
2	Nithya	N.V.R.Kapali	Evaluation of Family Welfare Programme.	1991	1994	NA
3	Chandrasekaran	N.V.R.Kapali	Role of Communication in Distance education Programme.	1992	1995	NA
Ph.D. Anthropology						
1	D.Venkatesan	V.Sudarsen	A study of Onge of Little Andaman	1985	1989	NA
2	T.P.Kumara Reddy	P.Govinda Redd	Inbreeding amonç three indigenous populations of Chittoor District.	1987	1992	NA
Ph.D. Econometrics						
1	K.R.Malathi	U.Sankar	Uncertainty and Agricultural Production.	1982	1987	NA
2	Indumathi	U.Sankar	Corporate Public Issues	1982	1987	Yes
3	G.Mythili	U.Sankar	Cropping Pattern and Marketing of groundnut	1983	1988	Yes
4	D.Jayaraj	U.Sankar	Marketing of groundnut	1983	1990	NA
5	R.Hema	U.Sankar	Optimum Rate Structures for Electricity	1987	1988	Yes
6	Vijayamohanan Pillai	U.Sankar	Kerala Electricity Supply	1988	1992	Yes
7	S.Muthusamy	U.Sankar	Contribution of Poultry Farming to Rural Development in Salem District of Tamil Nadu.	1988	1992	Yes
M.Phil: Anthropology						
1	P.Tamizholi	V.Sudarsen	Class formation among Tea plantation workers of Nilgiris	1987	1988	NA
2	V.Pragathi	V.Sudarsen	Educational aspirations and achievements of SC.	1987	1988	NA
3	S.Venkataraman	V.Sudarsen	Villupattu: The folk music and communication.	1988	1989	NA
4	A.Nagesh	V.Sudarsen	Political Organisation among Narikoravas	1989	1990	NA
5	S.Jaideep	V.Sudarsen	Class and Caste Interaction among SC employees of a PSU.	1989	1990	NA
6	K.Venugopal	V.Sudarsen	A Study of Cooperatives in Tamilnadu.	1990	1991	NA

deficit for the first two months of the current year is noted and questions raised whether this could continue for the balance of the year. The Aid India Consortium pledge are analysed. In the case of Human Resource the main educational development which was the Yashpal committee report is reviewed. In science the sending up of INSAT-2B was the major achievement, in health the move towards stablisation of population and in labour the growing unemployment rate and the plans for employment generation are discussed. In the **International** field the world trade which is contracting like world production, the review of the World Bank's World Development Report 1993, the various forecasts made by OECD, the World Bank and UNCTAD on the world economy and the world employment prospects particularly in the developed countries which are rather grim are reviewed. Under **other items** there is reference to the plan of the science city in the state, the State Resource Centre, Tamil Nadu Board of Continuing Education meeting, the IFMR meeting, the review of the World Bank, World Development Report 1993 seminar, the annual general body meeting of the Madras Craft Foundation, and the setting up of the Committee for renovating the Madras University Senate Hall, the celebrations of the 25th anniversary of Tamil Unesco Courier, the annual general body meeting of the National Council of Industrial Harmony, and the India International Centre panel discussion on the social sector are events in which MIDS participated.

State

Economy

The decision to increase minimum support prices for rice by 10-20 per cent for 1993-4 by the Union government will later be referred to. There are similar increase in the support prices for other coarse cereals, kharif pulses, ground nuts, soya bean, sun flower and cotton. The effect of these sharp increase on the prices being paid by the poor will be a serious one. The other issue is the clubbing of tea prices with other items. UPASI in this state takes a strong stand that there is no prefixing of the prices in the case of tea, and that over all the prices are determined by world supply and demand conditions. In relation to the serious deficit faced by the state at over Rs.500 crores which is further rising, RBI advises state governments particularly those who have deficits, to explore the possibility of procuring financial resources from both international agencies, to which they now have been granted direct access, as well as our own corporate sector. At the international level there are many concessional financial avenues not only IDA and the soft loan section of ADB. In the context of the ongoing macro economic adjustments, precaution needs to be taken that short term loan exigencies do not undermine the importance of the long term goal of human development as in the social sectors - education, health, nutrition, social security which are in this state domain. The advise of the RBI is to draw upon international and corporate sector funds in the state. At the same time the World Bank advises state governments to focus on fiscal consolidation because in areas like agriculture and social sector there is need for strengthening their finances. Reform priorities for the states include control over the wage bill through an effective hiring freeze, reductions in employment, deployment of surplus staff and curbs of wage increases. It also recommends increase in recovery rates especially in electronics, power and irrigation and agriculture and emphasis on efficient operation and maintenace in irrigation, roads and social sectors. There is also need for a review of the portfolio of unfinished state investment projects, rationalising the number of centrally sponsored schemes, adjusting the terms and allocations of funds and good expenditure management.

Power

In the power sector in the state the announcement of the setting up of a 500 MW thermal plant at Tuticorin along side of the TNEBs plant is at the planning stage. It is yet to be decided whether it would be set up by TNEB or thrown open to private sector. This project assumes importance in the context of the second Rs.11 crores captive coal jetty of the Tuticorin port which otherwise might go waste. The state government computes at the urging of ADB and the World Bank that the losses suffered by TNEB on account of the free supply of power to agriculturists will be Rs.1000 crores next year. On this the government has been negotiating with the farmers for some payment fee not the full 50 paise per unit, but it does not look as if there will be movement in this, given the bye elections at hand and other political pressures. There is no doubt that the state's finances will not improve and become controllable if these subsidies are continued. Another pressure point is the coal stock position for the thermal station which at present except for Tuticorin will last only for 10 days on the average. With the hydel reservoirs in the state not filling up fast this coal stock position is worrying. One relief could be (that will be a long term one), the inexhaustibility of non conventional sources of energy. The centre is talking of generating an additional 2000 MW from medium, small hydro and bio-energy sources. This calls for an addition of Rs.6000-8000 crores. The shortage of coal stocks may be contributory cause to the state importing 2 million tonnes of high grade coal from Australia and Indonesia at a total cost of Rs.356 crores. The foreign exchange needed has been cleared by the Centre.

Water

The water situation in July continued to be a crisis as far as drinking water is concerned and with the new end of the South West monsoon the situation in the northern districts particularly in Madras has become somewhat desperate. In this connection the World Bank aided project to improve both water supply and its sewerage components becomes important along side of the Telugu Ganga Project. The former project is now being elaborated and prepared with World Bank Aid for its assistance. There is no short term remedy to the drinking water shortage in these parts of the state. The other problem is the sharing of the Cauvery waters which becomes urgent as the discharge from the Mettur reservoir is reduced during July, placing the kharif crop in some jeopardy for lack of water. As of mid July the discharge from Mettur was reduced from 18000 to 15000 cusecs and the turn system introduced involving water for 5 days alternatively in the Vennar and Cauvery. The chief minister of the state undertook a fast in order to force the implementation of the Cauvery Tribunal Award and as a result there was the establishment of two committee, one for monitoring the flow of water into the Mettur reservoir and the other to monitor the implementation of the tribunal award. On both committees the basic states are to be represented by technicians. This problem seems really insoluble because the day after the announcement of the setting up of the two committees which led the chief minister to give up her fast. Karnataka announced that it will not participate in these committees. This raises several questions, the major one being how the award of the tribunal is to be implemented by both states. There is also the question whether a fast was the right means to attain this end. There is also the problem of how the resistance of Karnataka Cauvery basin farmers to any proposal to provide cauvery waters to Tamil Nadu can be met. In connection with this complex problem S.Guhan of this Institute has published a very good pamphlet to which attention is called.

Agriculture

The overall food position in the state is reported by the government to be comfortable. Infact the record procurement of 3.5 million tonnes of rice mainly through Andhra Pradesh has led to this region being classed as surplus. The Tamil Nadu procurement undertaken by the Tamil Nadu Civil Supplies Corporation extended the target in both the main samba, the short term kuruvai crops. The stock position is such the government is thinking of suspending the monopoly procurement, asking trade to do the job. This also resulted in May and June in the fact that Tamil Nadu lifted only 50,000 tonnes of rice against the monthly allotment of 70,000 tonnes from the centre. Also the rice offtake in the PDS is only 1.35 lakh tonnes a month because of the plentiful supply of rice in the open market. Now with the FCI reporting 100 per cent capacity utilisation in godowns the problem is the storage point for further procurement. This needs some temporary solution as Tamil Nadu is not normally a surplus state. The first fortnight of August will be crucial for agricultural production in the Thanjavur district. This applies to the standing kuruvai crop extending over 5 lakh acres in the delta area which needs sustained irrigation. From this point of view the inflow into Mettur has dropped to an all time low, the only hope being the good rains reported in the catchment areas of the Cauvery and the overflow from Kabini. The present storage of Mettur would irrigate the kuruvai crop only for the next 10 days. Further farmers in the four districts of Thanjavur, Quaid-e-Milleth, Trichy and South Arcot have commenced cultivation operations for samba, raising nurseries, and pushing transplantation. With regard to agricultural research during the month some 26 reports are filed with a fair distribution as between cereals (five), fruits and vegetables (eight), plantation crops (six) and animal husbandry (four). There is need for further research on animal husbandry which the veterinary university should promote more activity. Whether the research results are really being applied by the farmers in the state is still rather an unknown quantity and this needs particular attention. In regard to **Fisheries**, the state government proposes to revolutionise the rural economy through mass production of fresh water prawn seedlings and large distribution to prawn farmers. 20 lakh seedlings a year through induced breeding methods at the Tuticorin fisheries college farm using the prawn available in the Cauvery belt is the aim. Each prawn will weigh quarter kilo helping the country to earn Rs.1000 crores in foreign exchange. At the same time the college is undertaking the further propagation of salt water and fresh water fish which now stands at 3 lakh tonnes in supply, while the demand is 6 lakh tonnes. This is important, particularly the fresh water fish for the small and medium farmers as well as agricultural labourers as a supplement to their meager diets.

Industry

A study by the Madras Chamber of Commerce draws attention to the lack of adequate entrepreneurial response to the challenges and opportunities of the reform programme, plus an unduly cautious approach to industrial investment - as the hindrance to heed Tamil Nadu's industrial progress. This should be taken into account in the euphoria aided state government's so called new industrial policy. The study points out that Tamil Nadu which is ranked among the top four industrialised states however, faces a rather large and growing gap between the first two and itself while the gap between the other states of Tamil Nadu has narrowed. The contribution to Tamil Nadu's economy by the secondary sector is declining which erodes the manufacturing base in the state. Further diversification within the existing broad industry groups and away from them is not

really being achieved. Tamil Nadu's investment share is declining against the growing trend in other states. In regard to large investments also there is an absence of substantial or even adequate investment reported in the private and joint sector. With the change affected by the central government in trade and economic policies, the responsibility of Tamil Nadu is to provide both the atmosphere and infrastructure to take advantage of this new climate. Finally the export front in the state is disappointing both in regard to its role and quantum. This sobering report should be taken seriously. Another important report is the feasibility report prepared by TIDCO on the proposed Singapore Industrial Corridor whose lack of tangible progress is lowering the confidence of foreign investors. The Madras Chamber of Commerce study results reported above ia also confirmed in this study. Showing the lack of adequate entrepreneurial response to the centre's new industrial policy, the Southern Gas Grid which is being pushed will diversify the state's industrial phase in the absence of mineral resources. One helpful industrial development is that the Cauvery basin crude distillery unit of MRF being set up at Pannangudi will go on steam in September. It will produce petroleum products valued at Rs.l50 crores per annum. It will use the crude supply by the oil wells of the Cauvery basin. On the other hand a negative factor is the heavy loss during the year suffered by Ashok Leyland whose sales have fallen to Rs.954 crores for the year ended March 31, 1993 against Rs.1030.65 crores for the year 1991-92. The loss suffered by the company last year was Rs.25.32 crores. It reports a 22 per cent decline in the total industry demands for medium and heavy duty vehicles. However, it reports that it is going ahead with its investment plans which include launching a new series of light and intermediary commercial vehicles. Salt manufacturers report that the over production of salt and the decline in demand because of the national goitre control programme which uses only iodised salt, but if this results in upgrading quality and entering of new export markets this should be welcomed. It will benefit the small and medium producers who are working on 10,000 acres of salt pans in Tuticorin and adjoining areas. The problem is also related to the demand by the salt producers to restrict the compulsory iodised to highly goitre endemic areas. In that case, the need for iodised salt in light of health hazards can be accompanied with expanding demand for the common variety of salt. Standard Motors is once more in the news. In mid July it announced the suspension of operation due to plants non viability. It was turning out 3-4 LCVs a day as against the 12 agreed upon at the time of reopening (See Vol.XXI p564). The efforts of the government and the labour commissioner to bring about a settlement through negotiations with the management and the labour union seems to be moving towards some positive results. While the labour union rejected the labour minister's earlier direction for rising productivity to 9 NCVs from July 1 to 12 by mid September it has agreed to produce 8 per shift on the understanding that the labour department will monitor to check on the supply of adequate component for achieving the directed level of production. On this basis the unit will open on August 1. It is to be hoped that this time the opening will be successful and continued. A similar situation characterises a two leading Madras corporate units. Dunlop which is the tyre production leader for over three decades has been pushed down to the 6th place because of decreasing productivity, high labour costs and shortage of funds affecting supply of raw materials. The current tyre market leader Madras Rubber Factory (MRF) after a series of reverses in the 60s and 70s captured the first position in the production market by increasing labour productivity, toning up its market and improving products quality and keeping wages and salaries under tight leash. This is a good example for other corporate units in the state. Members of the Southern Indian Chambers of Commerce as well as FICCI are agitating against the State Pollution Control Board's insistence on "no objection certificate" for an industry supply to continue or for a new one to be opened. There is no legal basis for this, though there is need for some form of control against pollution. The first environmental audit which is to be submitted at the end of September will give both the pollution control boards and industries a more precise idea of how much damage has already being done and what the future should be. The state government announced that it has bifurcated the industries department and created a new department for small industries with the substantial employment generation demand which only the small scale sector can meet. This new department is very welcome. TIDCO announced its first disinvestment at the end of July apart from the undesirable decision to disinvest in the joint sector (SPIC). TIDCO has now decided to disinvest in Asia Tobacco Company which will help TIDCO realise Rs.l.25 lakhs from the company's manufactures of cigarettes and shoe uppers. The other company from which its disinvestment is being made is Pandyan Chemicals from which it will obtain Rs.40 lakhs. These are moves in the right direction in accordance with the stated industrial policy. The disagreement on the SPIC disinvestment was not with regard to the disinvestment made but the manner in which it was done.

National

Plan

After a long lapse of over five months there was a meeting of the Union Planning Commission on July 23 at which the deficits facing the VIII Plan both for this state and for all the states was emphasised because of the erosion of the plan outlay in 1992-93. The erosion was 14.4 per cent, due mainly to the failure of the states to mobilise funds through bonds. Only Rs.l098 crores was mobilised against the budget target of Rs.6058 crores which means a shortfall in the central plan outlay by 10 per cent and in the state's outlay from 7-10 per cent in agriculture, 14 per cent in power, involving a overall deficit of the state of Rs.4300 crores. For this year the additional resource mobilisation proposed is Rs.1200 crores only, but adding the short fall of last year it is certain that the second year of the VIII Plan will not be fulfilled. This means that federal financing of the plan needs total restructuring as there are unexpected shortfalls, as for instance in the 1993-94 crude production which will be only 26 million tonnes against the plan target of 31 million tonnes, which places the Balance of Payments in very serious deficit. There is a case for linking the release of plan and non plan funds to the states and ministries with performance particularly in the social sector which faces the brunt of the shortfall. Another issue is the decision of NDC to transfer a major part of the centrally sponsored projects to the states which was to be taken up at this meeting but which has been postponed to a latter meeting and which means that no action on this important pending issue is to be taken. With the liberalisation of the economy there is need for a complete recasting of the Planning Commission, its methodology and structure. The expert group on poverty estimation set up in 1989 under the Chairmanship of the late Lakdawalla has now completed its work under the chairmanship of the RBI governor, C.Rangarajan and submitted its report to the commission. The methodology so far used in computing poverty has been to use the recommendations of the task force on projections of minimum needs and effective consumption demand (1979). These estimates have been made and re-

leased for 1972-73, 1977-78, 1983-84 and 1987-88. Not only is the methodlogy used inadequate and defective, (the procedure of adjustment of NSS data, the choice of deflators, the estimation or absence of price differentials across states, estimation of fixed consumption basket over time and estimation of a uniform consumption basket for all states), the state level estimates of poverty being used in Plan the allocation have given rise to a sharp debate on these estimates. Hence the group has recommended a revised methodology for estimating poverty and an indepth study relating poverty to the living standards, employment and social services. According to this revised methodology based not on the calories intake but the standard of living, - the minimum being standard - under which not 30 per cent but 38 per cent are living below the poverty line. The National Institute of Public Finance and Policy states that urban poverty has fallen to 20.1 per cent in 1987-88 compared to 41.2 per cent in 1972-73.

Power

In relation to the crisis being faced by the Planning Commission, there are two problems contributed by the power sector to the situation. One is the revenue losses due to the poor realisation from consumers which rises from Rs.3526.98 crores in 1989-90 to over Rs.5000 crores in 1992-93. The second problem is the dues from the State Electricity Boards to the centre which have exceeded Rs,30,000 crores. The revenue is part of the state of sickness in the power sector. The ministerial committee headed by the Commerce Minister has recommended that the distribution and billing should be entrusted to private entrepreneur or the Power Grid Corporation. This recommendation should go along with the present system of central appropriation to recover dues from both SEBs and those of coal companies. This however, is unlikely to be implemented within a time limit.

Economy

The important item on the economy in July was the World Bank's new method of assessing the economies of nations as set forth in its report and the IMF report, the World Economic Outlook, both of which instead of hitherto employed dollar value of currencies, use the purchasing power parity which has pushed up the Indian GDP for 1992 to $ 1.7 trillion from $297 billion. This places India as far as GDP is concerned among the top 6 countries of the world, (US, Japan,China, Germany and India). This is a form of statistical jugglery which does not address itself to the major problems faced by the economy - Poverty and unemployment. India's poor will still be 400 million and unemployment with a high 30 million. The IMF computation makes really no contribution to the country's problems and need not be taken seriously. In regard to India's reform programme there are many issues that have to be faced. First on the planning side the government has proposed a three year programme which would : (1) have the current account deficit from the current two per cent of GDP in 1992-93 to 0.9 per cent in 1995-96. In 1993-94 the current account deficit is to be brought down to $4.3 per cent (1.7 per cent of GDP); (2) speed up tax reforms to make up for the fall in revenue following from the Ayodhya and Bombay blast incidents as well as the shortfall in the sale of government equity in public sector enterprises which generated only Rs.19 billion instead of Rs.35 billion; (3) reducing further the fiscal deficit of 4.7 per cent of GDP in 1993-94 and further reductions in the next two years depending on improved resource mobilisation; (4) monetary policy to be used for further reducing inflation keeping down monetary growth to 13 per cent in 1993-94; (5) in addition to the structural adjustments which is to reduce the current account deficit to levels financiable by normal capital flows. There is need for exceptional financing concessional loans and foreign aid) of $1.8 billion in 1993-94 and an annual $2.5 billion for the subsequent 3-4 years; (6)the trade regime will have reduced average tariff level of 25 per cent within a period of 3-4 years along with the phasing out of licensing restriction on imports and dropping the banned imports list except for security or environmental reasons; this programme of economic reform contains a number of contradictions the most glaring being the proposed reduction in tariff and in susbsidies along with the expectation of increased revenues. The exceptional financing of $2.5 billion a year means that our reliance of IMF's, EFF and ESAF resources will be continuing and not decreasing. Another serious gap in this three year programme is that there is no reference to the lacks in export oriented infrastructure and the targeted 15 per cent annual growth in exports set by the Rangarajan committee. Another problem faced by the government is that the sharp reduction in excise and customs duty which were aimed primarily to result in price reduction to be passed on to the consumers has not done so. Four months after these reductions were made in the budget, the ministry of consumer affairs shows that the real beneficiaries of the reductions have not been consumers but manufacturers, packers and retailers, infact the price of tea, biscuits, toiletries, TV sets and medicines have gone up instead of falling. Here the suggestion of the ministry of consumer affairs for the selective monitoring of prices of such goods as packaged foods, man made filament and yarns, white goods, electronic machinery and motor vehicles should be acted upon immediately both by the department and by giving the responsibility also to the bureau of industrial costs and prices. Again there is need for tax collections to go up if the minister's budget statement that the tax reduction will lead to a better response of tax payers has any truth in it. The minister of finance on the contrary has asked the tax department to increase the raids and seizures because whatever he may say in public, he knows and is acting on this knowledge that the tax defaulters and evaders will not change their ways and will need to be punished. What is discouraging is that six of the defaulters are large public sector companies like ONGC, IOC, Hindustan Petroleum with tax outstandings ranging from Rs.35 crores to Rs.160 crores. A further continued problem of the economy is the scam and super scam which should be placed along side of the scandalous over Rs.5000 crores loss on account of the government's disinvestment programme. The Comptroller and Auditor General has now placed it at Rs.12000 crores. This needs to be faced fairly and squarely even beyond what the JPC is currently working at. Another issue faced by the economy is that it is not moving in the direction of becoming cost competitive which calls for wage related discipline. Infact the head of the largest trade union the other day has described the economy as one which has the lowest wages and the highest costs in relation to other countries. This problem of rising wages and falling productivity is faced not only in the public sector but also in the supposedly more efficient private sector. In this matter the economic policy should aim at wage related restraint even more than formulating the so called exit policy. In the economy a number of institutions have been created to watch over the public sector (the bureau of public enterprises), the private sector (the bureau of BIFR), the stock exchange (SEBI). These need to be examined and reconstituted so that they are able to function in order to keep, their constituents moving in accordance with the legislation, rules and regulations which is not the case now.

Agriculture

In agriculture we face a rather curious situation. On the one hand there has been a record procurement of foodgrains over

100 per cent in the case of wheat and over 18 per cent in the case of rice compared to last year. The wheat purchases have lead the minister of food to state that the country should go in for export of wheat. Due to the poor demands for coarse grains in the PDS, the government has decided to export 4 lakh tonnes of jowar, but there is no cause for export of other foodgrains. The problem in this situation is the sharp increase in the minimum support prices for the kharif season of 1993-94 which are being announced. In the case of paddy, the prices have been raised to a level where it is the market price which means that there will be no fall in prices after the harvest. The reasons for this rise in procurement and support prices which will have a serious inflationary effect. It will also worsen the problems of storage and disposal of stocks which last year's procurement price rise created. Is this an attempt to increase the investment in agriculture by making it more attractive, but to make investment in agriculture attractive is not through the prices but through technology. The disquiet with regard to the announced procurement prices is not only related to the country's comfortable food stock (which will be so for two years) with record procurement, the opening balance of wheat stock at April 1994 will be 7.35 million tonnes (which is double the buffer stock requirement and for rice the opening stock in October 1994 will be 7.9 million tonnes against the buffer stock norm of 6 million tonnes. The off take is estimated at 8.1 million tonnes and in the case of rice against the total stock of 17.9 million tonnes an off take of 9.3 million tonnes. These estimates need to be checked and not used as a basis for drawing up a programme of exports. The South West monsoon this year has a good temporal and spatial distribution so that this year's kharif also could reach its target of 106 million tonnes. The kharif harvest is estimated at 102 million tonnes and the rabi target at 82 million tonnes. All cash crops are doing very well and even sugarcane is exceeding its target of 239 million tonnes at 250 million tonnes which should reverse last year's fall in sugar output. Similarly oil seeds, is expected to exceed last year's 22 million tonnes and cotton 12 million tonnes. We now face in several parts of the country over the khariff season the problem of floods which should be tackled in order to avoid any serious loss of the harvest.

Plantation Crops

The question that is being debated by the members of UPASI as pointed out earlier, is why tea has been clubbed with tooth paste and TV sets in identifying whether the excise relief has resulted in lower prices. UPASI points out that while manufacturers can alter their production and supply schedule in keeping with demand in the case of tea this is not so. Tea output is largely influenced by weather conditions and other uncontrollable factors. In addition tea prices like that of coffee are influenced by overall supply/demand conditions both domestic and global. The association therefore points out that this kind of transparency in tea marketing makes suggestions of prefixing of prices far fetched. This however, does not answer the question whether the sharp reduction in tea excise should not be reflected in some reduction of tea prices. On the supply side the outlook of global tea production for 1993 seems good with an anticipated 2546 kilograms mainly from India and Sri Lanka. For India the problem is that the higher output does not lead to increased exports because of higher domestic consumption. The Tamil Nadu government announced a Rs.24.80 crores tea development scheme. In it tea factories in Nilgiris districts would be modernised and for growing tea in new areas in the Nilgiris. This project should cover small growers who are the majority. In the case of coffee the growers have suggested that ISQ should be enlarged in order that their exports could also be increased. This is a worthwhile proposal to pursue as under this the responsibility of the Coffee Board to push exports will be replaced by that of the large planters. In the case of **rubber**, rubber goods which declined in 1991-92 because of the disintegration of USSR, has improved substantially in the following year. The auto tyre sector has doubled its export performance to $166 million in 1992-93 and overall rubber exports at $231 million. This encouraging trend however, needs to be placed along side of the $35 billion global trade in rubber and the fact that India is the 4th largest producer and the 8th largest consumer of rubber. There is a great deal to be made up in the export of rubber goods particularly in radial tyres. The problem with this commodity is that its major producers are small units and for them to increase their export needs not only the decodification of cumbersome rules and regulations but for the agencies pushing rubber export, (CAPOXIL and ATIRIA) to monitor quality performance and to encourage it. In the case of **pepper** in view of the falling international sales and domestic prices there is a movement at both levels to reduce the production of pepper. The production forecast for 1993 is 0.5 lakh tonnes against over 2 lakh tonnes in the previous year. This would involve some reduction in the country's pepper exports as there will have to be some equivalence with low priced quality pepper produced by Malaysia. Given the fact that pepper's export market are US and West Europe there is a case for suspension of excise duty for this year which may help in attaining the target which last year was set at 32,000 tonnes valued at Rs.112 crores but declined to 23,000 tonnes fetching Rs.79 crores. The latest data made available at the 21st session of the International Pepper Committee shows a decline in pepper output and a move at stabilisation of prices. But the production is estimated at 1.45 lakh tonnes and to settle at that level for a couple of years. The reduced production is due to the decline in Malaysia's crop. This stabilisation however, should not lead to increase in the output in the country.

Industry

The industrial scenario in 1992-93 presents spreading recession on the one hand and increased mergers and acquisitions on the other. The two are not unrelated because the latter is one means of increasing growth and meeting the recession. The implementation of the Chelliah Committee recommendation which are verbally welcomed by Indian Industry is resisted in some crucial sectors such as iron and steel, petro chemicals, non ferrous metals, capital goods and engineering and food products. If the import duty on them is going to be reduced from 110 per cent to 25 per cent in the next three years the weaker units will have to merge with stronger ones to avail of this skill, technical upgradation, better R&D facilities, lower marketing costs and higher internal and export market shares. This becomes urgent as the tentacles of the recession spreads, manifested in the 1992-93 record of 1.3 per cent industrial production growth against the 8.1 per cent target. For the year the annual results of 1300 corporate units show a small growth in their sales (16.6 per cent) which against the increase of whole sale prices (around 8 per cent) means that their sales increase was even less. Manufactures in IIP recorded only one per cent. Against lagging profits there was marked increase in interest costs and a 20 per cent rise in depreciation provision. The tax liability was lower by 19 per cent due to sluggish sales and higher out go on account of interest and depreciation. The setback was particularly noticeable in the case of large companies (that is those with sales above Rs.500 crores) while the smaller companies did better. In this situation, the government's proposal to delicensing almost the entire industrial sector during the VIII plan except for the

strategic units as referred to earlier will be for them an added problem. The delicensing proposal conforms to the logic of the new economic policy but it is important that while getting rid of unneeded controls, the baby is not thrown out with the bath water. The possibility of new entrants both Indian and foreign making a high demand of our scarce resources for producing goods and services which have a high profit potential but is unrelated to growth of the economy and particularly the alleviation of poverty needs be borne in mind. It is encouraging that some public enterprises are now concentrating on improved productivity and profitability. This needs to be extended beyond the major oil companies, and SAIL and BHEL companies cover consumer goods needed by the poor majority. One important development in the month was the release of the report of the six member expert committee chaired by Mr. Goswami on industrial sickness and corporate restructure. Its major recommendations are : (a) setting up five fast track winding up tribunals in major cities for closure of sick companies, using the necessary summary procedures; (b) five recovery tribunals exclusively for recovery of corporate debts in excess of Rs.50 lakhs; (c) BIFR to be a fast tract facilitator; (d) a sick company's reference to BIFR to be voluntary; (e) SICA to override foreign exchange regulation Act to encourage foreign investment to take over potentially viable sick companies; (f) improved banks and term lending institution targets for earlier detection of sickness; (g)alter RBIs guidelines for rehabilitation and allow financial institutions to adjust the write off against some equity of sick companies; (h) CBDT to remove all tax hurdles that prevent banks and finance institutions from converting debt to equity of sick companies; (i) amend the companies act so that secure creditors can implement defacto changes in managements; (j) land sale to be recognised as the most profitable and economic way of generating internal resources for reorganising industry; (k) the scope of Chapter VB of the industrial disputes Act which governs lay off, retrenchment and closures to be further enlarged and made applicable to undertakings having 300 or more workers. Would this correct the present tardiness in the treatment of sick enterprise? It will if its recommendations that the criteria of net worth be replaced by concentration on signs of incipient sickness. If the committee results in BIFR becoming an instrument for decision making and not for seeking endless clarifications and explanations it would be a great gain. The government reports its appropriate approach for 37 growth centres which would industrialise backward areas. These 37 reports are part of the plan for developing 70 growth centres. In addition to the Rs.66.24 crores released to the states on growth centres Rs.22 crores has been provided in the 1993-94 budget. The basic infrastructure provided in the growth centres will certainly speed up the industrialisation of the country. Development in particular industries should be noted in the month of July. SAIL's plan for diversification in new areas of manufacturing and for a major restructuring of its existing network for sale of steel items is proposed along with its total equity being reduced from Rs.4000 crores to Rs.1,000 crores, the difference being covered by loans. The diversification includes projects for cement manufacturing which will use the slag generated by SAIL. It is also planning to expand its power generation from the present 700 MW to 1200 MW in collaboration with a private party. Its revamped marketing network has become slimmer and trimmer and more effective. It is setting up as part of its diversification a new subsidiary dealing with its exports in services, in engineering, in training and software. It is high time that SAIL was reorganised along these lines. This would also involve the extended new production of finished steel to 9.6 million tonnes and a further 7.6 million tonnes by secondary sector. In the case of cement the performance continues to be adversely affected by the inadequate infrastructure. Also the slackening demand in recent years has affected its performance. The outlook for the industry for the current half year is disastrous. With its cost escalation by Rs.180 per tonne due to the high prices of coal, power tariff increase and the impact of the railway budget, capacity use in the industry is slipping with the government offtake falling and the liquidity crunch affecting it. The recessionary conditions is particularly hard on this industry. In the area of sugar, central government announced the launching of Rs.345 crores mission under which technical assistance is to be provided to all sugar mills to enable them to increase their production by 10 - 15 per cent in three years. The Sugar Development Fund will contribute Rs.210 crores, the machinery needed by the public and cooperative sugar mills will be funded by the mission, the private mills being given partial subsidy. The management of public sector enterprises are at work to improve productivity and profitability in order to draw out side investment and increase internally generated resources for modernising for expansion schemes. The problem in this approach is that it is limited to the major oil companies, SAIL, BHEL, the Indian Petro Chemical Corporation, leaving out the other medium companies to fend for themselves. But this trigger may counter recession in the industry referred to earlier. Here the example of the oil seeds economy is helpful because its growth signals are not being used to generate or a complacency. The major oil seed, ground nut, is still grown under rain fed conditions and therefore face problems of uncertainty, but there are conditions for revolutionising production in this industry through oil seeds technology missions and oil seeds production programme. This effort to tap the best of technologies for oil seeds economy is really the long term answer to recession. An industry which is beginning to turn around is coal. Due to curbing of vested interests working at the grass roots level, this has involved certain amount of innovation beginning with coordination of the ministries of coal, railways, power, steel and fertilisers but most important CIL has shifted its emphasis from just production to despatch. CIL subsidiaries are being judged not by the achievement of their production targets but by how much they despatch. This means that positive production, CIL's quality and its transport are taken into consideration in a holistic favour.

Foreign Trade

During the first two months of the current financial year, the trade deficit has declined to $6.59 million (compared to last year's $944.74 million). This is due to exports increasing by an impressive 30 per cent at $3458.58 million (against $2666.83 million in April/May 1992) while imports were $3465.17 million against #3611.57 million. It is essential that this good export performance should be continued for the balance of the year in order to keep our Balance of Payment under control. In rupee terms the scenario is even more encouraging with exports during April/May 1993 at Rs.10832 crores (compared to Rs.7663.43 during April/May 1992) and imports showing a moderate rise of Rs.10552.70 crores compared to last year's Rs.10378.25 crores. The trade deficit for the first two months of this year is Rs.20.62 crores compared to the massive Rs.2714.82 crores last year. On individual items, garments exports have for 1993-94 have been fixed at $3510 million above the Apparel Export Promotion Council's recommendation of $3250 million because it shows a rise of 21 per cent last year. In the first two months of this year it recorded an increase of 20 per cent. The government projects the trade deficit for 1993-94 at a lower $3.1 million compared to $3.3 billion last year. One of the issues which needs more consideration by the government as

well as trade is the area of entry for MNCs, domestic needs must be the main deciding principle, only up to a point should branded goods be promoted. This means that the promise made to the World Bank will have to be applied with discretion. A move in this direction is the decision of government to alter exemption from countervailing duty on leather, medical and power equipments, some paper products as well as reducing by half the basic customs duty on parts and components used for manufacture of LCVs. An area where considerable loss is being sustained is in regard to agro exports which can earn the much needed foreign exchange but is losing out because of erratic and uncertain export policies. This is recognised and spelt out by the union agricultural secretary and his suggestions should be used to build a wide variety of agro exports comparable with the past in the world as well as building the relevant food security. The inflow of $1.1 billion from non resident remittances has helped in raising India's foreign exchange reserve to $6.42 million as of the end of June. This is particularly noteworthy in view of the status of the instability and uncertainty that the country is going through. The expected inflows from donor countries as well as the international agencies while helping to build up BOP in the short term also create serious repayment commitments. This calls for a sustained effort in the export field as well as in the increased production of goods such as petroleum by ONGC and OIL, which as noted earlier record a decline of 5 million tonnes in 1992-93. This calls for additional imports and foreign exchange which should be avoided. The country's export performance during 1992-93 narrows the trade gap and to that extent strengthens the BOP. The country's exports to the general currency areas rose by 11 per cent between April and December 1991 while the imports rose by 39 per cent during that period. There is need to concentrate on items in the export basket which provide the expansion effect such as electronics, computer software, sports goods, engineering goods, textiles, carpets, chemicals, gems and jewellery and leather manufactures.

Loans and Aid

The Aid India Consortium meeting in July has pledged $7.4 billion in loans aid to India which is a $200 million above the World Bank's recommendations. The more important is the fast disbursing component amounted to $2.2 billion compared to the World Bank's recommendation of $1.8 billion. This increase is very largely due to the bilateral donors. The World Bank's view is that the pace of our future economic reform will depend upon the government's ability to establish a viable external financing plan which covers its critical areas, expansion of benefits, further tax reforms, expenditure rationalisation and reductions in customs tariff. This link of the country's reform programme to external aid and concessional loans is an immediate necessity. What is discouraging is that there are no signs of the lessening of these links for the future.

Human Resource Development

With regard to education it is noteworthy that the total tribal literacy in Kerala has reached 80.71 per cent, scheduled tribe being 1.10 per cent of the total state population. The sex ratio was favourably at 1029 for scheduled castes but only 996 for scheduled tribes. The other important educational development during the month was the presentation of the Yashpal Committee report to the government on lightening the over load and the curriculum of the nursery and primary schools. The committee has recommended that the school bag should be abolished as a means of stopping the torture of young children who have to carry these heavy bags and books. Textbooks should be treated as school property so that school children need not buy books individually. It has recommended education committee at the village/block and district levels to plan and supervise schools in their jurisdiction but discourage school at the state and district level from imitating CBSE curricula. It is recommended that only the Kendriyas and Navodhayas should be affiliated to the CBSE and other schools being affiliated to the state boards. The committee criticises the catching up syndrome under which parents/teachers expect their children to catch up, killing the joys of learning. The problem it says is conceptual and cannot be achieved through managerial administration actions, but only through wide discussions and consensus among academics and thinkers on advise on how the load of school students at all levels can be reduced in order to improve the quality of learning. The government and parents should act on this valuable advise quickly. In Tamil Nadu the government announced that it has dropped the move to amalgamate middle schools with high schools and instead will upgrade middle schools to the standards of high school. This move to amalgamate all middle schools with the high school is to start next year and should not result in any additional call on resources, human or financial to the government or the state. The government also announced that in view of the insistence of the Navodaya Vidyalayas body making Hindi as compulsory for classes. VIII-XII, it has gone back on its assurance to open in several districts. From the point of view of continuity of education, this is regretted. There are some very important issues relating to women's education and their efficiency in the international section under the World Bank captions.

Science

The major event in the scientific field in July was the launching of INSAT-2B. This further extends educational facilities through the space satellite services. The Indian Institute for Commercial Technology reports that a successful development of a substitute for HFC - 13400 Hydro fluro carbon at bench sales. This will enable India to implement 1987 Montreal protocol. The IIT, Madras also reports the development of a new refrigeration system which is the vapour absorption system and is therefore economical. The absorption system has many advantages over the compression system now in use as it works on slower energy and also helps conservation of conventional sources.

Health

The latest demographic study shows that the fear of pollution explosion in the 21st century has been over stated. There is an expansion but it is a manageable one.

Labour and Employment

The 42nd conference of labour ministers in early July did not result in anything concrete. There were statements about the need for improvement of services in ESI hospitals, eradication of child labour and the enactment of central legislation for agricultural workers. But on none of these was even a consensus arrived at, particularly on the crucial issue of the working conditions of agricultural labourers who form 80 per cent of the total workforce. This is really worrisome and the drawing up of elaborate laws for this purpose is of no use. On child labour the government has issued a call for ending it in the carpet industry as otherwise it states that action will be taken against the industry. What this action will be has not been spelt out. With the growing international opinion against child labour it may well be that international sanction and pressures will solve or moderate this problem. As education extends there is a frightening factor of the educated unemployed increasing to 2 million according to the Planning Commission and 8.72 million according to the

Institute of Applied Manpower Research. Expert opinion is that it is not possible to specify any date for the elimination of educated unemployment, as it calls for a scenario of 5.6 per cent. GDP and sectoral growth which is nowhere on the horizon. In this context the Kerala government's announcement that it will spend Rs.1000 crores on employment generation and that its industrial and agricultural policies are aimed at this is welcome. In 1992-93, 1.3 lakh employment opportunities were generated for which 149 crores were spent. The main job generators are small scale industries which are increasing every year. But even this cannot solve the massive Indian problem of educated unemployment referred to above.

International

World Trade

In its 1992 annual report GATT states that world trade growth must accelerate moderately this year atleast at atlast year's 4.5 per cent. This forecast is difficult to achieve given the recessionary conditions in Europe and Japan which together account for half the world's imports. The US and OECD countries need to take steps to counter the recession and expand their trade, building on last year's expansion of both world production and trade. In this matter, the developing countries are charting their own way which is good as they have little to learn from the western countries. Another report by UNCTAD suggests the use of market phased price incentives to promote the transfer of specific and crucial technology to third world countries. This will counter their growing technological marginalisation. The proposal sets forth a price subsidy so that developing countries can obtain technologies whose cost otherwise is still beyond their means. It also refers to variation in the form of financial assistance funded by royalties on technologies purchased by developing countries. This price wedge proposal will ensure that only a machine technology receive incentives since the implicit subsidy is linked to the marketability of technology. This will also be an important component building measure, encouraging policy makers in developing countries to incorporate technologies as part of their reform programmes. FAO reports that world agricultural export prices have declined by 26 per cent in the last 12 years and are expected to rise only sluggishly during the rest of the century. This will hurt all farmers, especially those in developing countries. The price drop in agricultural exports of the developing countries has been over double at 39 per cent over the decline of export prices of the developed countries at 19 per cent. In the main the decline that has been in coffee, and cocoa (down 17 per cent), sugar (down 60 per cent) and cotton and rubber (down 50 per cent).

World Bank

The major event in the World Bank in July was the release of the World Development Report 1993 which is a good document with excellent statistical health data brought together for the first time. It sets forth the economic justification for health investments and expenditure, proposes that the major achievements of the machinery for control of communicable diseases with the aid of WHO should be continued and expanded. It raises a number of questions in its agenda for action on low cost effectiveness and the computation of quality of health care systems. Its major gap is the complete ignoring of indigenuous systems of medicines on which 90 per cent of the rural people in India and in other developing countries depend. The World Bank also announces that it has decided to monitor closely projects which it aids: this would involve change in the culture of bank management from multiplying projects to watching their implementation. The rate at which the World Bank has in countries like India and Brazil had to be cancelled its large credits makes this a much needed programme. As the earlier issues of the bulletin have pointed out projects worth $1.3 billion have been cancelled as a result of India's inability or unwillingness to use the resources. Hence there is need for more periodic project reviews. The World Bank's discussion paper, Social gains from female education, has a very interesting collection of data from cross country studies of 72 developing countries which : (1)provides a conceptual underpinning for the study of the infant mortality rate; (2) the gains from female education in terms of births averted. Doubling the secondary school enrollment of women will lower births by 20 per cent, while simply doubling the family planning services will reduce births only by 3.5 per cent. The gains from expansion of female secondary schooling are found in South Asia and sub Sahara Africa where female enrollment rates are among the lowest in the world. In India the creation of Women's Development Corporation and establishment of women's universities does widen the horizon for women but only if women power requirements in the varied fields are identified and met.

World Economy

The Export-Import bank of India reports a slow recovery of the world economy in 1992 with the rate moving up from 0.1 per cent in the previous year to 0.8 per cent. The growth rate in the US and the EC showed a moderate recovery, in Japan, the growth slowed down. It is the developing countries which recorded the high growth rate of 6.1 per cent from 3.2 per cent. It also reports that world trade recorded a growth of 4.2 per cent, up from I.I per cent in 1991. The growth rate in the volume of exports increased from 2.6 per cent to 4 per cent and in the case of developing countries from 6.6 per cent to 8.1 per cent. The Asian Development Bank in a recent study reports that since the 1950s the growing trend of the migrants from the impoverished country side in Asia has led to over crowded, mega cities with problems of poverty, pollution, and crumbling infrastructure in social services, but the ADB report shows that the rate of urbanisation in Asia is slowing down and the government programmes to decongest their mega cities as having a positive impact. The urban population growth which was at a sustained 4 per cent during the 1980s is beginning to slow down in the 1990s its forecast at 3.3 per cent in 1990s down from 3.8 per cent in the previous decade. While this shows that Asia has turned the corner, the urban crisis is still with us and needs urgent attention. UNFPA's, 1993 report points out that the developing world's urban population needs to be slowed down to the rate of the cities of the developed world. This will allow the gradual building of institutional structures to help the developing world meet the urban expansion. This is not unrelated to two further events, - the decision of the World Bank to aid industrial pollution control projects. India has obtained Rs.466 crores from the World Bank for such a project. The second event is the international workshop on the climate change convention on National Energy Policies convened by Asian Energy Institute to consider the supplementaries and conflicts between national energy policies and global environmental concerns and identify national policy instruments to help develop environmentally benign technologies and technology transfers. UNCTAD world's investment report 1993 reports that TNCs have become a major force ushering in the world economy, controlling 1/3 of private protective assets and to provide production an integrated international product system. The number of multinationals has increased sharply from 7000-37,000 in the past two decades accounting for direct foreign investment of $3 trillion. 1/3 of this is con-

trolled by 100 TNCs and all TNCs account for foreign sales $5.5 trillion, against which the 4 trillion of world's exports show the power of TNCs. The annual FDI flood dropped sharply after 1990 and have settled at $150 billion in 1992, but as world recession recedes and liberalisation of policies continue a sharp expansion of FDIs is expected. In the rest of 1990s the investment in developing countries continue to show the strong clustering pattern, led by Japan in Asia, US in Latin America and European countries in central and eastern Europe and most of Africa.

World Employment

OECD in its study reports that the short term employment outlook for many developed countries is weak. It computes unemployment among its member countries to rise to 36 million by 1994. This would lead to a post war high unemployment rate of 8.75 per cent by 1994. It therefore calls for comprehensive strategy to reverse the rising unemployment levels which should become the central goal for OECD governments. Even the best designed Human Resource Development policy would provide only a part of the answer because of the complexity of the problem. So it is working at the request of its council at a comprehensive strategy to promote sustainable growth and employment by 1994.

Other Items

Science City

The government called a meeting of economists, scientists and planners to formulate the plan for establishing a science city in Madras. Already some 21 science and technology institutions are concentrated in the Taramani region. The Indian Trade Fair Authority is also planning to build a large convention hall with attendant, hostel facilities in the area. This means that the main task to be worked out by the plan is the interlinking of the programmes, libraries and computer services of the 21 existing science and technology institutions. This is being entrusted to a small group.

World Development Report

As noted earlier, the World Bank report on World development for 1993 concentrated this time on health. It was discussed at length at the seminar at IFMR institute with some 30 economists, and health specialists present. The report's two authors from the World Bank presented the major features of the report and answered the questions raised.

State Resource Centre and Tamil Nadu Board of Continuing Education

The two monthly Governing Body meeting of the State Resource Centre was held in July. It concentrated its attention on the assessment on the Total Literacy Campaign in the state particularly in the two districts which have been declared as having attained total literacy. The serious gaps in this programme and the setbacks that it has suffered were particularly discussed. The director was asked to make another survey of this programme and report to the next meeting. The Executive Committee of the Tamil Nadu Board of Continuing Education which followed examined the work of the member organisations in the mass literacy programme field and noted with satisfaction that recommendations made at the last meeting of the voluntary agencies were entirely acted upon by the government.

Madras Craft Foundation

The annual general body meeting of the foundation was held at its head quarters in Besant Nagar in mid July. It reviewed the work of the foundation and decided on completing the building programme rapidly and also producing a video to help the donors to understand what is involved. It is planning to raise a further 12 lakh to complete this activity.

Madras University Senate House

There was a meeting to discuss the plan for the renovation of the senate house which is gradually being delapidated. It was decided that this will call for raising Rs.1 crore which should not be very difficult in appealing to some 82 alumni of the university who are now in senior positions in industry. This would mean that each of them would be asked to contribute between Rs.2-5 lakhs of average. A senate house renovation committee has been set up with a Chairman of Madras Institute of Development Studies as Chairman of the Committee.

Tamil Unesco Courier

The 25th anniversary of the Tamil Unesco Courier was held in the 3rd week of July. Unfortunately the Governor and the Minister of Education who were to participate in the function did not do so because they were engaged with the problems of the fasting chief minister. However, the meeting was held and the main achievement of the Courier during the last twenty five years, particularly its editor who has kept the Tamil edition going without any interruption, was commended and plans for its expansion in other Tamil speaking countries were established.

National Council for Industrial Harmony

The general body meeting of the National Council for Industrial Harmony was held on 21st July. It noted with satisfaction the many training programmes run within industries for promoting harmony between management and labour. It also suggested that in the coming year the Council should launch on some programme of research in this area and publish one or two pamphlets on its work to make it better known.

India International Centre

The Standing Finance Committee of India International Centre met at the end of July to establish and approve the finances for the new Annex that is being planned. It is expected that this would be completed to accommodate some 100 more members as residents, together with a conference hall, lecture rooms, etc. would be ready by the end of 1994. There was also a panel discussion on that day on the financing of the social sector - health, education, nutrition, social security etc. The problem of meeting the financial squeeze falling on the social sector following the structural adjustment programme in the country was faced frankly and means of alleviation of this constraint was suggested.

First Article

The paper for the August Seminar on "Export Efforts from South in the Light of Liberalisation" appears as the first article.

Second Article

A note on the "Role of Agriculture and Employment in Indian Plans" appears as the second article.

Book Review

The review of the book "World Development Report 1993: Investing in Health" appears in the book review section.

MIDS News

Dr. Nasir Tyabji chaired the session on "Evolution of Urban Configuration and Socio-cultural identities" at the Indo-French Workshop on "Urban Configurations, Regional Growth and Global Networks" held at the French Institute, Pondicherry, August 27-28, 1993.

Dr. S. Neelakantan also participated in the same Workshop and chaired the Valedictory Session.

Dr. D. Jayaraj participated in a Workshop on "Rural Labour and Employment", organised by IDPAD at Mysore on August 1-4, 1993. He was also a discussant to a paper on "Growth of Rural Non-Agricultural Employment in Kerala: Some Emerging Trends".

Dr. Padmini Swaminathan presented a paper "Development Experiences in India: Perspectives on Gender, Education and Employment" at a seminar on "Women's Employment in Industry" at Madras, organised jointly by the Department of Human Geography, University of Amsterdam, and the Central Leather Research Institute, Madras, on August 16-17, 1993.

Export Efforts from South in the Light of Liberalisation

C.K. Gopalakrishnan
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"INDIA's forte is one of Crisis Management. Instincts of its leadership are to cope, rather than innovate and to work within an existing framework not only of institutions but of ideas as well".

Myron Weiner

THIS paper will be in two parts. The first part will be an assessment on infrastructure available for improving international trade, especially from the point of hinterland of Madras Port. The second will examine the overview of the potentiality and efforts called for to make a dent on the export efforts from South.

The Indian economy is currently in transition from a heavily regulated 'autarkie' imports substitutional mode to more outwardly oriented form in which export is expected to play a key role. Hence, a modern port at Madras with sophisticated infrastrucutre could be an important tool in the growth of international trade especially export/entreport trade.

No doubt, India, as maritime nation, more so, the Southern portion of the peninsula which lies between Bay of Bengal in the East and Arabian Sea to the West with Indian Ocean in the South, could play a prominent role in International trade. India's traffic at major ports jumped from 16 million tonnes to 66.8 million tonnes during the first five year plan period and currently the planning documents envisage 112 million tonnes by the end of the 7th plan. The share of Madras Port is 25 million tonnes which is next in order to Bombay which handles about 27 million tonnes a year. Madras Port has been consistently increasing the capacity utilisation which is now reported to be 115 per cent. The port has been equipped with a private container terminal and a private dry dock for repairs besides a coal conveyer, a facility operated by the State Electricity Board. The proposed Satellite port at Ennore will receive impetus in view of aid proposal now approved by the Asian Development Bank. Besides the capacity to handle general cargo to the extent of 3 million tonnes, the container terminal has a capacity for 1.75 lakh T.E.U. (20 equivalent units). The port has capacity to handle vessels upto 1.5 lakh d.w.t. The port is envisaging additional traffic of 30 million tonnes by 2000 A.D. The 8th plan provides for an additional expenditure of Rs.68 crores as it has been currently felt, that in the strategy for the development of infrastructure, the ports constitute an important element. 30,000 T.E.Us are expected to be handled and hence the port development has to keep pace with the changing scenario in respect of size and specialisation and also automation required for this purpose. To handle bigger vessels of d.w.t. 1,70,000 to 2,00,000 Bharathy docks had to be further deepened. The port may have to update the mechanical loading (unloading also) facilities especially for coal and other bulk cargo. Besides facilities for loading and unloading fertilisers/

raw material for fertilisers manufacture and other petroleum products for refining which are imported in bulk, greater modernisation has to be achieved in order to ensure optimum efficiency in handling the cargo.

One of the objectives in the 8th plan is that existing port facilities should be fully utilisated and improved upon, in preference to heavy investments, in view of the paucity of funds. To achieve this object, there is need for systematic monitoring and training facilities especially in respect of containerised traffic as well as fast bulk handling operations. The port administration while aware of the advantage of the privatisation had drawn a demarcation as to the areas which could be privatised and the areas which should be handled by the port administration. This view appears to be in consonance with the approach all over the world where the port administration takes full responsibility for development of infrastructure in the port leaving the services sector for privatisation. Successful port administrations at Colombo, Singapore and of late, at Kelang (Malaysia) had adopted this approach.

The services of the port depend on the quality and quantity of the facilities, the quality of the port management and the skill of the labour force. In order to achieve maximum capacity utilisation, it is obvious that the port and the shipping industry together should have a common approach in ensuring that it get its portion of the 'cake' in the international transportation. The port is an important point in the chain of transport arrangements and in order to increase its share in its utilisation, there should be concerted attempts not only to improve the facilities but also to formulate an aggressive marketing policy. The object is to achieve a bigger piece of the 'cake'.

In so far as Madras port is concerned, though it is not one of the modern ports, to start with, over a period it had involved itself in modernisation partly from the necessity that it had to export iron ore on a Japanese contract and also due to timely measures taken for planning for the port development. During the last five year plan, Rs.80.78 crores had been spent which included deepening of the Bharathy Docks with Dutch aid of about Rs.30 crores and the expansion of the container terminal with aid from Asian Development Bank. The port has got plan for further deepening the Bharathy Docks and the new container terminal would be built to raise the capacity to 3 lakh T.E.Us from 1.5 lakh T.E.Us and the container berth would be extended by 290 meters. The port also has got plans to re-model its boat basin with a view to give the same facilities which LASH vessels which carry their own barges. Notwithstanding all these developments, the port in comparison not only with a modern port like Rotterdam which handled 273 metric tonnes even 10 years ago, but also other modern ports like Colombo, Singapore etc. has to considerably improve the facilities.

India still depends on foreign lines which means considerable portion of the freights are being paid in hard currency. It is estimated the Indian cargo is less than 10 per cent and hence the foreign lines are not necessarily enthusiastic in touching Indian ports. Madras port is further handicapped in this matter as there is lesser incentive for these vessels deviating from their normal route for touching other ports in the Eastern Coast. While a deviation to Bombay could serve not only Bombay port but also ports like Karachi before returning back to Colombo, a similar incentive is not there for Eastern Coast ports. Hence the statistics would indicate that most of the vessels touch Singapore or Colombo and arrange for the transhipment of the cargo to the Madras port/Eastern ports. So is the case with export cargo. Over a period, India has developed internal container depots from where the cargo could originate and hence it would be advantageous that modern ships should increasingly touch Madras port to avail the facilities of quick transportation across the seas. A quick survey done indicated in the year 1988-89, as many as 15,000 containers had to be transhipped rather than sent to their destinations directly.

The turnover of services at a port should be such as to ensure quick finalisation of voyage. It is natural that lines which touch Colombo/Singapore in their normal schedules prefer to tranship goods to India rather than make a detour to Indian sub-continent. Unless goods in large quantities are shipped the lines find it uneconomical to touch Indian ports notwithstanding port facilities. The days lost while waiting for a berth for loading/unloading operations add to their cost. There are hardly facilities for mid-stream operations except in respect of few LASH vessels which come along with their daughter ships/barges to ensure quick turn around. During 1988-89, only 11 LASH vessels touched Madras. In order to invite foreign lines to increase their schedule to the Madras port, it is absolutely necessary to earmark certain berth for specialised rather than based on advance reservation as being thought of now. The facilities to handle containers and for transhipment of containers should be same as in modern ports like Rotterdam and there is an urgent necessity for a nodel agency to coordinate that the goods arriving by containers are immediately sent to their destination and similarly, the goods arriving from ICDs and other ports are attended to ensure that they 'catch the ship.' The activities of the Freight Investigation Bureau at the port level should be such as to aid cargo consolidation and the nodal agency should be adequately represented by the local interests, such as Chambers of Commerce and Associations connected with ship users and 'industries'.

One of the problems associated with containerisation and bringing big modern vessels which discharge cargo to daughter vessels is further transhipment to inland areas and coastal ports. As of now, transportation by sea is the cheapest and hence coastal traffic should be encouraged. It is heartening to learn that the Madras Port Trust had taken a positive decision to give relief in berthing charges to smaller coastal vessels. The Madras Port Trust is to introduce a new slab for vessels upto 1,000 CRT for coastal vessels which will be charged about Rs.5,000 a day as against a minimum charge of Rs.7,500 now. The port is also not averse to identifying the areas or privatisation in order to increase the efficiency of the services available at the port. But having regard to the investments already done on the dock infrastrucutre and the fact that the Madras Port has emerged as the second port next only to Bombay, it is appropriate that it should transform itself into an universal port having sufficient 'load centre'. Closely connected with this aspect would be whether there could be a 'free port' arrangement or atleast the extension of the Madras Free Trade Zone arrangements and also for taking immediate measures to improve the hinterland which would cover not only the State of Tamilnadu but also the adjacent states of Karnataka and Andhra Pradesh. If schemes of land bridge could be really worked out it should be possible to get transhipment cargo from the ports in the Western coast such as Cochin, Goa and Mangalore so that the concept of 'load centre' could be further strengthened. It is also necessary to have a periodical monitoring of those using the port especially with a feed back information from 'opinion leaders' such as ship lines, shipping agents (principal and sub-agents), inland hauliers, representatives of rail-road cargo owners (export as well as import) representatives of the port related industries, terminal operators, customs authori-

ıs and representatives of the coastal ıipping. Besides, Ministry of Transport ıd Training organisations whether relating port management, transportation, cusıms and other clearing arrangements ıould be involved in evolving a smooth ocedure for quick handling facilities at e port.

As mentioned above, the next important ing is recognition of the factor that the ɔrt should update its marketing drive as ell as its public relations projections. his calls for a systematic study of the ıarket and systems approach including ıe logistics with quick communication failities. It should be possible to know in dvance the arrival of the vessel, the naıre of the cargo it is bringing and in fact clear blueprint of the details of the argo so that the ships need not spend ıuch time in formalities at the port. here is a need for intensive training on he methodology of marketing and if necıssary, the persons connected with the ıorts should have an exposure to overeas training apart from 'job training' by leputing the persons to successful ports ike Colombo, Singapore and Kelang (in Malaysia). The ports should also arrange or inter model training seminars to bring he various agencies who are involved in he chain of arrangement for transportation of the goods from the point of origin including the stuffing, de-stuffing and to provide the facilities for a single negotiable transport document to encourage the concept of door-to-door transportation of the goods. The Banking and insurance arrangements should be such as to ensure that the necessary credit facilities are available based on a single document issued for transportation of the goods irrespective of the mode of transportation. The Reserve Bank and other agencies should be involved in the common seminars so that the inland container depots and the freight stations proposed in and around the port play a useful part in aggregating the cargo. There is an urgent need to improve the transportation system within the Eastern Coast and also to explore the possibilities of inland water ways apart from coastal traffic wherever it is possible. It is also felt that the port tariff should be revised to attract traffic as the existing tariff is out-moded. It is pertinent to point out that the port should generate its revenue for normal working and even for expansion from the normal charges and charges like demurrages, over time, etc. should be an exception rather than a rule. At any rate, such source of revenue should be seen as a negative factor and the local interests should ensure even as they claim for a better share in the port management that the finance required for infrastructure of the port is provided by the trade and industry rather than the ports should be encouraged to earn it by increasing the port tariff or from charges like demurrages. This is an urgent necessity in the light of liberalisation and the reforms to streamline the procedures to ensure there is quick clearance of the cargo once it is landed or tendered for export.

As for the coastal shipping is concerned, apart from lower berthing charges for smaller coastal vessels, there should be a continuous thrust to ensure that in the name of improving national shipping, there should not be over-protectionism of the cargo coming by Indian vessels. It is a fact that the share of the Indian vessels is as low as 36 per cent and in the light of the growing international competition, this may even go down. But what is required as a short term arrangement is the transportation cost should be brought down drastically and the required logistics ensured rather than ensuring that we invest unduly in purchasing ships, just to satisfy our maritime ambitions. While the adoption of liner code of conduct which would put 40 per cent of the trade between any two countries is to be reserved by each of the trading partners is a noble objective, it should not come in the way of quick turn around and development of the international trade in a competitive world. It is heartening to note that in the 'legal' *area certain regulations* such as "cabotage" regulations *reserving* coastal trade to national vessels have been relaxed to ensure that ships on international voyage could revert to coastal shipping also but the relaxations are oriented towards one or two ports in the East Coast with the result, the economies of the scale may not be achieved unless there is an effective transhipment arrangement at the Madras port and there is better coordination among the ports in the East Coast. Even then, unless the law is made sufficiently flexible, the foreign lines who would like to deviate from the normal course may not consider the relaxation as sufficient incentive. This aspect may have to be closely examined and if necessary a pressure group allowed to evolve itself to ensure this objective.

Modernisation of ports require not only facilities for handling goods but also to improving the information technology. More so, if *inter-nodel services* have to be upgraded, it is absolutely necessary that the electronic data inter-change (EDI) should be standardised as per international norms. No doubt, in the Indian conditions, computerisation of activities may result in labour resistance but if India is to catch up with other advanced nations, it is absolutely necessary that the advantage of an EDI should be fully understood and the cooperation of the labour obtained in ensuring that the documentations are standardised following the recommendation made by UNCTAD and by a U.K agency known as SITPRO.

In India, the consignments imported as well as exported are in such minimum quantities it becomes difficult if not impossible to consolidate the consignments and improve the *concept* of containersiation. One of the objectives of the 8th plan appears to be that those cargo which could be containerised (80 per cent of the cargo should move in containers) should move in a containerised form. The country for a variety of reasons had already 'missed the bus' by not aggressively going in for containerisation. However, the worst period is over and the teething troubles had been surmounted. It is time, a neutral agency do the coordination in respect of the concepts relating to unitisation of the cargo and the inter nodel transporters involved. Therefore, there is a need for an agenda to ensure that the existing procedures are quickly reviewed to pin-point the bottle-neck areas. It should be ensured that logistics which *generate* wealth for the country by offering the added value of the services, are such that competitive advantages for the country are ensured especially in areas related to export from the Madras port and the hinter land thereto. The trade and business interest including labour should be involved in such a way that the agenda is not merely a policy outline but a pragmatic approach in the area of computerisation and documentation. Full use should be made of the training institutes and an all out efforts be made in improving human resources in specific areas to ensure that the port is efficiently managed in all aspects.

Last but not least, the State Government and other local agencies should be involved in providing for an infrastructure, i.e. friendly for the development of a port town comparable to that of Singapore in South East Asia.

The New Economic Policies (NEP) initiated by the Government in July 1991, *have generated* an extensive discussion. This extensive literature, that the NEP has provoked, makes it possible to argue the main issues including the export strategy to strengthen the economy. No one disagrees that by the beginning of the 1990s the size and dynamics of fiscal and balance of payment gap had reached a flash point calling for "Surgery". Whatever the reasons for the same, the reforms could not have been postponed and a crisis management was obviously called for. The external solvency of India was at rock bottom and inflation was very high. Apart from Central Government's fiscal deficits, the State Governments' over-draft position also called for special efforts to pull the economy from the quagmire. Among the measures called for are fiscal, monetary and exchange rate adjustments which inevitably led to the need for greater export efforts to contain the fiscal deficits. Among the measures that were welcomed as long term measures, is the convertibility on current external trade and payments along with the condition for domestic and industrial investments being eased so that capital could flow into the country. This has resulted in the short run of imports increasing even as the expected return in the form of industrial production especially in the export oriented industries which alone could bring back the foreign exchange into the country, apart from the fact that the exports had not picked up as anticipated. The loss of rupee trade had to be made up and the unfavourable demand conditions in the industrialised country had to be taken note of. Many hard decisions had to be taken at all levels to ensure that the needed corrective measures are effective at least on a medium term period. It would be advisable to have a target period of 2000 A.D. to give a reasonable span of time for adjustment.

Apart from NEP, successive five year plan documents have been emphasizing the need for a break-through in the export front. The volume of exports projected to rise at 7 per cent per annum during 1985-90 is now required to grow at least upto 11 per cent. The Eighth Plan target is 13.6 per cent. Traditional goods and primary goods, exports of industrial products are expected to contribute sizeably to achieve this quantum jump. Among the engineering goods, chemicals, and allied products, readymade garments, gem and jewllery figure out prominently as they are expected to account for 50 per cent of the export growth. Among the list of potential exports from Tamil Nadu apart from items like finished leather, PVC, footwear, readymade goods, a number of machinery items including automobile products figure out prominently. Tamil Nadu enjoys from the service sector point of view, benefits of number of institutions whose services could be availed in identifying the products and surveying the markets for the same. The Trade Development Authority which is the nodal agency has the regional headquarters at Bangalore has got an outlet at Madras also. It could provide adequate market intelligence services and organise exposures through buyers-sellers, meets and other contact programmes. TDA as well as the Indian Institute of Foreign Trade had made special surveys for the Southern region to be followed up by the exporting trade. The survey done on export potential of Tamil Nadu had sought to focus on 72 items especially on agro-based and forest products, marine products, livestock products, mineral and mineral based products, chemical and allied products, handloom products, handicrafts and engineering goods. Considering that the hinterland of Tamil Nadu ports cover the adjoining states, items like cashew, spices, tobacco products, precious and semi-precious stones, electronic items, tapioca and tapioca meal, preserved fruits, biscuits and confectionery, crockery (and other silica materials), umbrellas and also acqua culture products could form part of the exports from Tamil Nadu ports. Among elative performance of export goods from Tamil Nadu for the period 1991-92 to 1992-93 the share of leatherand leather goods shows an impressive record (see Table 1).

Table 1 : Relative Performance of some Export Goods

Rs. in crores

Sl. No.	Goods	Exports 1991-92	Exports 1992-93
1	Handloom Fabrics	253.41	407.91
2	Readymade Garments*	1196.33	1628.13
3	Cotton Textiles, Yarn, Made-ups etc.**	675.75	825.00
4	Leather and Leather goods	1304.60	1607.08
5	Marine Products	230.00	300.00
6	Engineering Products	344.38	371.10
7	Gem and Jewellery	21.86	39.77
8	Granitee	112.00	120.00

* Calender year; ** Provisional.

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

As far as statistics of Tamil Nadu, to start with (in 1967-68) as against a total exports of Rs.1,200 Crores for the entire country, its share was as low as 72 crores with a projection of Rs.200 crores a modest plan. The export share of Tamil Nadu product-wise shows that leather products alone accounted for little over 40 per cent of total exports during 1991-92 (see Table 2).

Table 2 : Exports Share of Tamil Nadu

Figures in percentage

Sl. No.	Product	1991-92
1	Textile Products	17.75
2	Leather Products	41.72
3	Marine Products	14.58
4	Agro-based Products	8.52
5	Chemical and Allied Products	10.45

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

But considering the need for making the maximum of maritime opportunities it is but natural that it should go up at least five times what was normally planned in an overall set up. The following would be some of the suggestions:

(i) There should be an active, articulated and export exposure measure by all government/non-government agencies to commence a movement which will give a export led growth to the entire region.

(ii) The benefits of special export zones should be made available wherever there is a Central or State Warehousing Corporation and bank facilities to back up export efforts.

(iii) For small scale village industries state should start an export house. Although export promotion is the responsibility of central government, the states active participation is vital, as the activity should be seen as a forerunner of industrialisation in large, medium and small scale sectors in the state. Special marketing efforts and publicity is called for. The state and its nodal agencies could play a very active role, mainly taking advantage of employment generation aspects, especially during the lean agricultural seasons when unemployed persons could be profitably engaged in activities which are quality products meant for "export only". Some special training may be called for, for which industry, trade and state should pay and create a climate for retraining wherever called for.

There is lack of proper statistics regarding exports made through ports in Tamil Nadu and through other ports in the country. The Madras seaport continues to handle the bulk of the cargo (see Table 3).

Table 3 : Export Earnings, Portwise

Rs. in crores

Sl. No.	Ports	1991-92
1	Madras Seaport	3370.05
2	Madras Airport	1198.77
3	Tuticorin Seaport	819.61
	Total	5388.46

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

There should be an organised effort to collect the statistics from different sources and by a study in the areas from which, exports emanate. This will enable to give proper local incentives and benefits that could be returned for earning foreign exchange. The statistics should include not only figures of goods directly exported, but also components, raw materials etc. which ultimately helps to build up the exportable goods. Among the major commodities exported exported from Tamil Nadu ports spices and cashew is the major item followed by ready-made garments (see Table 4).

Table 4 : Commoditywise Exports from Tamil Nadu Ports, 1991-92

Rs. in crores

Sl. No.	Commodity	Madras Seaport	Madras Airport	Tuticorin Seaport
1	Spices and Cashew	10989.00	---	168.08
2	Marine Products	170.78	5.13	49.32
3	Iron Ore	253.50	12.30	---
4	Other Ores and Minerals	127.36	0.85	18.16
5	Leather Products	489.56	814.73	0.26
6	Machinery and Transport equipment	218.54	10.79	5.46
7	Cotton yarn, Fabrics, etc.	533.87	63.43	317.39
8	Readymade Garments	558.05	169.53	34.32

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

Last but not least, those services rendered in 'export' trade should also form part of the statistics and data base for the area covered. This is necessary for port towns like Madras, Pondichery and Tuticorin.

While dealing with the export led growth of states, it is pertinent to point out that while direct foreign investments may come to capture the captive domestic market with a bulging middle class, it requires considerable effort to ensure cost of such direct foreign investment is offset by investments in export oriented units, in infrastructure starving of foreign exchange, rather than frittering away the investments without the advantages. The foreign investment policy hitherto, that is, before liberalisation in the wake of NEP was a conservative one, mainly looking to the needs of technology inflows. Normally investments were welcomed only in the context of technology transfers. Of course oil exporting developing countries could do portfolio investment. Similarly some exception were made, mainly in respect of 100 per cent EOU. Thus the foreign equity participation was contained within 50 per cent of the capital, which was serious restriction for the flow of investments. Now that NEP permits more than 51 per cent participation, Rs.2300 crores of projects had already been cleared in recent times, it should be in the interest of the country to look into opportunities of export expansion, so that the country is the net beneficiary in the scheme of things. It is natural to anticipate that the MNC, and foreign participants would by and large control the industries, increase its dependence on foreign sources, exploit the natural resources and above all may stunt the growth of local entrepreneurship. There is always the lurking suspicion that the reformation capital, transfer of dividends, profits, royalties, may ultimately result in disinvestment rather than help in net foreign investments.

Taking all these aspects, it will be prudent in a situation that country can no longer afford to take its own time to make an exhaustive study of cost benefit analysis to do some exercise for 'quantum jump' in export area. This is mainly to

take maximum advantage of liberalised capital flow and the removal of restrictions on import of goods for increasing the quality of products for export markets. The country should take maximum advantage in terms of technology transfer, marketing (international) expertise and special opportunities for export promotion especially in non traditional areas.

Even MNC's could play a prominent role, especially if we could ensure that their participation results in export growth, since they have experience in innovation and access to international markets. They have earned more advantages with their network of outlets. In many areas they are market leaders and it is better to have a friendly coordination rather than confrontation in new areas of development.

As regards other trading corporations, their role could not be underestiamted. Export efforts call for specialised organisational skills in penetrating markets in developed countries. Building up a chain of departmental stores abroad will be of great advantage. This could be done by transnationals or NRIs settled abroad They could also train, collaborate in bringing up trading houses to the required international standards.

Tamil Nadu had made a dent in the matter of quality automobile products. Its ability should enable to make an arrangement with a manufacturing firm to supply OEM so that it can enter the international market on that basis. The share of Tamil Nadu in all-India export of engineering goods also shows a raise during 1992-93 over the previous periods (see Table 5).

Table 5 : Export of Engineering Products

Rs. in crores

Year	All-India	Tamil Nadu	Percentage
1991-92	4225.00	344.38	7.60
1992-93	5500.00	371.10	6.75

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

As already mentioned, another area is aquaculture. The Tamil Nadu share in marine exports when compared to all-India shows a declining trend over the peiod 1991-92 to 1992-93 (Table 6).

Table 6 : Tamil Nadu's Share in Exports of Marine Products

Rs. in crores

Year	All-India	Tamil Nadu	Percentage
1991-92	1375.89	230.00	250.48
1992-93	1700.00	226.74	18228

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

Traditionally Indian marine products have been exported 'black frozen' in a raw state. Attempts should be made to process it further and send as ready to serve/eat form. Improved production methods along with sensible international marketing of value added products will give considerable scope for new markets abroad. Even in areas like leather exports where Tamil Nadu has a number of natural advantages and despite increase in exports in all forms, it could be still boldly be said that there is scope for considerable improvement. Tamil Nadu's share in leather exports in comparison to all-India figures is quite impressive (Table 7).

Table 7 : Tamil Nadu's Share of Leather Exports

Rs. in crores

Year	All-India	Tamil Nadu	Percentage
1991-92	3076.24	1304.63	42.41
1992-93	3800.00	1607.08	44.66

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

Export target at 2000 AD is 10 per cent of the global market. A 25 to 35 per cent increase is what is required in this area with special emphasis in high valued leather shoes. The projections for the leather group by 2000 A.D. estimates that leather garments and leather goods would dominate exports (Table 8.)

Table 8 : Projections for Leather Group by 2000 A.D.

In million US $

Sl. No.	Product Group	1993-94	1999-2000
1	Finished leather	290	290
2	Leather footwear	230	1026
3	Footwear components	235	191
4	Leather garments	415	1583
5	Leather goods (others)	320	1221
	Total	1490	4311

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

Granite exports from Tamil Nadu is slowly picking up. (Table 9).

A number of EOUs had come up. The potential in this area is often regarded as high as Rs.1000 crores, but exporters face problems in getting mining rights and there is need to export value added products along with artifically compressed granite slabs to capture the growing market.

As regards 'Apparel exports', there is an increasing need to create more institutes for fashion designs. Internationally accepted designs should be exported to exploit the growing markets. Tamil Nadu's share of exports of ready-made garments also shows a modest rise (Table 10.)

Table 9 : Exports of Granite (finished)

Rs. in crores

Year	All-India	Tamil Nadu
1991-92	380.00	112.00*
1992-93	400.00	120.00*

* 57 percent of exports are to Japan.

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

Table 10 : Exports of Readymade Garments

Rs. in crores

Year	All-India	Tamil Nadu	Percentage
1991-92	6517.67	1196.33*	18.36
1992-93	7824.73	1628.13*	20.80

* Tiruppur is emerging as a growth point.

Source : Tamil Nadu Industrial Guidance and Export Promotion Bureau, Madras.

There is always continuing discussions on whether export led growth is preferable to 'protectionist' way of development, a pattern successfully adopted, modified and moderated wherever called for by China. UNCTAD rreport on trade policies focus on this aspect.

In an effort to benefit more fully from international specialisation and more competition in the home market, many developing countries liberalised their trade in the late 1980s and early 1990s, generally as part of a more comprhenensive programme of structural adjustments. The simultaneous adoption of liberal trade regimes by many developing countries makes it necessary for developed economies to open up their markets, too, if increased exports from the developing world are to be absorbed. Otherwise efforts by developing countries to increase exports could depress the export prices of their raw materials, labour intensive manufactures, which continue to make up the bulk of their exports. But the trend towards greater openness in developing countries has been accompanied by more, not less prtectionism in the developed ones. This shortcomings needs to be corrected in working up the Uruguay Round.

Trade liberalisation needs to be introduced with care. A sudden lifting of protection will cause irreversible losses of capital,, labour skills and technological capabilities. Strengthening the competitiveness of import substitutes takes time and resources - as does expansion of export supply capabilities. Both processes typically involved a prolonging learning processes.

Although rapid export growth has often been a crucial element of good economic performance, there is no automatic link between the trade regime and export growth. Most successful exporters have managed to combine elements of both export promotion and protection. They have gradually converted inward oriented industries into outward oriented ones, while maintaining some degree of protection, and have introduced across the board import liberalisation only after sometime, well after the uptum of exports. This suggests that trade reform should follow a sequence in which protection is reduced substantially first on inputs used by export sectors, and on other goods only after export supply capabilities have been built. Country experiences in the 1980s also indicate that export success involved one or more of the following:

(a) management of exchange rate and the use of export subsidies in the early stages of export growth;

(b) the establishment of export processing zones;

(c) active industrial policies to support the bearing process, especially where new products and markets are involved. If necessary, targeted incentives and infant industry protection should be provided for strictly limited periods. Moreover intervention to ensure the availability of financing as well as for providing marketing incentives will also be necessary.

Experience also suggest that trade liberalisation can be destablishing when the economy lacks enough foreign exchange to finance an adequate level of imports, because it may need to be accompanied by very sharp devaluations. This may involve cost escalation. A phased approach is preferable.

The pros and cons of trade liberalisation in developing countries have been debated extensively. Proponents of liberalisation point to the positively of fully exploring the benefits from international specialisation, the incentives for more rapid technical change associated with a more open and competitive environment and the reduced room for "economic rent, securing" and similar unproductive activities.

At least four different arguments are used to explain why exports are positively correlated with over all economic growth: The first may be called "Keynesian" link, because exports are a component of aggregate demand, which excerise a direct and multiplier effect on domestic production. The latter includes the effects with faster growth exercises on investment (the accelerator mechanism). A second connection between exports and economic growth may be referred to as the "structuralist external gap" link; rapid expansion helps to lift the foreign exchange constraint on economic growth that has been a recurrent problem of the developing countries in the post war era. The third relationship is the 'structural production' link. According to this explanation, developing countries are characterised by hetrogenous technologies, with large scale manufacturing as one of the more productive sectors. In a closed

economy, however, manufacturing output is limited by domestic demand. This is against scales of large and economic manufacture, both for domestic and extraneous markets. Export markets will help to transfer resources from low to high productivity sectors at a faster rate and better exploit economies of scale.

The fou^th explanation and probably the most popularised in recent decades, is the neo-classical link. According to this explanation faster economic growth is basically associated with a more rapid rate of technical change. Export growth, in this interpretation, allows faster productivity growth for four different reasons :

i) In the transition to a more open economy, resources are transferred from non comprehensive, inward oriented sectors, to more productive, outward oriented sectors;

ii) In line with 'structural production' emphasis, export activities may be more productive because their competitive presence in the world market, forces them to keep near or at the world technical frontier;

iii) Exports have positive effects "externalities" on other economic activities, in particular, they are excellent vehicles of international transfer of technology;

iv) The competitive, spirit called for in international market, forces 'domestic' production also to keep up with international standards.

The statistical findings have been even less conclusive in two other areas. The first is the association between trade policy and export growth. Some countries like Singapore and Hong Kong have achieved fast export led growth. None the less other countries like Republic of Korea/Taiwan have achieved considerable results, despite a strong interventionist industrial policy.

Similarly it cannot conclusively be argued that export led growth leads to productivity as faster growth of total factor productivity has been found to be generally associated with more rapid economic growth and the latter with faster export growth. A study on India (by I.C. Ahuluwalia... the role of trade policy in Indian Industrialisation) indicated that import substitution had adverse effects on productivity. A period of high tariff protection and moderately falling non-tariff barriers saw a period of fast production/growth in manufacturing sectors.

Overall considerations suggest that protection and export promotion are not incompatible strategies. When economies of scale are present, protection may generate various incentives that favour exports. Infant industries after due protection also emerge as export industries.

Notwithstanding these arguments, as for as India is concerned and those areas like Tamil Nadu devoid of some of the natural advantages (resources) in the matter of power generation or on growth of heavy industries, the policy of export led growth has to be preferred. Considering the potentialities in acquaculture and the emphasis on 1,30,000 small scale units accounting to a total production of over Rs.7000 crores, the export strategies should pay a good divided in the short run/medium term of planning.

According to FIEO, buyers/sellers meets organised for mid January, 1993 at Bombay had a potentiality of looking for an additional Rs.1000 crores in exports, which were lost due to postponement. Shifting the venue to Madras might have given a fillip to export trade from South. Still it is worthwhile organising one. There are reasons for optimism in the light of answer by Minister of State for Commerce that exports went up by 28 per cent in the first quarter of 1993 (April-June 1993) in dollar terms and the target for the current year is $ 22,138 million.

Appendix

List of items with Export potential from ports of Tamil Nadu

1 Cashew
2 Spices
3 Tobacco/Tobacco products
4 Palmyra products
5 Coir products
6 Tea
7 Rubber
8 Tapioca products/tapioca meal
9 Groundnut/Groundnut products
10 Turmeric/Chillies/Masala mix
11 Coconut/Coconut products/Coconut oil
12 Preserved fruits
13 Marine products/prawns/acquaculture items
14 Finished leather
15 Limenite
16 Polished stones/Ceramic items/ Retractories
17 Essential oils
18 Perfumary compounds
19 Paints and varnishes
20 Fire works
21 Spectacle frames
22 P.V.C. footwear/fibre glass products (helmets) and plastic products

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23 Handlooms including lungies,sarees, dhoties, bedspreads, wall hangings
24 Terry Towels and fancy textiles
25 Silk and art silk fabrics with and without jari works
26 Ready made garments
27 Leather garments
28 Precious/semi precious stones
29 Jewellery, mainly gold covering items and filligiri item
30 Laboratory chemicals/Enzymes/products of biotechnology origin
31 Pharmaceuticals
32 Pesticides and insecticides
33 Cut flowers
35 Plywood/wood products including those made from Telk/Rose wood
36 Cotton yarn
37 Cotton hosiery and knit wears
38 Brass/Bell metal articles
39 Biscuits and confectionary
40 Beedies and cheroots
41 Starch, Glucose including fructose etc.
42 Herbal products and Ayurvedic preparations
43 Domestic electrical appliances - Cookers, Irons etc.
44 Electric lamps and fluorescent tubes
45 Tyre retreading machinery
46 Storage and dry batteries
47 Umbrellas
48 Iron ore/Manganese ore
49 Paper and paper products
50 Automobile parts and accessories
51 Agarbathies
52 Transformers/Electric switch gear etc.
53 Textile machinery
54 Sugar machinery
55 Cement machinery
56 Commercial vehicles
57 Diesel Engines
58 Electric motors
59 Power driven pumps
60 Bycycle and parts
61 Domestic utensils like pressure cooker etc.
62 Cinematographic films
63 Machine tools, including those functioned along with CNC/CAD/CAM accessories
64 Computers and other electronic items
65 Teleprinters
66 Watches
67 Sanitary wares/ceramics
68 Sugar
69 Railway Wagons
70 Tyres, including those for two/three wheelers
71 Leather chemicals and Dyestuff
72 Petrochemicals and speciality chemicals
73 Products of High Tech industries, including those manufactured by Defence-Science institutes and ISRO
74 Software
75 Boilers

Role of Agriculture and Employment in Indian Plans*

Introduction

PROFESSOR Mahalanobis is widely recognised as *the* architect of India's development strategy - and more specifically its emphasis on heavy industry - since the Second Five Year Plan. The strategy attracted criticism from the time it was enunciated on the grounds that it did not pay sufficient attention to the expanding production of wage goods and to the problem of employment that it over emphasised import substitution without any regard to costs and that it reflected a strong pro-urban and anti-rural bias in Indian planning Latterday critics attribute the relatively slow growth of the Indian economy under planning and its 'inefficiencies' to the indiscriminate pursuit of autarcic, heavy-industry-oriented and public-sector-driven development strategy inspired by Mahalanobis.

How strong the alleged heavy industry bias has been and for how long are debatable issues. That apart, it is hard to find any evidence - at any rate in his published writings on planning - that Mahalanobis considered 'autarchy' a desirable state. The logic of his development strategy was in part related to the use of *limited* supply of exchange to maximise sustainable long term growth. He may have been an "export pessimist"; if he was, he only reflected a widely held perception at that time. Subsequent, more elaborate, input-output models had corroborated the basic insight that if growth of the Indian economy is to be accelerated and sustained even *with exports growing by as much at 7-8 per cent a year,* indigenous production of manufactured intermediate and capital goods will need to expand at a much faster rate than other sectors for 2-3 plan periods. However, our purpose here is not to debate the validity of the overall development strategy advocated by Mahalonobis; our concern is limited to criticism that the strategy meant a neglect of agriculture and employment.

Role of Agriculture

It is palpably wrong to suggest that Mahalonobis was unaware of the importance of agricultural growth: His paper entitled "Approach of Operational Research to Planning in India", recognised the primacy of agriculture as a source of employment and income and the fact that two thirds of the total consumption expenditure in rural India (and about 55 per cent in urban areas) consisted of food items. "The available resources" he wrote:

* Paper presented by A. Vaidyanathan at a seminar to celeberate Prof. Mahalanobis' centenary held at the Indian Statistical Institute, Calcutta, June 30 and July 1, 1993. References are excluded.

> [M]ust be allocated in such a way that the additional supply of food and consumer goods is just sufficient to meet the additional demand. This is important. If there is a shortage of essential goods like fibre or cloth, prices would rise. We must avoid this.

subsequent paper underscored the interlation between development of agriculture d industry thus:

> [I]n India, the production of an agricultural surplus is the key to industrialisation. It is not only essential to grow enough food and fibres for our own requirements but it is also necessary to produce a surplus in the form either of industrial or food crops. In India agriculture and manufacturing industries are completely interlocked. Economic progress depends on the advance of both. Advance of one step in agriculture would supply food and raw materials for advance of one step in manufacturing industries. Which again, in its turn, would speed up irrigation, and increase in the supply of fertilisers and pesticides and help in the promotion of scientific research which would lead to further advance in agriculture.

Critics may cite the fact that agriculture did not figure as a distinct sector in the Mahalanobis model as indicative of his neglect of agriculture: It is certainly true that in his four sector model, agriculture was subsumed under "consumer goods", the investment allocations for this sector being derived from the estimated increase in demand (given projected income and population growth) and specified assumptions on the incremental output capital ratio of the sector. The values of capital output ratio assumed in the 4 sector model implied that agriculture and consumer goods production would be considerably less capital intensive than intermediate and capital goods. However, except for stressing the role of irrigation that "Irrigation normally raises production from two to four times the original yields; Irrigation is very important for Indian agriculture", there was little in the "Approach of Operational Research..." of concrete measures to raise agricultural production. However, merely treating agriculture as a separate sector and distinguishing between different types of farm products - as subsequent input-output models did - does not really mean much. For none of them provided an articulated basis on which the feasibility of projected increases in agricultural output was judged or spelt out the programmes and policies for achieving the targets.

Though Mahalanobis did not discuss agriculture at any length, the Second plan did spell out elements of the agricultural programme in some detail. It saw expansion of irrigation and fertilisers (to be achieved through public investment in these facilities and backed by the national extension service, the community development programme and the expansion of credit institutions in rural areas) as the principal means of realising targets. The plan indicated the order of increase in the output of various agricultural products needed to meet projected demands and the expected relative contribution of area expansion, irrigation and fertilisers to the target for increased food grain production at the national level.

The draft second plan also viewed land reforms as crucial to increasing agricultural production. It spoke of the need "to speed up agrarian reforms with an equitable distribution of land to peasant cultivators so as to stimulate the increase of agricultural production and of purchasing power in rural areas". Mahalanobis was more cautious in saying that redistribution of land "...would not necessarily lead to an increase in productivity but may be wanted for other social and political benefits it confers. However, by the early 1960s he was emphasising the effect of land reforms on incentives and mobilisation of surplus: It is generally agreed that an agricultural surplus (or the surplus from extractives) is essential for industrial development. Changes in land tenure and legislation would therefore be one of the requirement of the highest priority. He went on to observe :

> [T]heaim must be to secure the fruits of his labour to the cultivator so that he has the incentive to improve the land and to introduce more advanced technological methods. Tenancy law should protect the tenant against eviction as long as he is using land efficiently and to secure to him the right to fair compensation upon termination of the lease for all unexhausted improvements made by him. It is also necessary to eliminate the unproductive consumption of the surplus from land by intermediaries and landlords, who have no productive functions, by abolishing their rights".

But he seemed to remain sceptical about the effect of land redistribution on productivity and concluded "redistribution of land has limits and is a complicated question".

The point of these extensive quotations is to disabuse the impression, which persists among a certain segment of critics, that Mahalonobis strategy neglected agriculture. His discussion of the means by which the output required to meet anticipated demand was to be realised is admittedly thin. But one must note that discussion of these aspects by critics (like Vakil and Brahmananda) or for that matter the experts of the Ministry of agriculture, the Planning Commission, numerous committees and for that matter academics did not go much beyond generalities then or later.

Of course, agricultural development strategy has since undergone many changes becoming more refined and elaborate in the process. Thus the early sixties saw a heightened emphasis on economic incentives primarily through assurance of "stable and remunerative" prices; the role of varietal improvement came into greater prominence with the arrival of the HYVs; programmes for irrigation development gave greater importance to effective utilisation of irrigation potential from surface works and to helping the spread of ground water irrigation; conjunctive use of surface and ground water began to be consciously encouraged; research on dryland agriculture received a fillip; programmes for development of areas facing special problems (arid zones, mountainous regions, drought prone areas) came into greater prominence as did crop-specific programs. But the fact remains that the impact of these programmes taken individually and collectively in terms of additions to output is seldom satisfactorily explicated in any of the plan documents or for that matter in scholarly work!

Agricultural Growth and its determinants: The Present state of knowledge

Expert analyses of growth performance across regions and crops have been largely confined to estimating growth and instability of crop production and highlighting the enormous variation in growth experience across state and districts. The following are some of the main features of agricultural performance during the last 4 decades emerging from these studies :

* ★ While the overall growth has been more or less constant, the relative contribution of area expansion and of improvement in output per hectare has progressively shifted in favour of the latter. In the fifties, the major part of increase in output was from area expansion, including expansion of net sown area; today almost the entire increase in output is from more intensive cropping of available land and from higher yields per hectare.

* ★ There are vast differences in the performance of crops and regions: The fastest growth has been in the wheat growing regions of north west India which have benefitted from the advent of HYVs and relatively well developed irrigation facilities. Despite HYVs, growth has not been as impressive in the predominantly paddy growing areas especially in east India.

* ★ Both HYVs and fertiliser use have spread rapidly; though initially they tended to be adopted more by larger farmers, the disparities in this respect have progressively narrowed.

* ★ While the inter-regional disparities in output per hectare have not widened, the disparities in terms of output per head of agricultural population has been widening progressively.

* ★ Irrigated area has increased manifold and the quality of irrigation has improved because of the growing importance of well irrigation. But the pace of irrigation development varies. So does the impact of irrigation on productivity across region and as between different source of irrigation.

* ★ In general productivity per hectare is increasing mainly on irrigated land; unirrigated land productivity seems to be more or less stagnant in most states.

* ★ While high yielding varieties and fertiliser use have spread, the level of yields achieved is in general considerably below the potential demonstrated to be attainable with proven technology.

* ★ The overall increase in output per hectare does not seem commensurate with the increase in the quantum of major inputs (namely irrigation, improved seeds and fertilisers) and the significant qualitative improvements in these inputs. Indeed indications are that the incremental returns to the irrigation-fertiliser-improved seed package is declining.

* ★ Land reforms have not made any noticeable difference to the degree of concentration in ownership or operation of land. There is on the other hand indication that areas under irrigation has risen relatively faster among larger holdings compared to small holdings. Though inequality in land distribution has not worsened, the sharp decline in average size of holdings on account of rise in population and decline in tenancy have resulted in a substantial increase in the proportion of wage labour in relation to both agricultural and rural population. Wage labour is getting increasingly casualised. Aggregate labour absorption in agriculture has increased but slowly even in areas experiencing rapid agricultural production.

Our knowledge on the 'facts' of agricultural growth -though not complete - is much richer than our understanding of the factors responsible for the consistent failure to realise output targets; the apparently large, and persistent, gap between potential yields known to be feasible with available technology and the yields actually realised; and the vast disparities in growth performance across regions and crops. This is not because of any conscious neglect on the part of researchers. There is a sizeable literature dealing with: (a) the relation between growth and instability of output; (b) contribution of change in area, crop patterns, yields and locational shifts to observed changes in output, both overall and for specific crops; (c) the impact of selected major inputs (irrigation, fertilisers, improved variations) on productivity of particular crops, productivity differentials across regions and overtime; (d) supply response of agriculture to change in relative prices; and (e) factors responsible for the gap between yields obtained in experimental stations and under farm conditions.

However, these researches have not yielded definitive conclusions on the nature of the constraints which impede the generation and adoption of technology or the effectiveness with which they are utilised. For example the decomposition exercises: which are relatively simple and an essential preliminary to further analyses; have not been updated regularly even at the state level not to speak of districts. Studies of supply response deal mostly with the behaviour of area allocation to crops. Studies of yield response to relative price changes allowing for non price factors - which mostly relate to particular crops - are again relatively few and rather inconclusive. That irrigation and fertilisers make a significant impact on productivity is known, but efforts to explicate the dynamics of their behaviour and their cumulative impact on yield in different regions have made little headway. The role of infrastructure, of institutional aspects (including not only land tenure but management of land, water and other common production resources, the working of research and extension service and the like) have not received the attention they deserve.

In part the progress of research on these issues is impeded by the inherent complexity of the crop production process in which technological factors (operating via the soil-moisture regime, seed quality, nutrient application and agronomic practices), the institutional (land tenure, organisation of cultivation, management of land, water and other common production resources), and the economic forces (prices of inputs and outputs, tax-subsidy policies, and other elements which effect the incentive environment) are involved in complex, interacting ways. To try and explicate the whole process in terms of any one of these factors will not lead us far. On the other hand, rigorous modelling to capture the complexity has not got far. Perhaps comparative studies on disparate performance can give us useful insights about the importance of particular factors, provided care is taken to control for variation in other elements. The fact that data are available for 400 or more districts marked by great diversity of conditions (including growth) offers, on the face of it, a rich area for such research.

There are of course numerous problems with the data: These include incomplete and varying crop coverage as well as neglect of the considerable differences in quality and prices of a given crop across districts; changing coverage and reliability of area and production estimates and quality composition over time within particular districts; the relatively larger errors (both sampling and non-sampling) of crop area, yields and even key inputs like irrigation and fertilisers at the district level; and the lack of data on crop specific use of inputs (especially quality of irrigation, fertilisers and improved seed) at the sub state level. Nevertheless the potential of the existing official collations of district level time series for more systematic mapping and interpretation of the diversity of experience has not been fully exploited.

A much wider body of information on soil type, irrigation status, and fertiliser use by crop is available in the original schedules for the plots covered by the crop cutting surveys (which owe much to Mahalanobis) and in the Cost of Cultivation Surveys. These data are currently not even tabulated (not to speak of being analysed) by official agencies nor are they accessible to researchers. Systematic analyses of these data could greatly improve our understanding of the factors accounting for productivity differences and of the dynamics of technological change and its impact on productivity growth.

Employment

Whatever may be said about Mahalanobis' treatment of agriculture, there can be no doubt about his concern for employment:

> [T]here is a great deal of unemployment. Many persons are without jobs and many self employed persons do not have enough gainful work in hand... unless sufficient new work is created to absorb the new entrants to the labour force, the number of unemployed persons would go on increasing continually. Besides visible unemployment... there is a great deal of underemployment and disguised unemployment. It is beyond dispute that a very large number of people are often allowed to remain idle for lack of work. For both social and political reasons unemployment is the most primary problem in India today". "The chief aim of planning in India, in the first instance, must be to solve the problem of unemployment as quickly as possible".

The possibilities of releasing surplus labour in agriculture and mobilising them for productive capital formation had been discussed in the first plan. But the difficulties of releasing the food consumed by the surplus labour along with the withdrawal of such labour for use elsewhere and the organisational problems involved were seen to preclude any major thrust in this direction. Mahalanobis too seemed to rule this out. At any rate he saw the shortage of capital goods as the central problem and therefore focussed on the means of raising the ratio of accumulation and ensuring the supply of capital goods: Unemployment is chronic because of lack of capital goods. The only way of eliminating unemployment in India is to build up a sufficiently large stock of capital which will enable all unemployed persons being absorbed into production activity. Increasing the rate of investment is therefore the only fundamental remedy for unemployment in India.

At the same time he was conscious that promise of full employment in the long term would not be socially or politically acceptable unless the large number currently unemployed and underemployed are also provided work in the transtional period. He sought to resolve the dilemma by combining development of heavy industry with a strategy of relying on household and small scale industry using labour intensive techniques to produce consumer goods:

> [T]he basic strategy of planning in India should be, on the one hand, to increase investments in the heavy industries and also expenditure on services to increase purchasing power and create fresh demand; and on the other hand, to increase the supply of consumer goods by increasing investment and production as much as possible in the small and households industries to meet the new demand...

Until unemployment is brought under control there should not be any fresh investments to expand factories which compete with the small and household units of production. In addition in special cases it may also be necessary to impose a temporary ban on further expansion of factory production" and also to levy a suitable excise duty on factory production in situations where the hand or small scale production turns out to be more costly.

This was seen as a practical way of generating largescale additional employment in the immediate future even as the process of building up the economy's long term capacity for sustained rapid growth with full employment is underway. It was also expected to be economical in as much as traditional techniques were presumed to be less capital intensive in the sense that they used less capital per unit of output. This line of reasoning has strongly influenced governments industrial policy which seeks to protect household and small industry (by reservation of certain spheres of production for this sector, and by differential taxation and subsidies) even as it includes positive programs to even as it includes positive programs to increase the competitive capacity of small scale industry.

The presumption that large and small industry is less capital intensive than large modern factors has been questioned. In several cases, the latter were found to use less of both labour and capital per unit of output. Further it was pointed out that since a large proportion of value added from labour intensive techniques would accure as wages, their adoption would aggravate the problem of mobilising domestic savings. In the event the policy has not worked the way it was meant to. Traditional and household forms of production have in fact declined in absolute terms, giving place to smallscale industry using modern technology often set up or supported by large sector as a convenient way of avoiding high wages, trade unions, labour laws and relatively high taxes borne by factory industry.

At any rate since industry accounts for less than 10 percent of total employment, the almost exclusive preoccupation with choice of technique in industry in considering the employment question is as puzzling as it is misplaced. The question of technology choice in agriculture and its impact on employment, and the determinants of employment in other non-agricultural activities was relatively neglected.

Eventually the slow growth of percapita GDP real output and apprehensions that the new agricultural technology was biased against the small farmers and wage labourers led to a renewal of interest in programmes specially meant to create employment. Almost every plan document, and much scholarly writing, expressed - and continue to express - concern at the slow growth of employment opportunities (due to a combination of slow growth of output and rising capital intensity), growing unemployment and underemployment and declining real wage rates. This concern and, of course, the self-interest of politicians aspiring for power, led to the launching of a variety of special employment programmes (culminating in the Jawahar Rozgar Yojana) to create additional employment opportunities. The scale of these programmes has also greatly expanded.

However, NSS data - which are by far the most detailed and refined available - compel a second look at the conventional wisdom on the nature and severity of the unemployment problem. These data suggest that during the period 1972/3 to 1986/7, while the labour force has increased rapidly, the open unemployment rates do not show a *sustained* increase in most states. On the contrary there seems to have been significant and sustained rise in total employment of a magnitude large enough to absorb practically the entire increase in the labour force.

In most states, there is little or no increase in the volume of agricultural employment; practically the entire increase in employment has been outside agriculture. The increments in non-agricultural employment opportunities are quite diversified. The pace of diversification in rural employment (with the share of non-agriculture raising from 18 percent to 36 percent in a matter of 10 years) is the more remarkable considering the relatively slow pace of agricultural and overall growth over much of this period.

The proportion of wage labour is increasing steadily and within the class of wage labourers those dependent on casual labour as distinct from regular wage/salary employment are growing at a relatively faster rate. However, the NSS suggests that, contrary to widely held belief, the real wage rates of casual wage labourers may be rising, though at disparate rates, in several states. Differentials

ture and non agricultural labour do not seem to be widening.

One is forced to ask how these features of employment and real wage rate behaviour in rural India can be squared with the relatively slow, and practically constant, rate of agricultural growth during this period: Is it because of the rapid expansion of government outlays on rural public works programs? Or because the opportunities for rural labour are expanding as villages get more and more integrated with neighbouring villages and urban areas with the extension and improvement of transport facilities? Or because more and more of non-agricultural activities catering to a wide market are moving to rural areas? Can the disparate trends in employment structure and earning levels be explained in terms of differential changes in level and pattern of supply of and demand for labour? These and a variety of other important and related questions which arise from the NSS employment surveys provide a very rich field for research.

Data relating to agriculture and the rural economy

Besides his significant role in articulating the logic of a long term development strategy in the early stages of Indian planning, Mahalanobis made an invaluable contribution to building up India's statistical system. As the Honorary Statistical Adviser to the Government of India and as the founder and guiding spirit of the Indian Statistical Institute, his imprint is visible on practically every aspect of the official machinery for collection and dissemination of data. He was the pioneer in applying sampling techniques to estimating crop yields. The NSS was established on his initiative and he quickly demonstrated the potentials of sample surveys to get data on practically every aspect of the country's socio-economic life. I will confine myself to a brief review of the NSS role in relation to agriculture and rural economy.

Till Independence crop yields were based on "eye" estimates filtered upwards from the village patwari through the various layers of the Revenue department bureaucracy. Land use and crop area statistics were based on complete plot-by-plot enumeration by the Patwari in most provinces. Only Bengal, Orissa, and most erstwhile princely states did not have such a system.

After Independence, the use of scientific sampling surveys for area and yield estimation has spread widely. The Institute of Agricultural Research Statistics (part of ICAR) and the NSS played a major role in the process. The official estimates of area compiled by the Ministry of Agriculture are in all but 3 states still based on plot-wise data compiled by village officers. In West Bengal, Kerala and Orissa area estimates are derived from sample surveys. In the case of yield, official estimates for practically all important crops are derived from sample crop cutting experiments designed to give estimates within a small margin of sampling error at the state level.

In the early stages, the National Sample Survey conducted an independer land use and crop cutting survey and es timated both area and yield of majc crops. The wide divergence between thes estimates and those of official agencie were a source of considerable contr versy, as were the differences betwe NSS estimates of production of foodgra and those of consumption from its cc sumption schedules. Attempts to rec cile the differences showed that san design, size and shape of the cut, such other technical factors could not ally account for the differences. treatment of mixed crops, and more portantly, quality of field staff, superv and other non-sampling errors turnec and other non-sampling errors turned out to be far more crucial. The implications of these findings were unfortunately not followed through. In the event independent land use and crop cutting surveys by NSS were abandoned.

However, the NSS has continued to play a role in providing an independent check on the accuracy of the area statistics maintained by the village official; and the per hectare yield estimtes obtained from the crop cutting surveys. As the scope and range of functions entrusted to village officials increased, the task of collecting crop area statistics and making them available on time was found to be increasingly dificult. The frequency and quality of supervision and verification of village records by higher officials also deteriorated. To remedy this situation, the Timely Reporting Scheme which envisaged the collection and compilation of land use and crop data from one fifth of the villages directly by the State head quarters soon after the end of the sowing period) and a system of independent checking of reported entries on area and of the crop cutting experiments in a subsample of the TRS sample was introduced. Both these are done by the staff of NSS.

One would have thought that systematic analyses of the differences between the normal reporting/estimating mechanisms and the estimates from the sample checks would be a regular feature both as a means of correcting the errors in the former, but also as the basis for avoiding such errors in the future. That this is not happening is regrettable, because the few analyses which are available suggest that the errors in TRS and in the regular crop cutting surveys are substantial and often systematic.

For instance, a recent report relating to Andhra Pradesh observes that Girdawari was completed in time only in 45 to 60 per cent of the sample villages, and of them only 45 to 58 per cent sent their return on time; errors in reporting (non-reporting or incorrect reporting) of crop area were found in 15 to 23 per cent of plots observed; there was consistent under-recording b the village officials. It also noted that th differences recorded by State lev supervison were consistently lower tha that of central supervision. In respect yield estimates the study notes significa non-response in several crops; the lo level of general supervision, sizeable diffe ences in the average yield calculated from general and irrigated samples.

The widespread use of sample surveys to get data on distribution, land and other assets; irrigation and livestock; level and pattern of employment-unemployment and wages; consumption; access to education, health and other social services: and numerous other facets of the rural economy also owes a great deal to Mahalanobis leadership. It is to the NSSO's credit that it has sustained and built upon the foundations laid by the professor.

Over the years active interaction between the survey designers, the field staff and both official and non-official users of data - which has been consciously promoted by the NSSO- has proved to be valuable in improving concepts, design and methods of these surveys. We now have a rich mass of information relevant to an understanding of the characteristics of the rural economy, and changes therein, at a fairly disaggregated level. The use of these data for mapping structure and change of rural economy has been facilitated by the publication of the data in more accessible form (through Sarvekshana). But the potential for both descriptive work, which in turn stimulates research of the analytical level, is only beginning to be exploited. A more liberal policy regarding special tabulations and even access to the primary data will greatly help. That the NSSO is moving in this direction is to be warmly welcomed.

As researchers use this body of data or better understanding of structure and change in specific aspects of rural economy, questions concerning the scope, content, relevance, reliability and cost of NSS (and other similar data) come to the surface. The interaction between users of data and those who generate them has been a creative process leading to significant changes in the concept, design and methods of survey and to greater concern for comparability of estimates over time. Though far from adequate, and though some inferences remain the subject of debate, analyses based on NSS has shed a great deal of fresh light on several important substantive issues. The rich literature on incidence of poverty; characteristics of the poor', trends in inequality of wealth and consumption; the structure of the labourforce; level and patterns of employment, wages and unemployment - to mention but a few - bear adequate witness to this. This process needs to be and can be carried considerably further by providing researchers freer access to the data and encourgaing more analytical work.

At the same time there is need for systematic work on a continuing basis, on improving sample designs (eg.to explore the possiblities of using accumulated knowledge on the distribution of relevant characteristics in the population to develop more efficient stratified designs); improving the design of questionnaires, formulation of question training of investigators interviewing techniques and other aspects of field surveys; and quesions concerning supervision, verification/editing of schedules and similar such other aspects which have a bearing on the qualtiy of data. Such work calls for specialised expertise and has to be done by a group which has first hand experience of largescale field surveys and in close collaboration with the personnal of the NSS. One hopes that the survey and design section of the ISI would take more serious interest in such basic research on survey methodology to help the NSS to generate more and better quality data at reasonable cost.

World Development Report 1993: Investing in Health, Oxford University Press, New York 1993, pp.329, US$ 19.95.

R. Hema and Paul P Appasamy

THE World Development Report (WDR) of 1993 focusses on the health sector, in the light of the interplay between human health, health policy and economic development. The report presents a global picture of the existing levels and patterns of health status; describes the ownership pattern, organisational structure, efficacy and problems of present health care systems; discusses the role of government and of markets in providing health care; and outlines an agenda for action. A significant contribution of this WDR is the presentation of a measure that would help quantify the loss of healthy life.

Good health is not only a crucial aspect of human well-being and hence a major objective of development but is also a factor that would help promote economic growth. The WDR enumerates four major ways in which improved health contributes to economic growth:

- ★ By reducing workers illness and thus increasing workers productivity;
- ★ By improving the access to regions with natural resources, that were hitherto inaccessible due to endemic diseases;
- ★ By enabling children to receive better education, since poor health and nutrition reduce enrollment and hamper learning abilities, and thus improving future growth prospects
- ★ By reducing the incidence of disease and thus producing big savings in future treatment costs.

The burden of disease

For any meaningful and successful health policy, knowledge of the scale of health problems is essential. Present measures, which are in terms of mortality, do provide an estimate of potential loss due to premature deaths but fail to account for loss of healthy life due to diseases, handicap, pain or any other disability. The WDR provides a measure which combines losses resulting from premature deaths and losses resulting from disability/diseases. This measure, called the **global burden of disease** (GBD) is expressed in terms of **disability-adjusted life years** (DALY) lost. The derivation of the GBD is as follows:

- ★ On the basis of the international classification of diseases, all known diseases are classified into 109 categories. These categories cover all possible causes of death and about 95 percent of the possible causes of disability
- ★ Diseases are grouped into six classes based on the severity of disability caused by them. Each class is assigned a severity weight that measures the severity of disability in comparison with loss of life

- ★ All deaths in 1990 are assigned to the 109 disease categories based on the recorded cause of death where available or using expert judgement where records are not available.
- ★ For each death, the number of years of life lost is taken as the difference between the actual age at death and the expectation of life at that age in a low mortality population.
- ★ For disability, the incidence of cases by different diseases is estimated on the basis of community surveys or based on expert opinion. The number of years of healthy life lost is then got by multiplying the expected duration of the condition (to remission or to death) by the severity weight of the class of that disease.
- ★ The loss of healthy life due to premature deaths and due to disability are combined. Most societies attach more economic importance to a year of life lived by a young or middle-aged adult than to a year of life lived by a child or an elderly person. Hence, the relative value of a year of life at each age is modelled to be an exponential function. A pure time preference is also assumed in that healthy lives at future years are valued at progressively lower levels compared to healthy lives at present years (3% discount rate). The death and disability losses of healthy lives are corrected for the relative age weights and for the time preference to give the DALY lost.
- ★ The above is separately worked out for various categories of age, sex and demographic regions. The sum of DALY lost across all ages, sexes, diseases and demographic regions is refered to as the global burden of disease (GBD).

The GBD thus measures the present value of the future stream of disability-free life lost as a result of death, disease or injury in 1990.

The advantage of this measure is that it can provide an estimate of health losses due to non-fatal illnesses and diseases also, unlike mortality indicators. Its strength lies in aiding comparison of the health status across different demographic regions, across age groups and so on and in assessing the relative impact of different diseases. However, the parameters used in the construction of this measure are partially determined by subjective elements. Moreover, the construction of this measure is based on static, 'ex-post' conditions. It does not, for example, take into consideration what is likely be the prevalence or incidence of diseases and deaths in the future years and what would be the impact. A more dynamic version that could indicate probable levels of future burden would be of greater use for health policies and agenda. The GBD can at best be used as a *relative, static* indicator but all the same it provides a basic conceptual framework that can be modified/built upon.

Present Health Systems and Problems

The WDR reports that world health spending has been really huge. It has also been very inefficient and highly skewed. In 1990, public and private expenditure on health services was about 8 per cent of total world product. Almost 90 per cent of this amount was spent by high income countries. At one end of the spectrum was United States which spends more than 12 per cent of its GNP on health while developing countries were spending only 4 per cent.

In all the countries public health measures have played a very important role and have been central to the reduction of deaths caused by vaccine preventable childhood diseases. Nonetheless, the existing public health systems, as the WDR points out, have certain inefficiencies and biases:

* Misallocation of resources in that while certain highly cost-effective and critical interventions are ignored, money is spent on interventions of low cost-effectiveness;
* Inequitous distribution - while sophisticated tertiary care provided to the affluent is subsidised the poor don't have enough access to basic health services and mostly services received are of low quality;
* Increased cost of service and very inefficient use of resources have been encouraged by the methods of financing and the mechanisms of delivery adopted by public health systems.

The role of government and the market

The WDR argues in favour of a strong and significant role for the government in providing health services. The major reasons given are: (a) many health related services like information about and control of contagious diseases are *public goods* and some services involve significant *externalities* (immunisation, pollution hazards/pollution control); (b) providing cost-effective health care to the poor could be a useful tool to achieve poverty reduction; and (c) there is considerable potential for market failure and shortcomings in the operation of private markets due to uncertainty (adverse selection) and asymmetry of information (moral hazard). Adverse selection and moral hazard have greater significance in the context of health insurance services because it is hard to identify individual risks and harder to attribute them to behavioural choices. Moreover, unlike the case of insurance for buildings or cars there are no "market values" or any such natural limits to cost. The medical expenses could hence be very high and yet may be spent on services of doubtful value.

Thus, while highlighting aspects of 'government failure' on the one hand, the WDR also argues in favour of a greater and more significant role for government in the provision of health care. The rationale for this being the existence of large externalities and high potential for market failures in health services. As the WDR rightly indicates, restructuring services so that the public sector is in charge of areas where externalities are involved (eg. control of communicable diseases, health education/information) and where market failure potential exists (eg. health insurance schemes) while the private sector caters to the other areas (eg. specialised care, treatment of chronic non-communicable diseases etc.), would be more cost-effective. Again, where services are rendered by the public sector, a reorganisation of the institutional arrangements for financing and for delivery would considerably reduce the government failure.

Agenda for action

In the light of the above reasoning, the WDR suggests a three-pronged approach for government policies and health measures.

First, an appropriate environment should be provided to households to enable them to seek and achieve better health standards. As there exists a significant correlation between better health and income standards/education levels, governments should promote economic growth policies, that would better help the poor, and investments in education, particularly women's education. These are likely to stimulate better awareness and greater demand for health care.

Second, the allocation of resources for

and the utilisation of resources in the health sector need to be improved. While in some countries additional resources need to be allocated to the health sector - even to provide some essential clinical services, in most cases more efficient utilisation and better targetting was called for. Resources needed to be withdrawn from less cost-effective interventions and pumped into the delivery of a minimum package of essential clinical services and into cost-effective interventions.

Third, the mechanisms used for financing and delivering health care services should be redesigned to reduce the scope of government failure. One option was for the public sector to be in charge of financing alone, leaving the delivery of services to the private sector. In this case the government should promote competition in the delivery systems and also regulate to ensure quality of care. Alternatively, if the public sector is in charge of delivery of services then there should be greater decentralisation of authority and decision making and greater diversification.

Such changes mean a major redirection of public resources and development of new institutional capabilities. They are also likely to affect a whole range of interest groups that may be deriving 'rents' under the present framework and would oppose them. The feasibility and sustainability of such a transition is not clear. However, the WDR states that with sufficient political will and with capable planners and managers to design and implement, significant positive reforms could be achieved in the health sector. Having discussed the major findings of the WDR, it may be useful to briefly reflect on their relevance for health policy in the Indian context.

Implications for Health Policy in India

The allocation of resources in successive Five-Year Plans in India for the social sectors such as education and health has tended to be much *lower* than for the priority sectors such as agriculture, industry and power. The neglect of the social sectors is partly due to the difficulty in estimating the output or the benefit of expenditures in these sectors. Fortunately, the WDR has made a breakthrough (as diescribed earlier) by capturing the social cost of ill-health through one indicator - the *DALY* (Disability Adjusted Life Years), a measure of the burden of disease attributable to premature mortality and disability. Among the major regions of the world, India ranks only ahead of Sub-Saharan Africa in terms of the DALYs lost per 1000 of population (Table 1).

India's poor peformance as measured by DALYs lost per 1000 of population indicates the substantial output foregone on account of premature mortality and disability and by inference the comparative neglect of the health sector. This situation is likely to get worse in a regime of deficit budgets at both the Central and State levels.

Health Sector Priorities

The distribution of DALY loss *by cause* as shown in Table 2 serves to identify the unfinished health agenda for *India* in the

Table 1 : Distribution of Disability - Adjusted Life Years (DALYs) Loss by Demographic Region

Rs. in crores

Sl. No.	Region	No. of DALYS Lost (millions)	DALYS Lost per 1000 Population
1	Sub-Saharan	293	575
2	India	292	344
3	China	201	178
4	Other Asia	177	260
5	Latin America - Carribean	103	233
6	Middle East	144	286
7	Eastern Europe	58	168
8	Market Economies	94	117
9	World	1362	259

Source : World Development Report 1993-Box Table 1.3. 1990s.

Table 2: Percentage of Disability - Adjusted Life Years (DALYS) Loss by Causes - India (1990)

Causes		DALY Loss
Communicable Diseases		50.5
Tuberculosis	3.7	
STDs and HIV	2.7	
Diarrhoea	9.6	
Vaccine Preventable Childhood diseases	6.7	
Respiratory infections	10.9	
Maternal causes	2.7	
Perinatal causes	9.1	
Others	5.2	
Non-Communicable Diseases		40.4
Cancer	4.1	
Nutritional deficiencies	6.2	
Neuropsycliatric disease	6.1	
Cerebrovascular disease	2.1	
Ischemic heart disease	2.8	
Others	19.1	
Injuries		9.1
Motor Vehicle	1.1	
Intentional	1.2	
Others	6.8	
Total		100.0

Source: World Development Report 1993-Box Table 1.3. 1990s.

Many of these problems are well known, but may require some reiteration. In terms of priority, these include:

The priority areas in the health sector are clearly those where the DALY loss is very high, such as respiratory infections, diarrhoea, perinatal causes, vaccine preventable childhood infections and nutritional deficiencies. Meeting this challenge requires:

★ Greater intervention by the government and therefore higher allocations for the health sector;

★ Greater emphasis on public health and household health programmes; and

★ Complementary inputs like primary education (particularly for girls), nutrition, and empowering of women.

The good news, however, is the *low cost* of reducing or averting the loss of this category of DALYs. Many of the remedies lie within the domains of public health - immunization, maternal and child health - health information, and improved environmental conditions. Decreasing DALY loss in respect of non-communicable diseases such as cancer or heart disease would obviously be far more expensive.

Some options recommended by the WDR as part of the health policy package for developing, low-income countries would be relevant for India. These include:

★ Strengthening institutional capacity to deliver public services more efficiently;

★ Reducing government spending on expensive tertiary facilities, specialist training, etc;

★ Encouraging social or private insurance (India has a very low coverage in terms of the population with insurance);

★ Subsidizing private health care providers who deliver essential clinical services to the poor (There is a large NGO sector providing such services in India).

Indigenous Medicine

While the WDR recommendations promote diversity and competition, the report remains neutral on the issue of indigenous medicine. One view is that the magnitude of the health care problem is large (as measured in DALYs) *despite* the existence of the traditional systems. In other words, the existing health care system including the traditional systems have not been able to adequately deliver health care. Others feel that there has been discrimination against the traditional systems, and only in recent years has the government provided some support.

Differential Pattern of Demand

While the policy recommendations in the WDR are broken down in terms of three major groups of countries - low income, middle income and former socialist countries - the report does not explicitly recognize the **differential demands** placed on the health sector in a heterogeneous country like India. There are not only wide disparities in income distribution; there are also marked differences in health status in different geographic regions of the country. It is clearly unrealistic to adopt a uniform health policy in a country with such disparities. Middle and upper income groups who now form a sizable proportion of the population will also demand a higher level of health care. If these needs are to be met largely through the private sector, the government must play a major role in (a) regulating health care institutions to ensure that they meet certain standards and (b) promoting wide coverage of health insurance programmes so that families are not bankrupted by catastrophic illnesses.

11

The WDR 93 provides a well researched and comprehensive analysis of global health issues. It's most significant contribution is the conceptualisation of an index to measure the social burden of morbidity and mortality. This measure, suitably modified/improved upon, could be a useful tool for research and for policy-making in health. A wide range of users from interested "non-specialists" to all types of "health-specialists" would find this report informative, educative and very useful.

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