

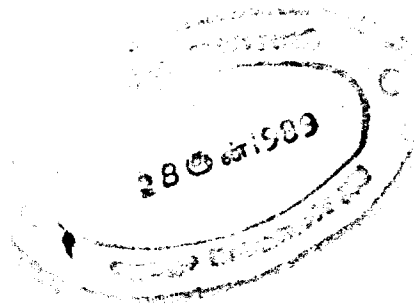
(1989)

BULLETIN

MADRAS DEVELOPMENT
SEMINAR NOTES

May-June - 1989

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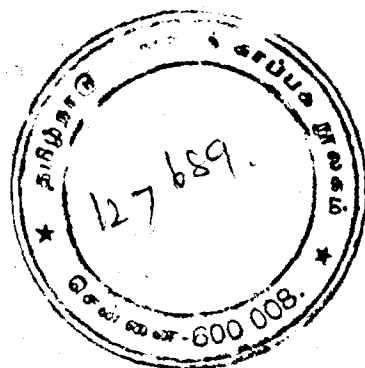
Organisation of Management of Irrigation
Systems in Tamilnadu

Some Aspects of Deprivation in Tamilnadu

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EDITORIAL - SOME HIGHLIGHTS

I. General Economic Scene

State

TN Budget for 1989-90

The government presented the 1989-90 budget to the Assembly which summarised in the table below :

	1987-88 Accounts	1988-89 Budget Estimate	1988-89 Revised Estimate	1989-90 Budget Estimate (Rupees in crore)
I Consolidated Fund				
Revenue receipt	3,091.89	3,187.72	3,341.48	3,845.74
Expenditure met from Revenue	3,374.81	3,405.28	3,650.48	4,134.23
Surplus or deficit on revenue account	(-)282.92	(-)217.56	(-)308.98	(-)288.49
Capital receipts	1,027.54	710.46	1,470.32	1,026.14
Expenditure met from capital including loans and advances (net)	963.59	700.00	1,463.79	985.39
Deficit or surplus on Capital account	(+)63.95	(+)10.46	(+)6.53	(+)40.75
II Contingency Fund net	(+)37.66			
III Public Account net	(+)229.15	(+)83.36	(+)66.31	(+)98.07
Total transactions (I+II+III)	(+)47.84	(-)123.74	(-)236.14	(-)149.67
Opening Balance	(+)12.90	(-)203.62	(+)60.74	(-)175.40
Closing balance	(+)60.74**	(-)327.36	(-)175.40	(-)325.07

* This will be covered by additional Central assistance / market borrowings for Rs. 34.90 crores. New taxation measures for Rs. 50.00 crores and through economy measures and better tax collection for the rest of the deficit.

** Note: The adjusted cash balance account with Reserve Bank of India was Rs. (-)13.27 crores.

It will be noted that the Revised estimates for 1988-89 shows a rise in revenue account deficit from Rs. 217.56 crores to Rs. 308.98 crores despite higher revenue receipts and that the capital account shows a small surplus of Rs. 6.53 crores against the budgeted Rs. 10.46 crores, resulting in a decrease in the closing balance deficit from Rs. 327.36 crores to Rs. 175.40 crores. For 1989-90 revenue receipts increase to Rs. 3845.74 crores and revenue expenditure to Rs. 4134.23 crores giving a revenue deficit of Rs. 288.49 crores. On capital account, receipts show a decline from Rs. 1470.32 crores in 1988-89 revised to Rs. 1026.14 crores and capital expenditure from Rs. 1463.79 crores to Rs. 983.39 crores, increasing the capital surplus to Rs. 40.75 crores, which gives an overall deficit of Rs. 247.74 crores, which after the resources from the public account, shows a net deficit for the year of Rs. 149.67 crores. This will be met by additional taxation which will yield Rs. 50 crores, additional Union assistance and open market borrowings of Rs. 39.40 crores, reducing the deficit to Rs. 64.77 crores, which it is hoped can be covered by economy measures, better tax collections and the state's share of the consignment tax to be introduced by the Union government at the monsoon session of Parliament. The taxation proposals are: a) 9 more commodities to be shifted from multi-point to single point sales tax, with the percentage of tax being i) 5 on ready made garments, ii) 8 on animal drawn vehicle tubes, iii) 8 on scalp vein sets, blood administration sets, blood donor sets, solution administration sets, and measurement volume sets, iv) 10 on brazing rods, v) 5 on rubberised coir products vii) 8 on helmets, viii) 8 on light roofing sheets, and ix) 8 on Cudappa stone slabs, Shahabad stone slabs and

granite stone slabs. b) the 8 per cent tax on pumpsets withdrawn completely resulting in revenue loss of Rs. 4 crores a year. c) stationary items used by students such as pens, pencils, refills, erasers, colour pencils, sharpeners, blackboards, geometry and dissector boxes, rubber and play balls and combs, on articles of mass consumption exempted from tax. d) sales tax on petrol raised from 14 per cent to 18 per cent, on aviation fuel from 14 to 18 per cent and on industrial machinery from 8 to 10 per cent. e) the tax on machine made scraps increased from 6 per cent to 8 per cent. f) a tax of 5 per cent on foods and beverages in hotels and restaurants with an annual turnover of Rs. 16 lakhs and above. g) motor vehicles purchased outside the state and brought in will be subject to an entry tax equal to the difference between the sales tax rate in the state of origin and Tamil Nadu. h) The MV tax will be increased from Rs. 258-405 to Rs. 300 to Rs. 500 and on buses at Rs. 500 per seat. In reply to the debate on the budget, the chief minister announced that a) the government will examine the feasibility of a "compounding option" instead of the 5 per cent levy on hotel/restaurant food and beverages, b) an option to pay a lump sum tax of Rs. 1000 in place of the motor vehicle tax at Rs. 150 per quarter for tourist vans, c) sales tax exemption to be extended to fountain pen ink, and d) abolition of 2 per cent sales tax chicken feed (to serve the noon meal programme which will have an egg once a fortnight) involving a revenue loss of Rs. 1 crore. Some of the tax reforms proposed are i) Rs. 2 crores to be set apart from sales tax revenues with a matching contribution from traders for setting up and operating a Traders Welfare Board to help traders

is difficulties. 2) The rationalisation of the entertainment tax structure in consultation with film producers, distributors and exhibitors. 3) To avoid cumbersome process of motor vehicles tax, a lumpsum tax for 2 wheelers ranging from Rs. 500 to Rs. 1000 depending on the capacity to be paid when purchasing the vehicle. 4) The levy and collection of tax on professions, traders, callings and employment now levied by local bodies to be undertaken by the state government which will pass on the receipts to the local bodies. Other programmes highlighted by the budget are: a) due to the drought and its severe impact on small and marginal farmers, medium term conversion loans to be fully written off, as well as penal interest rates on short and medium term loans and write off aggregated interest on long term loans, costing the government Rs. 108 crores. b) Rs. 12.5 crores for sinking 5000 deep bore wells. The forecast of rice production in 1988-89 is 57 lakh tonnes with a procurement target of 7 lakh tonnes. The additional price rise of rice by the Union involves an additional cost to the budget of Rs. 23 crores in addition to the food subsidy of Rs. 113 crores, c) the administration reforms include — delegating responsibilities to local bodies, a committee to examine temple administration, a further committee to examine improvements in village administration, of village officers, and streamlining of the administration. d) action on the Fifth Pay Commission (dealing with parity with Union scales by April end 1989). Later when replying to the debate, e) the State Planning Commission is restructured with the Chief Minister as chairman to formulate the VIII Plan, f) an irrigation committee has been set up to examine the potential of tanks, lakes, rivers, g) Rs. 23 crore have been

released for drought hit districts and Rs. 25 crores requested from the Union, h) income ceilings for victims of fire and increase in income ceilings for education concessions to BCs, SCs & STs and i) increase in minimum wages for agricultural workers as recommended by the Committee were announced. The Annual Plan for 1989-90 is set at Rs. 1360 crores (compared to the revised Plan outlay for 1988-89 from Rs. 1453 crores to Rs. 1202 crores), which is an increase of 13 per cent, and aggregating the VII Plan outlay to Rs. 6114 crores compared to the original outlay of Rs. 5750 crores at the 1984-85 prices (See Vol XV p 337). The Plan expenditure for the VII Plan will be 20 per cent less than the original outlay at constant (1984-85) prices. The main components of the 1989-90 Plan are: a) in agriculture, Rs. 25 crores is provided for extension, intensive rice production will be implemented in 8 districts, Chingleput, North Arcot, South Arcot, Thanjavur, Tiruchirappalli, Pudukottai, Madurai and Kattaboman, with high priority for oil seeds production with a target of 18 lakhs. Social forestry will be implemented with a second phase of Rs. 85.4 crores. A new scheme of sheep development in Chinglepet, South Arcot, North Arcot, Salem and Dharmapuri is to be launched with Rs. 13.73 crores. Fisheries development will aim at increased fish production and prawn culture in brackish waters. The second phase of Periyar Vaigai costing Rs. 70 lakhs is to be completed this year and will benefit 18,500 acres. Irrigation projects—Poigaiyar in Kanyakumari, Nambiyar in Kattaboman and the restructuration of Parambikulam and Aliyar are also planned. 206 tanks are to be modernised with aid from EEC and a programme of moisture conservation in the major crop lands (60 per cent) which are dr

farms are to be developed. The modernisation of Cauvery at a cost of Rs. 78.8 crores has been requested from the Union and the Cauvery dispute it is hoped will be settled. In power where the Plan outlay for 1988-89 was reduced from Rs. 500 crores to Rs. 380 crores because of the financial stringency, the 1989-90 plan provides Rs. 460 crores, to develop the third 210 MW unit at Mettur, an additional 420 MW at Tuticorin and an early start on the North Madras Plant, these will enable 40,000 new pumpsets and 40,000 huts to be electrified this year. On Koodankulam where the Rs. 4000 crore nuclear plant is proposed, an expert committee is to examine the various risks and problems that it is giving rise to and recommend adequate safeguards. On industry, in the context of a vigorous programme of development of small, medium and large industry, several large chemical and gas based industries are to be developed, the Rs. 840 crores aromatic project at Manali which will assist a number of downstream industries, plus the launching of new industrial centres by SIPCOT and SIDCO with the Japanese aid to provide high tech facilities to the states drugs and pharmaceutical industries. In education, the budget (Plan and non Plan) provides Rs. 900 crores which includes the special scheme to provide basic facilities to primary schools in panchayat unions and 50 new schools in SC villages. Secondary education facilities will be expanded because of the increasing demand for it. UGC scales of pay have been implemented and the problem posed by the self financing colleges are to be reviewed. On drinking water, 12,000 villages do not have drinking water and so Rs. 155.5 crores are provided to ensure drinking water to 8000 such villages as a start. On housing, the

Tamil Nadu Housing Board will help in construction of 19,400 houses at a cost of Rs. 110 crores and the Slum Clearance Board will construct 1000 tenements at a cost of Rs. 2.5 crores. 45,000 houses for Adi Dravidars and 3000 houses for fishermen and for this the budget provision is Rs. 49 crores. On the nutritious Meal Scheme Rs. 173.8 crores is provided to benefit 85 lakh children. For the welfare of SC and ST, Rs. 31.80 crores are provided including 25 new SC, ST hostels, free education upto university for their studies and Rs. 2.30 crores for house sites to SCs. In employment, a new scheme for educated rural youth who have completed the 10th class is to be launched under which, each beneficiary will receive Rs. 200/- a month and will be engaged in activities like adult literacy, continuing education, maintenance of drinking water and sanitation facilities, running libraries, promoting village welfare schemes, small savings etc. The employment will be provided by the Panchayat unions under the scheme to 25,000 persons. A similar scheme for educated urban unemployed is to be implemented. The budget for 1989-90 makes a judicious blend of moving forward the development of the state - agriculture, industry, health, education and welfare - with the very limited resources available to the state during 1989-90. The agriculture and related activities which have the highest priority should also help in providing employment in the state. Similarly the budget does well in keeping the deficit for 1989-90 within manageable proportions and under certain conditions for the deficit to be zero. The weaknesses of the budget are that it is limited in its developmental range and impact - given the state's low rate of growth, rising unemployment and high poverty levels. There are still too many populist

schemes in the budget such as marriage grants for girls from poor families, maternity relief for these families, free supply of rice (5kgs) on three festival days to 50 lakh households (Rs. 14 crores), the free dhoti scheme (Rs. 27 crores) which raise problems of their being distorted and leading to corruption, but also involve a financial burden which the state could not afford at present. In sum, the implementation of the budget and its schemes, including the much needed decentralisation of some schemes to the Panchayat unions, will be test of this budget of the new government.

Vote on account, and supplement demands

The final supplementary estimates for 1988-89 totalling Rs. 1030.40 crores, about half to repay the ways and mean advances from RBI and for interim relief, poverty alleviation were voted by the Assembly in March. It also voted at the end of March demands for Rs. 1,103.71 crores as vote on account for 1989-90 and the Tamil Nadu Appropriation (vote on Account) Bill for withdrawal of Rs. 4356.38 crores from the consolidated fund.

Annual Plan 1989-90

The Annual Plan for the year 1989-90 was established at Rs. 1360 crores, in agreement with the Union Planning Commission against the revised outlay of Rs. 1202 crores for 1987-88. The outlay covers certain new development projects. For its financing, the state government has included the revenue raising measures in the budget, as referred to earlier, amounting to Rs. 536 crores. The Union assistance

is placed at Rs. 412 crores, leaving a gap of Rs. 412 crores to be met by additional resources that will be raised by the state as well as some extra union assistance. With this 1989-90 outlay and achievement in the first 4 years of Rs. 4633 crores, the state's Seventh Plan will surpass the overall planned outlay of Rs. 5750 crores (See Vol XV p337) by Rs. 250 crores.

Planning Commission

One of the first acts of the newly elected government was to reconstitute the State Planning Commission with the chief minister being as the Chairman and no deputy, so that he would be directly in touch with the commission which is to promote and help to accelerate the pace of industrialisation and economic growth. The members are Dr. Swaminathan, Dr. Malcolm Adiseshiah, Dr. Kulandaiswamy, Dr. Ramani Sivaraman and M. Sivagnanam. The commission will meet once a month and Mr. Venkat Subramanian is the Member Secretary.

Climate and Prices

March and April were dry, with summer heat mounting from mid April. Widespread drought is being reported in most districts. Chingleput district which had rainfall deficiency of 40 per cent in 1986, 17 per cent in 1987, and 18 per cent in 1988 faces drought conditions in 13 taluks, including 217 villages in Cheyyar, Madurantakam and Uthramerur taluks which have been given Rs. 1,13,000 for land remission. North Arcot reports that as a result of the drought, of the 3189 irrigation tanks, 2848 tanks are dry, with one which has 8 months water supply, 14 with 2 months supply and 67 with one

month. In Coimbatore district, the water table has dropped sharply, with inadequate water in the irrigation tanks. In Nilgiris there is a crisis of water shortage because of the failure of the rains by 35 per cent in Kotagiri, 40 per cent in Coonoor and 57 per cent in Ooty. Kamarajar and Pasumpon Muthuramalingam face serious drought conditions. The government has announced an additional Rs. 15 crore for drought relief in addition to Rs. 23 crores which has been released anticipating Union government help. 5000 deep bore wells have been sanctioned in the drought affected districts and an employment generation programme is being launched. Special commissioners are being appointed in districts to operate the drought relief programme. On prices, CSO's monthly abstract of statistics for February shows that the Index number of consumer prices for Industrial workers rose by 8 points to 819 in September due to the 10 per cent rise in food prices, that the index number of consumer prices for agricultural labourers rose steeply by 9 points to 676 in October and even more sharply by 19 points to 695 in November which were caused by the steep rise in food prices by 34 points during the two months to 753 in November. This means that the rural poor have been very hard hit during the last quarter of 1988, compared to the consumer price index for urban non manual employees which shows a very moderate rise by 2 points in October and 3 points in November to 139 for Coimbatore, a decline by 9 points in October (from the 9 point rise reported in the last issue) to 140 and a rise of 3 points to 143 in November for Madurai, a rise of 1 point in October and 3 points in November to 137 for Salem and a rise of 2 points in October and 3 points in November to 141 for Tiruchirapalli. This report shows how

urban prices for the middle classes are kept stable while rural prices at this period rose sharply.

Power

The power situation in the state for March and April was bad with power cut for HT industries raised from 30 to 40 per cent from March 1, and further raised to 60 per cent from April 1 which included new industries which had been guaranteed exemption from power cut, and with load shedding which was organised in Madras city for stated hours every day but was irregular and heavy in the districts. This grim power situation which the Tamil Nadu Electricity Board states will continue till June is due to a) the MAPP units being out of action for all of this period, b) Neyveli I and II generating 700MW against capacity of 1250 MW due to strike of engineers which resulted in its producing about half of its normal generation, c) two Ennore units being shut down for repairs in March, d) Ramagundam which is generating 400 MW instead of 1100 MW due to Singereni collieries strike, and e) the current hydel storage being 116 MU compared to 351 MU in April 1988 and the capacity of 2200 MU. Further, due to the tripping of the 230 KV transmission line between Neyveli and Villupuram in mid April, there was a further disruption. The state government is asking the Union to allot the entire residual supply of Neyveli II (350 MW against 630 MW capacity) to Tamil Nadu. Infact at April end Neyveli II was generating 150 MW against its capacity of 630 MW. The effect on industry will lead to closing in the short run, and act as counter to the industrial revival recently initiated (see Vol

XVIII pp320-321 & pp373-374). In particular the cement, caustic soda and soda ash units will be severely affected in Tamil Nadu and other southern states. Further, Tamil Nadu Board faces a very serious financial crisis with a gap of Rs. 163 crores on the revenue side in the revised 1989-90, and a Rs. 64.66 crores gap in the revised 1988-89 budget. This has led to the raising of the power tariff in the state for all categories of consumers. HT, & LT, with their varying gradation. There is no doubt that the rise in the price of coal, fuel oil, railway freight rates and the interim relief has led to this serious financial situation, which is the 4th worst among the state Boards — after Punjab, UP and Bihar. The flat rate power supply to the 11 lakh lift irrigation pumpsets and free power supply to marginal farmers could have been met if the large houses and rich farmers paid their full share of the cost. Thus the long term financial viability of the Tamil Nadu Board calls for the well to do domestic users — those who use 130 units per month, commercial lights using 150 units per hour and pumpsets using 272-817 units per month being charged about double the present revised rates. Further, the Board has advised industry to follow PCRA guidelines and conserve 10 per cent of the power they use. Similarly agriculturist with a modest investment can save upto 10 per cent. The government reports that land acquisition of 1000 acres for the North Madras Thermal plant has been completed so that work on the Rs. 550 crores plant is now starting. The government also reports that the installed capacity of the state grid will increase by 646 MW by March 1990 with a) the commissioning of 2 units of Mettur thermal second stage, 420 MW), b) the first unit of Tuticorin expansion (210 MW) and c) 3 micro hydel units — Pykara

(2 MW), Vaigai (6 MW), lower Bhavan (8 MW). In addition the 120 MW Basir Bridge turbine project is to be commissioned shortly. The government states that it has suggested to the Union government a joint panel to examine the safety aspects of the proposed Koodankulam nuclear plant as reported earlier.

The power situation in the southern region is bad, with cuts on HT users in all 4 states. The failure of the North East monsoon and the increased industrial and agriculture power demand have led to load shedding. The supply position will become even more difficult in the summer months. The power crisis in Kerala is worsening with the prospect of a delay in the South West monsoon, and as a result HT and extra HT users will have an increased cut from 40 to 60 per cent and load shedding for domestic consumers will be effected from May 2. In Andhra Pradesh, the power cut is 30 to 60 per cent on HT users and increasing cuts on LT users and the domestic sector. In Karnataka the power cut is 60 per cent, with continuous load shedding. In this bleak situation, the announcement of the commissioning of the second 500 MW Ramagundam Super Thermal plant is one ray of hope, which has been shut off by the strike of coal mines in Singereni, as noted earlier. The power deficit in the south in 1989-90 is estimated at 18.8 per cent as against 9.5 per cent in the Eastern, 0.6 per cent in Northern and 0.5 per cent in the western region. The 8th Plan prospects for the south are bleak with a deficit of 18.1 per cent compared to the surpluses of over 5 per cent in the North and East and a 3 per cent deficit in the West. In that period, the five sets of 210 MW each in Neyveli Super thermal, 420 MW expansion in Tuticorin thermal, the 2 units of 210 MW at Raichur will

make a contribution, with super thermal plants at Mangalore and Kayamkulam becoming operational only in the IX Plan. So for the coming Plan, union assistance through the NTPC to erect combined cycle power plants from 1000 MW capacity is needed. Further, given the difficulty of transporting coal to the thermal station, a gas grid from the West coast to Madras on the lines of the HBJ grid will help the dire situation in the south. The HBJ grid was constructed in 2 years and combined cycle power projects of NPTC in Rajasthan and UP in 18 months. A high growth in onshore and offshore hydro carbons in AP and Tamil Nadu can be harnessed for this purpose. This kind of action is needed to save industry and agriculture in the south.

For the country as a whole the power position is a tight one, though the Union government reports that power generation in 1988-89 increased by 9.5 per cent, with the southern region registering the maximum growth at 14.2 per cent which did not prevent it facing a crisis in the following year. It also reports 7.7 per cent energy deficit in 1988-89 as a whole. The government also reports that the Korba super thermal attained its full capacity of 2100 MW, with the commissioning of the third 500 MW set, making it the largest super thermal in the country. Also in early March, the (two 235 MW reactors at Narora reached criticality). The government reports that additional capacity generated in 1988-89 was 4780 MW against the target of 4496 MW. There is one problem faced by NTPC, whose tariff rates have led to some state Boards refusing to draw power from it, resulting in its curtailing power generation. Further, with the hiking of the

prices of aluminium and cement, the costs of thermal and hydel plants for the VIII plan have shot up, calling for revising the estimates. The Union government is setting up two corporations in the VIII Plan: the Power Finance Corporation which will finance the modernisation and renovation of thermal plants, calling for an outlay of Rs. 1000 crores shared 50 : 50 by the Union and the states; the Union will also set up a Power Transmission Corporation to improve the quantum and quality of power, through constructing and maintaining transmission lines — taking over this poorly discharged responsibility from NTPC, NHPC and the state electricity boards. The government announced that India's first wave energy plant is being set up near Trivandrum and will become operational in July. It is funded by the Department of Ocean Development and executed by a number of Union and state governments and the private firm, Goa Salvage and Towing Company. The government also reports that a 500 MW gas based power plant using Bombay offshore gas is being bid by 3 private companies. It also states that it is going ahead with its plan of augmenting the nuclear power generating capacity during the coming decade at considerable cost to fill the power deficit of the country. But nuclear plants also present problems of low capacity use and dismal returns to high investment. Against the total installed capacity of nuclear plants in operation at 1230 MW, the electricity generated during 1987-88 was a mere 5035 MU and during April 1988 - January 1989 5266 MU. Rajasthan (RAPS) has performed poorly and while Parliament was assured that Kalpakkam and Tarapur are doing well, the dismal record of Kalpakkam has been referred to earlier.

Water

The Telugu Ganga project which is to carry 15 tmc feet of Krishna water to Madras is essential for the city's water supply. Hence the need for the state government to pay its share of the cost of the project and for both the Tamil Nadu and AP governments to pressurise the Union government to give the project the needed clearance is clear and should be met. Meanwhile with the present storage in the Puzhal and Sholavaram lakes and the Poondi reservoirs amounting to a combined 1617 million cubic feet, and the groundwater resources, the Metro water is confident of maintaining the supply of drinking water on alternate days till the onset of the next monsoon.

Housing

The new loan account scheme announced in the 1989-90 union budget is becoming operational from July 1. It is open to all who do not own a house but has special application to providing small dwelling units upto 40 sq metres. This takes account of the contingency population increase, and the pressure on land and constructive material. It is hoped that this state will aid in the building of 50,000 units per annum.

Transport

Madras port reports that in 1988-89 a traffic of 23.87 million tonnes (12.6 million tonnes imports, 9.07 million tonnes exports and 2.06 million tonnes transshipment) which is a 4.4 per cent increase over the previous year was recorded. It handled 90,682 containers which was also a 5.6 per cent increase. The Railways report that the broad gauge Karur line has been completed and a start

made on the Dindigul - Madurai line for which Rs. 4 crores is allocated out of the total Rs. 20 crores needed. The MRTS is likely to be expedited with the state government offering to share the cost. Madras Central has become the second station to computerise train movements - with a computer train describer and Remote control system for the metropolitan areas.

Finance of Panchayats and Municipalities

The government is planning to set up a finance corporation for funding projects of municipalities and panchayat unions. The Corporation will raise market loans and borrow from LIC, nationalised banks and canalise the credit to the local bodies for their remunerative enterprises, and drinking water and drainage schemes. The government also announced that village health sub centres, the care of sanitation arrangements, noon meal centres and water supply facilities will be under the administrative control of panchayat unions.

Biosphere Reserve

Tamil Nadu has a second Biosphere reserve - the Gulf of Mannar Biosphere Reserve, covering 10,500 sq km situated between India and Sri Lanka. The core zone will be kept absolutely undisturbed, while in the buffer area manipulated activities will be permitted according to the Biosphere guidelines. The Reserve has been divided into 4 regions for convenience and better understanding of the Gulf. There are 8 research institutions operating in the priority area, headed by Centre for Advanced Study in Marine Biology, Annamalai University.

National

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Plan

The Annual Union Plan for 1989-90 is increased from Rs. 30,166 crores in 1988-89 (revised estimates) to Rs. 34,446 crores. With this the total outlay for the VII Plan will be Rs. 1,33,063 crores against the target of Rs. 95,534 crores at 1984-85 prices, which means a 115 per cent realisation in real terms. While on the one hand the plan target of 5 per cent has been attained, the financing of the Plan raises a number of questions. First, borrowed resources, — market borrowings and other capital receipts, deficit financing, and borrowing by public sector companies — financed more than 95 per cent of the Union governments plan expenditures in the three years of the Plan 1986-87 to 1988-89 against the 62 per cent for all of the Seventh Plan. Second, the balance from current account was always in deficit. Since surpluses from public enterprises barely covered this deficit, the contribution of "own resources" to plan finances was negligible. Third, considering the curtailment of budgetary support to below half the Union Plan outlay in 1989-90, the dependence on borrowing resources in that year has increased. Budget support for the Union Plan was 62.62 per cent in 1986-87, 58.53 per cent in 1987-88, 55.53 per cent in 1987-88, 55.29 per cent in 1988-89 and 49.2 per cent in 1989-90. Fourth, of the total Union Plan outlay of Rs. 34,445.97 crores in 1989-90, budgetary support is Rs. 16,963.62 crores and the balance to be met from internal and extra budgetary resources of the public sector. Internal resources were to contribute Rs. 11,299.35 crores 64.63 per cent,

which meant internal resources of the public sector was to increase by 57.35 per cent, pointing to the steep increase in administered prices — particularly in petroleum and communication. But the shortfall in internal resources generation by the public sector enterprises rose from 7 per cent in 1987-88 to 13 per cent in 1988-89, the shortfall being made good by public sector borrowing. Fifth, the finance minister's claim that the actual VII Plan outlay was 115 per cent of the initial forecast of the outlay in real terms is true only if the deflator is WPI and not the rate of inflation for investment goods, which should be the deflator. Sixth, plan outlay have been maintained to projected levels by shifting the burden of borrowing from the Union government to the public enterprises and the growing debt servicing burden of the public sector will impart a cost push pressure on administered prices accelerating inflation or will erode internal resource generation by these enterprises which will constrain investments in future years. There are a series of sectoral outlays forecasts being worked out for the VIII plan. A financial policy package for agriculture including the setting up of a special fund starting with Rs. 15 crores for financing the production of improved agricultural equipment and rationalising taxes on inputs and equipment is being worked out. The railways sector has worked out an investment of Rs. 40,000 crores for the VIII Plan against Rs. 16,000 crores for the VII Plan, along with an emphasis on expanding the railway net work against the emphasis on modernisation and rehabilitation of the VII Plan. 35 per cent of the VIII Plan is being proposed for the power sector. The Industry ministry has proposed doubling of capacity for three wheelers of cross country

vehicles and a sharp increase in passenger cars to meet increased domestic demand and export. Also the provisions for the small scale sector is being increased to provide for its expansion, upgradation and modernisation. In 1989-90, Plan provision for the food processing sector has been reduced to about half of the previous year's revised outlay, the VIII Plan provision for this sector — for fish preparation, trawler development, rice milling etc is being expanded. The cloth output for the VIII Plan is proposed at 20,000 million metres and a silk fabrics export of Rs. 850 crores. The question of the service sector which has grown at 6 per cent in 1980-87 compared to the 1.6 per cent growth in that period of agriculture is engaging the VIII Plan formulators attention. The growth of expenditure on clerks and bureaucrats (public administration), and defence services have contributed largely to the 6 per cent growth. Similar has been the contribution of other services, like barbers and beauty saloons (where the turnover has increased from Rs. 230 crores to Rs. 773 crores) and the charwalla, the cook, the car cleaner and the dhobi as well as laundries, dryers, dry cleaners which grew by 32.4 per cent. The overall VIII Plan approach paper is not yet finalised. The 6 per cent growth for the Plan is reiterated, though the question has been posed whether we need to have larger and larger outlays every 5 years that we cannot finance or whether we should not concentrate on improved utilisation of productive capacities already created.

Prices and Credit

The inflation rate for February 1989 was a marginal rise of 1.9 points, with the wholesale price index standing at

439.5 for the week ended February 28, with a rise in the index for food articles, jute and cotton textiles while there was fall in oilseed price and edible oil. For March the inflation rate was 1.2 per cent, the WPI standing at 449.1 for the week ended March 25, once more the index of food products rose, as did cotton and silk prices. There were lower prices for spices and condiments, edible oils. For 1988-89 the average WPI rise was 7.2 per cent, whose pressure on prices took place during a good agricultural year. Except edible oils and oil seeds, the inflation was caused by the seasonal items of agricultural output, — foodgrains, pulses, vegetables, sugar, gur, milk. CPI upto January 1989 rose by 9.3 per cent. To curb inflation and control money supply during 1989-90, the total money supply is to be kept below the average level of the last 4 years of 16.7 per cent. Among liberalisations, the 10 per cent ceiling on inter bank call money was removed as was the 12.5 per cent ceiling on rediscounting commercial bills and the 12.5 per cent ceiling on inter-bank participation without risk. Two new money market instruments — certificates of deposit and commercial paper — are being introduced. The multiple CRR is replaced by a flat 15 per cent from July 1. Some selective credit control measures are announced dealing with commodity procurement, reducing by 15 points to 45 per cent bank advances on vegetable oil stock and a similar 15 point reduction to 30 per cent on bank advances to process units and milk. Last October the ceiling on maximum lending under CAS was removed and further from July 29, 1989 banks are to provide export refinance equivalent to 100 per cent of the export credit increase along with changes in the RBI directives to financial companies.

Supplementary Demand, Deficit, Debt and Financial Bill

Parliament approved on March 17 the third and last batch of the supplementary demands for grants for 1988-89 amounting to Rs. 3491.13 crores, which included an allocation of Rs. 497 crores towards defence pension - which makes the reduction in 1989-90 budget for defence somewhat suspect, Parliament also approved the Appropriation Bill (Vote on account) for Rs. 41,751 crores from the consolidated Fund for meeting a part of the 1989-90 expenses. There is a serious concern expressed in Parliament in passing these bills on our deficit and our internal and external debt. Even since the RBI study and the Comptroller and Auditor General's report on the government's borrowing there has been concern and attention paid to the internal debt. But the country's external debt is equally worrisome. India's external debt is not precisely known. The government does not provide a clear upto date and comprehensive picture of the external debt. There is an air of complacency in the Economic Survey 1988-89 with the debt service ratio being 24 per cent, (it is noted that it has already passed 30 per cent), with the figure of Rs. 55,000 crores provided as representing the country's stock of disbursed and outstanding medium and long term external debt. This figure is now Rs. 76,000 crores as set forth on the base of world bank data and if short term liabilities are included, the total external debt exceeds Rs. 82,000 crores, placing India fourth among indebted nations, following Brazil, Mexico and Argentina. By the end of 1989-90, the Institute of International Affairs, Washington estimates that the debt will be Rs. 100,000 crores. This means our external debt is double of what the government states because a) it does not include

NRI deposits and b) it does not use the latest exchange rate. There are 2 actions urgently needed. First, the government must come out with the truth on the full extent of our external debt. Second, it must revise the budgetary deficits and deficit finance and urgently cut back on imports to correct the growing imbalance in our current account which leads to increasing foreign indebtedness. It must curtail sharply international commercial borrowing. While moving the Finance Bill 1989, the minister announced concessions in the budget presented in February, which amounted to Rs. 123.20 crores. The concessions were a) reduction in excise on i) black and white and colour TV sets, ii) two wheelers, iii) mini cement plants, iv) plastics and paper boards, v) coffee and vi) small scale sector, b) a customs duty cut on jute machinery, c) new provision under section 32 A of IT Act for computing profits and d) amendment of rules under Wealth Tax Act on valuation of shares of investment companies. The minister said that this Rs. 123 crores will be made up by better collection. It is more likely to add to the budget deficit.

Stock Exchanges

In March-April, the developments in stock exchanges were a fast rise in equity prices in mid April which was not the result of speculative activities and so was a good development in the capital market. Second, the legislation on the Securities and Exchange Board of India (SEBI) is still under discussion between finance ministry and the law ministry particularly on the power given to the SEBI. Third, the International Finance Corporation, Washington in a survey states that India has the fourth

highest market capitalisation of scrips among developing countries (after China, South Korea and Brazil), and the largest number of listed scrips.

Economy

Now that we are into the third year of the technology missions, it is urgent to see how they are functioning and their effect on the economy. The Mission on drinking water is addressing itself to a basic problem faced by many villages. The Mission has had some success using a mix of traditional and modern technology through which it is improving the quality of water by removing excess salinity, iron fluorides and other toxic elements and bringing the water within walking distance of rural women folk. There are two problems facing this Mission. One is that some states — AP, Assam, Haryana, UP, Karnataka and Tamil Nadu — are diverting the funds allocated to this programme to other purposes. This must stop. The other problem is technical — which is the use of the urban model of pumps and overhead tanks in rural areas and the rate of recharge of groundwater to which mission should give some attention. A second Mission is on oil seeds, on which the mission has been helped by the plentiful monsoon this year resulting in a record groundnut and other oil seeds with 11.5 million tonnes in 1986-87, 12.4 million tonnes in 1987-88 and an estimated 15.5 million tonnes in 1988-89. The major problem in this mission that it has done little to reduce the glaring inequality in oil seeds consumption. A small affluent urban sector consumes 40 per cent of 'edible fat' and this should be rectified, even as the Mission has succeeded in reducing the imports of edible oils. Ar third Mission is on immunisation aiming at immunising

85 per cent of infants and 90 per cent of pregnant mothers by 1990. The problem faced by the mission is the poor health facilities and limited number of health centres personnel, both of which can be remedied. But there is a question as to whether the Mission should also deal with diarrhoea and acute respiratory infections which account for most of infant mortality. The fourth Mission is on telecommunication which has succeeded in improving urban telephone, telex and telegram services. It started well in rural areas where it is held up, with having installed only 40 RAXs (Rural Automatic exchange) after 2 years. The fifth mission is in literacy now bringing together government, academic bodies and voluntary agencies for a massive drive. So far it has been promises. The sixth mission is in dairy development which has got under way and is building on the Anand model of cooperative selective breeding, greater fodder and feed for the cattle. Other areas are being developed for technology mission such as waste land development and housing. The CSO quick estimates for 1987-88 shows a very small effect of the drought as the last Bulletin issue showed. Now what is needed is for academic study and evaluation on what were the results of the drought on GDP, food production, industry and what was the nature and intensity of the drought and the response of the farmer and the small and marginal peasant to the drought conditions. Discussion has started on the country's poverty ratio now at the end of the VII Plan. The official expectation is that the percentage of people living under the poverty line will decline from 37 per cent in 1984-85 to 26 per cent in 1989-90 due to IRDP which has benefited 30 million families by December 1989 and which include 41.5 per cent SC and ST and 16.6 per cent woman. 6.15 million rural youth have been

trained under TRYSEM for self employment and 4.1 lakh rural women below the poverty line have received help to take up income earning activities. 440 crores mandays of employment has been created till December 1988 under NREP. The number living below the poverty line are still disturbingly high and it is to be hoped that no effort will be made to doctor the data in order to present a positive picture. CMIE has called attention to the disparity in the private sector's estimate of savings for 1987-88 which the CSO places at an increase of 61 per cent over 1986-87, while RBI shows decline of 14 per cent, which CMIE findings also confirms.

Industry

CSO reports that growth in January 1989 over January 1988 was 8.5 per cent in mining, 9.1 per cent in manufacturing and 13.4 per cent in electricity. The overall growth rate for the 9 months April-December 1988 is 9.4 per cent. The increase during the corresponding 9 months in 1987 was 9.1 per cent. Industry according to the report of the Department of Industry, in many sectors is undergoing a structural transformation from being a sellers market to a buyers market. Sufficient capacities have been developed in many industries leading to a certain degree of inter firm competition. The crucial growth rate for 10 months April 1988 — January 1989 was 9.6 per cent compared to 8 per cent for 10 months April 1987 — January 1988 due to the effects of the drought. In the 1988-89 period in manufacturing 15 out of 17 industrial groups showed positive growth rates. The annual report of the ministry of Industrial development states that industrial production recorded a 9.4 per cent increase in the first 8 months in 1988-89

reflecting a buoyant climate for investment. The World Bank states that there is ample scope for Indian Industry to increase substantially its share of foreign procurement in Bank assisted projects. The ministry report says that a new direction to the removal of regional imbalances has been given by the growth centre scheme on which Rs. 103.99 crores were spent in 1987-88 (upto December) as the Union investment subsidy which aimed at developing infrastructure of power, water, telecommunications and banking, on a par with advanced areas. Analysis of data in the report shows that the pace of industrialisation judged by the number of LI converted into ILs (82) fresh letters of intent registrations with SIA (648) and DGTD (334) was fastest in the northern region followed by the western region, the southern region and eastern region. The highest number of ILs converted into ILs (75) was Maharashtra. The Industry Ministry reports a declining trend in the production of automobiles in the last 2 years. This decline applies to all categories - passenger cars, medium, heavy and light commercial vehicles, jeeps, two and three wheelers and agriculture tractors. A study of the financial performance of 417 public limited companies assisted by ICICI in 1987-88, which account for half the paid up capital of the private corporate sector, shows an uptrend in sales at 11.7 per cent (after a fall in the previous year) and in gross profits at 6.7 per cent, against 3.3 per cent in the previous year but well below the 19-22 per cent of the 1984-85 and 1985-86 years, due to increase provision for depreciation following liberalisation. All this in a year of drought, a decline in agricultural production and some slow down in industrial activity as a consequence. The negative feature is seen in the return on capital, with the number of companies which registered no return

shooting upto 88 and those in the highest range of 30 per cent returns and above declining. The record of exports was encouraging, with nearly 70 per cent of 417 companies going in for export of their production at a 20 per cent increase over 1986-87 at Rs. 1384 crores. The exports include automobile components, chemicals and petro chemicals, electrical equipment, textile, but because of their import dependence, most companies posted a negative net foreign exchange earnings, except cement and food products. The tempo of gross capital formation slowed a little, with main reliance on internal resources, which meant depreciation. Despite low profitability dividend payments increased. The government reported to Parliament that the number of large industrial houses going sick increased from 637 in 1985 to 1057 in 1987 with Maharashtra being in the lead with 238 large sick units. CEI reports that the profitability and productivity of the engineering industry declined in 1986-87. Of the top 100 engineering companies in the private and public sector, 83 made profits against 86 in 1985-86, gross profits declined by 15.4 per cent from Rs. 736.41 crores to Rs. 622.72 crores and profits before tax as percentage of sales declined from 5.4 per cent to 4.3 per cent and as a percentage of capital employed even more sharply from 6.2 per cent to 4.9 per cent. Iron and steel and aluminium industries recorded the sharpest decline from 5.5 per cent to 2.8 per cent. Only the non ferrous industry shows profits, with electrical machinery showing no change in profitability. The machine tool industry association reports an average annual growth rate of 11 per cent in the first 4 years of the VII Plan against the 19.5 per cent target. The association suggests that 1) the industry formulate its strategy in advance to achieve a growth rate of 15-20 per cent, 2) the industry should intensify its efforts to

absorb new technologies as even the small and medium sectors demand sophisticated machine tools and 3) the export performance which is low and declining from Rs. 69 crores in 1987 to Rs. 43 crores in 1988 should be increased through use of the technology upgradation scheme in which the Central Machine Tool Institute, Bangalore should play a lead role. The centre for the development of Telematics reports that it will handover the first 16,000 port main automatic exchange (MAX) to the Department in May. The annual report of the ministry of textiles states that employment in the textile sector has increased by 25 per cent in the last 3 years — in handlooms from 72.76 lakhs in 1986 to 84.22 lakhs in 1988, in power looms from 31.90 lakhs to 50.95 lakhs with a marginal decline from 12.53 lakhs to 11.61 lakhs in the mills sector. An encouraging note is the active response to the Rs. 750 crores textile modernisation fund set up by the new textile policy to help modernise textile mills. The Electronics industry is reported to register a growth of 33.5 per cent in 1988.

Public Sector Enterprises

The Bureau of Public Enterprises report for 1987-88 states that the enterprises made a net profit of Rs. 2183.35 crores (the highest for any year), with 10 consistently profit making units accounting for 75 per cent of the profits and the net profits estimated after adjusting for net loss of Rs. 444.95 crores. The top profit makers are ONGC, IDC, NTPC, BHEL, Hindustan Petroleum and Oil India. 33 of the enterprises under Department of Public Enterprises are reported to have achieved 23 per cent higher production in January 1989 compared to January 1988, with cumu

ative production between April 1988 — January 1989 rising by 20 per cent to Rs. 4731.82 crores. The 33 units will invest Rs. 600 crores in 1989-90 to increase their capacity utilisation. It is also reported that an estimated Rs. 1000 crores will have been spent during the VII Plan in raising the profitability and productivity of public sector enterprises and that this level of investment will be increased in the VIII Plan. The public enterprises will provide for the first time in 1989-90 a larger share in financing the Union Plan than in receiving budgetary support. Of the Rs. 34,446 crores for the 1989-90 Union Plan, the public sector enterprises will provide Rs. 17,482 crores, while the budgetary support will be only Rs. 16,904 crores. These estimates may be frustrated by the poor order position reported by a number of units like Jessops, Burn Standard, HEC, BHEL etc. This is worsened by keeping the position of a number of heads vacant and by the budget allowing foreign imports at concessional rates in these areas. These need attention and corrective action.

National Production Front

Steel

SAIL reports that its 5 plants produced 8.5 million tonnes of crude steel (13 per cent growth), fulfilling 97 per cent of the target, producing 9.6 million tonnes of hot metal and 7.3 million tonnes of saleable (9 per cent growth each), with Bhilai in the lead (25 per cent growth in crude steel production), Durgapur with 99 per cent of the target, Rourkela with 100 per cent of the target. Bokaro 99 per cent of the target and Salem at 104 per cent of

the target and 9 per cent growth. SAIL also reports that it has wiped out cumulative losses and has financed modernisation scheme at Rs. 1000 crores in 1988-89 from internal sources. It also reports that it is launching a total quality movement this year to improve the quality of SAIL products. The aim of this programme is to produce 15 million tonnes of saleable steel at comparative international levels of energy consumption yield and substantial improvement in labour productivity by 2000 AD. SAIL reports that it is establishing a Rs. 500 crore sponge iron plant with 2.25 million tonnes capacity near Kakinada. The government also reported to Parliament that 10 steel projects are behind schedule, Vizag by 3 years, Bhilai expansion by 13 years, Bokaro's expansion by 12 years, IISCO washery by 2 years, Rourkela by 7 years and so on. They have enhanced the cost of these projects by upto 3 times.

Crude

ONGC reports that its production target for 1988-89 is 40.25 million tonnes of crude and gas, of which the crude target is 35.45 million tonnes. On the exploration side, it reports that the Revva (GS-16) structure of the Krishna-Godavari offshore basin is yielding 1020 barrels a day and 1.5 lakh cubic metres a day of gas. Recently oil and gas were struck in second well at Bantumilli, the well yielding 150 barrels of oil and 23,000 cubic metres of gas a day. It is also increasing its search for gas and oil in the Gandhar field of Baroda encouraged by the production at the Nada well, producing 300 tonnes of crude and 2 lakh cubic metres of gas a day. It has also commercialised its own inventions of new oil fields chemicals. So far through its 2 institutes in Dehra Dun it

has developed 7 oil field chemicals and has granted approval to private entrepreneurs to develop 3 of them. Government reports that it will import 17.80 million tonnes of crude in 1989-90. ONGC is receiving a 20 billion yen loan and a World Bank loan for its expansion. Oil India reports striking a major gas field in the Tarot structure of the Jaisalmar basin of Rajasthan.

Coal

Coal India's production in 1988-89 was 171 million tonnes. For 1989-90 its target is 183.5 million tonnes. Through underground mining, 61.22 million tonnes was produced in 1988-89 and for 1989-90 70 million tonnes is targeted. It states that atleast 50 million tonnes of this seventy million tonnes of underground mining will be through the advanced technique of "long wall mining". This becomes important in attaining the target of 365 million tonnes by 2000 AD. It reports through use of improved equipment utilisation and productivity and scientific norms it was able to reduce its loss by Rs. 107 crores in 1987-88, so that its cumulative loss today is reduced to Rs. 2259.75 crores. It states that its equity capital will be Rs. 4522 crores in 1989-90 through government's equity being raised by Rs. 452 crores.

Non-ferrous

After a year of shortage leading to imports, some regular and some clandestine heavy premium, aluminium supply will improve this year, though the price will rise from Rs. 6000 to Rs. 9000 a tonne. The 5 primary producers will produce 4.5 lakh tonnes to which 10,000 to 15,000 tonnes of imports should be

added. The demand is estimated 4.3 lakh tonnes, leaving a margin surplus. The stalemate over the Gandhmadan bauxite project of BALCO continues despite its environment clearance. Indal reports that its printed circuit board was commissioned at March end at Nanjangud near Mysore. TI government reports that a breakthrough has been achieved in the production of oxygen free electronic goods copper (for use in electronics and electric equipment) at the non ferrous materials technology development centre funded by HZL, HCL, BALCO and MALCO Hyderabad. The sharp rise in world tin prices, is upsetting the costs of tin using producers.

Fertilizers and sugar

Fertilisers production is estimated 8.72 million tonnes in 1988-89 against the target of 8.6 million tonnes, with nitrogen fertilisers at 6.45 million tonnes and phosphates at 2.27 million tonnes according to the department's annual report. Within this total, the National Fertilisers Ltd has emerged as the large nitrogenous fertiliser producer in 1988-89 at 1.93 million tonnes. The question of fertiliser subsidy is once more claiming attention. Its disbursement on indigenous fertilisers has increased 50 per cent in 1988-89 at Rs. 3000 crores as against that on imported fertilisers by 100 per cent at Rs. 250 crores. The fertiliser subsidy for 1989-90, on the other hand is held to be unrealistic, involving government revising it drastically, the industry making do with low reimbursement. Already fertiliser companies have decided to withdraw the 7.5 per cent discount on urea by sending up its price by Rs. 176 per tonne from April 1, the farmer having to pay Rs. 2350 a tonne. The fertiliser require

ment for the coming kharif season is expected to be 5,730,000 tonnes which is a 9.1 per cent increase. For 1989-90 fertiliser demand is expected to jump by 20 per cent, which, given the marginal increase in domestic production, will double imports to meet the massive gap of 43.50 lakh tonnes. On the sugar front, the euphoria over the possible record production is being moderated by the estimate of 96-98 lakh tonnes against the target of 102 lakh tonnes, mainly because of the diversion of the cane to gur. The governments hope of exporting sugar will not materialise. Sugar production during the current crushing season was 55.25 lakh tonnes against the previous year's 9.9 lakh tonnes which lead to government's optimism. Further sugar consumption is expected to increase above last year's 93.33 lakh tonnes.

Textiles and machinery and cotton

Textiles exports are one of the key foreign trade items. In 1987 textiles (mill and power looms) exports amounted to Rs. 945 crores and piece goods and made ups Rs. 505 crores, and in 1988 are expected to be 1032 crores and Rs. 623 crores for piece goods and made ups. To help increase textile exports, the government has expanded the list of machinery items that textile exporters can import. This is not always a sound policy, as the list of imports includes some machinery items being produced at home. The government can reduce the excise duty on all items of textile machinery, which will encourage domestic production and make imports unnecessary. On cotton, the cotton trade (EICA) estimates that the current cotton crop for the current cotton season will be 103.50 lakh bales. This is below the earlier assessment of 110-120 lakh bales which

untimely rains have affected. But the figures of 102-103 lakh bales seems reasonable. As world cotton prices are high, the government has permitted the export of 2 lakh bales — 1 lakh bales of Bengal Deshi and 1 lakh bales of extra long staple, distributed between private traders 15,000 bales and state agencies and cooperatives 85,000 bales. The CAB noting the EICA cotton crop estimate of 103.5 lakh bales feels that the supply position will be comfortable till end November and the possibility of increasing cotton export should be further explored.

Cement and edible oils

Liberalisation and deregulation have also a price. With complete decontrol of cement announced in the budget, at a time of surplus production, the decontrol has increased competition, taken away the cushion of the levy quota (under which 75 per cent of advance payment on despatches were made) and involving possible lower purchases by government departments from the open market. The industry had also to face the higher coal price and railway rates (20 per cent in its case). Hence it has raised the cement production target to 53 million tonnes, has formed a cartel and raised prices which may not be in its interest. The government has extended CCS to it and is considering other ways of increasing the domestic cement demand. But the industry must now pull up its operation and go in for modernisation and optimum use of capacity which is in its long term interest for healthy and profitable growth. On the oil seeds front, as a result of the combination of good rains and the work of the technology mission, the oil seeds production, will meet domestic demand

and involve a 5-10 lakh tonne surplus. This is somewhat optimistic. If edible oils imports for 1989-90 are completely stopped, the trade deficit would be relieved by Rs. 1000 crores. For 1989-90 oil seeds production has been fixed at 170 lakh tonnes. In 1988-89 oil seeds production was 155 lakh tonnes which was 5 tonnes more than the target and edible oil imports were Rs. 400 crores. In 1989-90 if the output is realised, there should be no import of edible oil.

Agricultural Production

As a result of the good monsoon foodgrains production in 1988-89 is estimated to reach 173 million tonnes, more soberly between 167-171 million tonnes. Record output are expected in both rabi at 73-75 million tonnes and kharif at 98.17 million tonnes target. Hence on a peak to peak basis, the growth rate of food grains between 1983-84 to 1988-89 was only 2.76 per cent which was lower than the 3 per cent performance of the 1978-79 and 1983-84 peak to peak. The target for 1989-90 foodgrains has been fixed at 175.25 million tonnes, abandoning the original terminal year target of 178-183 million tonnes. Equally disquieting is the shrinkage of the area under foodgrains. VII Plan had projected 137.8 million hectares under foodgrain in 1989-90. During the first 3 years of the Plan, the area under foodgrains was below the 1983-84 level of 131.16 million hectares, with the area under wheat and rice declining. This means that in looking at the foodgrains production, not only the amount produced but also the area used needs to be continually reviewed. The Union government is reported to have mobilised a

massive credit of Rs. 11,751 crores, through cooperatives, commercial banks, and RRIs to finance the foodgrains production of 171 million tonnes in 1989. This huge sum was spent on the 169 agro climatic districts identified for a special push, as a result of which rice production is expected to go up to 69 million tonnes (target of 68 million tonnes), and wheat to 52 million tonnes (on target), jowar, bajra, maize and barley to 35 million tonnes (target of 33 million tonnes), pulses 14 million tonnes (target 13 million tonnes), oil seeds 15.5 million tonnes (on target). There are however several disturbing elements in the agricultural foodgrains picture which is officially (by the ministry and planning commission) presented as having turned their corner in 1988-89, with the sector growing by 20.69 per cent compared to a trend rate of 2.62 per cent, the average annual growth rate of 4.33 per cent for the 4 year period ending 1984-85 to 1988-89 compared with the compound growth rate of 2.35 per cent per annum for the triennium centred on 1986-87 over the triennium centred on 1979-81. Similarly foodgrains output, grew by 4.63 per cent as compared to 2.20 per cent growth spread over regions and crops in 1988-89. To counter the earlier figure on the lower peak to peak estimate, the ministry compared the trough to trough — that is the production in 1987-88 increased by 2.9 per cent compound per annum over 1979-80, as compared to the historical growth rates of 2.7 per cent. Against all these satisfying data, there are 3 disturbing questions. First, why have foodgrains prices not fallen with this bumper food grains harvest? The WPI registered an increase of 1.2 per cent in the past four budget weeks: in Madras prices of finer varieties of wheat and rice rose by 5-6 per

cent in March end 1989 compared to March end 1988 : in Bombay market foodgrain prices are high : in Trivandrum most commodities except edible oil rose in prices at March end 1989 compared to March 1988 : so too are price trends in Bangalore, Patna and Hyderabad. The second question is the FAO forecast that despite a good harvest, India will have to import significant quantities of wheat and rice in 1989 (2.5 million tonnes of wheat and a large amount of rice). This means that India's agriculture has not turned the corner as the government claims since Mrs. Gandhi's time. In fact the higher growth rate has neither led to price stability (the food component of consumer price index for industrial workers rose by 9 per cent per annum during the 5 years ended 1988-89) nor made life easier for the rural and urban poor. The bulk of agricultural growth is concentrated in a few pockets and has not reduced regional imbalance or checked poverty induced migration to urban or richer rural centres. The conclusion seems inescapable that India's agriculture has not through the Green Revolution 'turned the corner' and for that to happen there will have to be focus on environment, dry farming and institutional changes. Finally and related there is the buffer stock conundrum. Why is procurement in this bumper production year so small and why are the depleted wheat and rice stocks not being replaced? Late in April 1989 we are still hearing about the 'plan' to procure 8 million tonnes of rice, as against 6.8 million tonnes in the previous drought year. On April 26 government reports that as at January 31, 53.3 lakh tonnes were procured against 45.43 lakh in 1987-88. Is the reported level of foodgrains production not true, or are the farmers keeping back the foodgrains they have so abundantly produced?

An answer to this issue is related to the import question raised above and should become available after July.

Foreign Trade

The Annual report of the commerce ministry for 1988-89, states that India's exports rose by 26.9 per cent in the first 10 months of 1988-89, and it is emphasised that this is part of the steady rise over the year's — 7.2 per cent in 1985-86, 14.3 per cent in 1986-87 and 26.4 per cent in 1987-88. The report also states that imports went up by 27.5 per cent during that period. In rupee terms, exports amounted to Rs. 15,991.96 crores and imports to Rs. 22,988.71 crores, widening the trade deficit to Rs. 6996.75 crores in the first 10 months of 1988-89 against Rs. 5425.49 crores in the first ten months of 1987-88. The ministry further reports to Parliament that exports for 11 months, April 1988 to February 1989 were 17,876 crores, showing a growth of 28.2 per cent for the first 11 months and may reach 30 per cent for the year. The export increase is due to liberalisation of imports and depreciation of the Rupees. According to some projectors 1988-89 will end with a trade deficit of Rs. 9000 crores (in the first 11 months it was Rs. 7489 crores), with invisible earnings declining from 60 per cent in VI Plan to 38 per cent in 1987-89, due to growing burden of interest payments on foreign debt and the slowing of remittances from abroad. While the government and RBI express concern over the worsening balance of payments situation, there is no medium term plan to correct the imbalances in the economy, rationalise the structure of import duties and export subsidies and modify the foreign capital inflows. The government states

that faced with the long alarming balance of payments situation it is thinking of curbing imports — by 15 per cent on vehicles, electronics, industrial machinery, consumer durables, capital goods and auto components and other non essential items. There is also talk of amending the imports and exports policy of 1988-91 to deal with this situation. There is need to look at the policy as a whole and not in bits and pieces. The announcement that the government will progressively liberalise import duties on general projects and machinery and the procedure notified for issuing certificates for the import of specified capital goods, raw materials and components which are the subject of US export control and regulation are exercises in such adhocism. In March the government announced 48 more items to be covered under CCS and removed the import duty on offshore equipment to help the crude oil industry's explorations. There is also need to take a long range view on the prospects of labour intensive Indian exports to the Europe in 1992. On specific items, exports of chemicals, agro chemicals and dye stuffs increased from Rs. 306 crores in 1987-88 to Rs. 570 crores in 1988-89; chemical products exports are expected to rise from Rs. 2000 crores in 1988-89 to Rs. 3000 crores in 1989-90. India's silk exports shot upto Rs. 350.13 crores in 1988-89, being a 29.5 per cent increase; marine exports reached Rs. 590 crores in 1988-89; gems and jewellery exports rose to Rs. 4553.53 crores in 1988-89 from Rs. 2652 crores in 1987-88; synthetic textile exports increased by 79 per cent to Rs. 242.87 crores in April 1988 to February 1989; Textile (mill and handloom) exports increased in 1988 by 9 per cent to Rs. 1032 crores. Kerala and Tamil Nadu were leading in engineering exports in the south, with Tamil Nadu recording

Rs. 92.15 crores for 1988-89. The VIII Plan target for silk fabrics exports has been fixed at Rs. 550 crores, correcting the ridiculously low VII Plan target of Rs. 190 crores.

Loans and Aid

The Asian Development Bank is lending Rs. 300 crores for the AP power plant at Muddanur. The World Bank is providing a loan of Rs. 78 crores as the first phase of the cauvery modernisation scheme. UK is providing 18 million to finance a rural health and welfare project. Japan has emerged as the highest giver of official assistance to India in 1988-89 at Rs. 391 crores. Further Japan has stated that it will give 85 per cent of the total cost of a project in foreign or domestic currency. ONGC has been permitted to raise 20 billion yen in the samurai yen market in cooperation with Namura securities. Spain has given India \$46 million for the purchase of 3 ships. IOB has been permitted to raise \$25 million by way of floating rate certificate of deposits in association with credit Lyonnais. Indian Airline and a west German Bank signed an agreement for a loan of \$250 million to purchase 19 Air bus A-320 aircraft. Approvals for foreign commercial borrowings are reaching an unprecedented Rs. 4000 crores in 1988-89 against Rs. 2800 crores in 1987-88. In fact OECD reports that in 1988 India's borrowings in International market totalled a record \$2.47 billion against \$2.858 billion in 1987. This steep rise in commercial borrowings is leading to a sharp increase in debt servicing from 12.1 per cent in 1984-85 and is now reaching 30 per cent. These borrowings which comprised only 25 per cent of the country's total external debt of Rs. 55,000

crores is now rising fast. In fact the World Bank in a memo to the Aid India consortium states that India will have to increase its external borrowings in 1989-90, to avoid a repetition of foreign exchange reserves loss of \$1.5 billion in 1987-88. The balance of trade worsened by \$1 billion and the current account deficit by \$1.2 billion which is 2.4 per cent of GDP. Though exports could rise to 18 percent in 1989-90 (in dollar terms), the current account deficit will remain at \$6.3 billion necessitating greater external borrowing. The World Bank cautions India against resorting to international commercial borrowing, which it is doing. The amount of external debt has been analysed earlier and presents the country with a serious situation. One further worrying factor is that the depreciation of the Rupee in relation to SDR has cost India Rs. 775 crores in 1987-88 which had to be deposited to the securities account of the IMF. This burden will be repeated as the rupee depreciates.

International

IDA-9

The World Bank President states that when the present IDA-8 ends in June 30, 1990, the next round of IDA-9 will have to be \$12.4 billion to offset inflation. Negotiations on this have begun and the meeting of donors in May will indicate the level. The problem for IDA-9 is to counter the volatility of exchange rates.

IMF and World Debt

The executive board of IMF wants from its member states higher quotas

than their normal increments because of the additional responsibility which will be placed on it under the Brady Plan for debt reduction of developing countries. The third world debt to commercial banks estimated at \$340 billion within the total debt of \$1.3 billion overall debt, and IMF is now equated with the world debt problem. The Brady Plan called after the US Treasury Secretary, Nicholas Brady, qualifies debtor countries to set aside portions of the World Bank and IMF loan money to reduce the principal on their commercial bank debt. The Brady plan has many facets, including debt for nature swaps, which is opposed by some of the debtor countries, and some debt forgiveness instead of new lending by the commercial banks which was the main thrust of the previous Baker plan. The developing countries have given qualified support to the Brady Plan. The IMF also expressed its support to the Plan which it wants to link with proposals made earlier by France and Japan to evolve a debt reduction strategy. The Plan has dominated the discussion of the meeting of G-7 (the rich countries club), G-24 (the committee of developing countries) and the Interim committee of the IMF. A number of issues have been raised about the proposal for debt reduction or "forgiveness" and not simply debt rescheduling. The UK has raised the question of using public funds to discharge debt owing to the private sector. The guarantee of IMF and World Bank on the interest payment of the restructured debt is under query. The interim committee chairman from Netherlands also raises the question of the Bank/Fund guarantee which would only bail out US commercial banks (which is one of the main motivation of the Brady plan) but also hamper progress in reestab-

lishing the credit worthiness of debtor countries. The developing countries also have questions, such as those of India about the debt reduction benefiting mainly all the highly indebted countries. Japan and Europe back the Plan and what will likely emerge is a modified Plan taking into account all these views, which as it breaks new ground on solving the intractable debt problem should be welcomed. The residual problem is the fund resources for the debt reduction plan. Here the Fund's case for increase of its quotas is strong and is needed to finance both the plan and the adjustment programmes of the World Bank/IMF. (These programme are so harsh as to set off popular riots as in Venezuela, Peru and Brazil). Hence a decision on the quotas is urgently needed, along with Japan taking the second place for the higher quota replacing UK. The interim committee in its meeting in early April considered all proposals the Brady Plan, the Japan and France and other plans but did not endorse any, steessed the validity of a case by case approach and the importance of growth oriented policy reforms and requested the IMF executive Board to consider as a matter of urgency the issue and action involved in the proposals and put forward its recommendation at the next meeting to be held in September. It made no decision on allocation of a new round of SDRs but kept it under consideration.

World Trade and GATT

GATT reports that the volume of world trade expended by a record 8.5 per cent in 1988 against 5.5 per cent in 1987 and expects a growth of 4 per cent plus for 1989. The value of world trade increased 14 per cent to \$2.840 trillion. This is one of 4 factors (the other 3 being mining and agricultural trade expansion,

inflation control in OECD countries and rising investment levels in both industrial and developing countries) indicating a healthy world economy but there are problems of third world debt, large trade imbalances, unemployment and the economic lags of some countries to which attention is needed. Developing countries exports increased by 9.5 per cent in 1988 and imports by 10 per cent and was 8 and 9 per cent for industrial countries, which means that global trade was more broad based than in previous years. The International Jute Committee is planning to push the sale of secondary carpet backing cloth in the US to counter the dwindling demand trend in the US. The March/April meeting of the trade negotiation committee of GATT made no important decisions on trade liberalisation, but all delegations refrained from pronounced disagreements in agriculture, textiles, intellectual property and services because of the high stakes involved for every one. After the near debacle of the mid term review of the Uruguay Round at Montreal as a result of the unresolved disagreement between the US & EEC over farm subsidies (see Vol XIX p 78), this situation of serious consideration of the basic issues such as agricultural subsidies, trade in services, trade related investment measures (TRIMS) and trade related intellectual property rights which are not capable of being quickly resolved is a positive step. From the stand point of developing countries, the talks on textiles give hope that the Multi Fibre Arrangement which is the very anti thesis of GATT would be annulled. There are still apprehensions about the services items — particularly banking, insurance and transport where each country has its development parametres, but the non rejection of the proposal for automatic reciprocity and the right to protection

from aggrandishment from the technologically advanced countries, are a gain. There is the problem of intellectual property rights, where US concern springs from its world wide experience of piracy of patents, video rights, copy rights of semi-conductor chip, lay out design etc. and the question is should this be discussed/negotiated in WIPO or GATT. India's change of stand on this issue is explained as involving only admitting that the question can be discussed on GATT. Whether the government goes further and gives into US pressure remains to be seen.

ESCAP

There is concern in ESCAP at its 45th session over the gathering strength of trade protectionism. In 1988 US has taken action against Asian countries who have not opened up their market and protected its intellectual property. European community countries are continuing with restriction on the import of basic commodities from developing countries. Asia is on the whole doing well at 8 per cent growth in 1988 but the growing agricultural protection could hit Asian countries severely. ESCAP countries realise that they are vulnerable and lack influence to stem the protectionist trend and in this regard the current Uruguay round is vital for the ESCAP countries.

International Environment and Basel Convention

The International conference on the ozone layer in London in March attended by 124 Environment ministers and scientists resulted in a) the formulation of an international strategy to tackle global environmental problems and b) unanimous quest to save the ozone layer.

Similarly the World Bank is concerned over the estimated 2 million pesticides poisonings and 40,000 deaths a year and proposes a policy reform involving taxation, subsidy and pricing to protect the environment. 116 nations gathered in Geneva in March for the first international attempt to deal with the problems of dumping dangerous industrial waste in developing countries and established the Basel convention which was signed by 34 countries, with all others agreeing to sign later after completing certain formalities. The convention is a compromise between the strong line advocated by the developing countries and the diluted stance of the industrial countries who produce 90 per cent of the 400 million tonnes of hazardous waste each year. The convention is the best possible compromise for the present, it manages waste trade but does not prevent it. What is needed is to destroy all hazardous waste in the country of origin which should be the ultimate aim of the next stage of the convention.

World Food

The world food situation is serious as for 2 years running world cereal production has declined according to FAO which predicted in August 1988 that food total will in 1989 fall to 1772 million tonnes, 24 million tonnes below the 1988 level due to the drought in US and Canada. Further, unchecked pollution, land mismanagement and population growth have pushed the world to the brink of an environmental disaster, a global food shortage according to the World Watch Institute, Washington. FAO states that the world cereal output needs to be increased by 12 per cent in 1989 to rebuild stocks to the minimum levels necessary to safeguard global food security. The poor start to the

season in several key producing regions indicates that the increase will not be realised and so good weather in the major growing regions and maximum efforts to expand the area planted are needed in the months ahead. Its latest estimate of world cereal output in 1988 is 1743 million tonnes, which is 9 million tonnes higher than the previous forecast made 12 months ago. Even so, this is 3 per cent lower than the previous year's poor crop and 110 million tonnes below consumption. Overall global supplies of cereals are forecast to fall in 1988-89 by 6 per cent to 1780 million tonnes, the fall being in major food exporting countries. World cereal stocks at the end of the 1988-89 season are expected to fall by 28 per cent of 287 million tonnes.

ILO survey on womens employment

An ILO 7 country study finds that women have been worst hit by computerisation, men retaining their supremacy, managerial and professional jobs following computerisation. The lower level jobs performed by women are hit hardest by deskilling and risk even further de-

ungrading as technology advances. Also many persons have found themselves with reduced autonomy following the introduction of new technology. In Britain, Germany and Japan marketing and sales manager lost responsibility for pricing, negotiating with suppliers and determining sales and special promotions when these decisions are taken even by the computer. The intermediate rungs of the career ladder have increasingly disappeared as computer systems take over. Training is superficial and insufficient. In Norway it is limited to the mechanics of how to use the usual display unit or word processing systems, in Japan the training period is one area in one day. Increased volume of work, time pressure, demands for accuracy, computer breakdowns, performance assessments and intensity of concentration characterise working conditions in the computerised work place, resulting in stress and psychological problems. It has not provided opportunities for more interesting work as expected and its excessive specialisation has eliminated interdependence among the workers, eroding office camaraderie which is important for productivity.

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II. Agricultural Development in Tamil Nadu

Paddy and Other crops

Farmers in Thanjavur completed the samba and the thalady paddy harvest by April. They have obtained a good yield averaging 5 tonnes per hectare. Despite the kuruvai shortfall of more than 3 lakh acres (See (Vol XVIII p488) involving a production loss of 8 lakh tonnes, farmers have followed the advice and directives of the department and

so have been able to produce the normal 23 lakh tonnes. Of the total area under paddy of 15.25 lakh acres, only 7 lakh acres under samba and 4 lakh acres under thaladi were cultivated by the farmers. While they averaged a yield of 5.1 tonnes per hectare, one of them achieved a high 9.1 tonnes per hectare and the farmer in Tiruvudaimarudur went beyond and got 11.8 tonnes per hectare by using CR-1009. Samba procurement

by mid March was seven lakh tonnes in the district and the target for the season is 10 lakh tonnes. Now summer paddy cultivation is underway in more than 10,000 acres: farmers are also raising green gram and black gram in 1.5 lakh hectares. In other severely drought affected districts which cover most of the state, farmers are at their wits end on summer cultivation of paddy, pulses, groundnuts, and sugarcane. Tanks dried up, the water table has receded and the power crisis in the state which restricted hours of supply and even in that period with load shedding making the bore wells unusable, the standing crops, particularly paddy and groundnut, are seriously affected. The government has set a production target of 60 lakh tonnes of rice for 1989-90, which is 3 lakh tonnes more than that of the previous year. The farmers in the districts of Chingleput, North Arcot, Tiruchi, Pudukottai, Thanjavur, Madurai and Tirunelveli come under the Union sponsored special Food-grain Production Programme and project approach such as 9 tonne paddy per hectare, under which the farmers in these districts will have good extension service and adequate supply of seeds, zinc sulphate, gypsum, weedicides and plant protection chemicals. The target for millets is 5.2 lakh tonnes, sugarcane (gur) 24.2 lakh tonnes and cotton 5.2 lakh tonnes. Farmers in 58.35 lakh hectares will have pest control facilities and all of them have access to 24,000 tonnes of quality paddy seeds.

Research results

Research reports in March-April come from Assam agricultural university on control of the new rice disease — ufra; from Rajendranagar, Hyderabad on a four row paddy transplanter from the

agricultural research station, Bhavanisagar on the successful control of the rice ear head bug; from the college of Agriculture, Kerala AU on controlling weed menace in the upland rice crop; from the IMTI Tiruchi on rectifying iron chlorosis in upland rice; from OUAT, Bhubaneswar, on means of increasing rice yield during drought; from regional station, Guntur on combatting the whitefly in cotton, from RARS Guntur on controlling the green caterpillar pest in cotton; from ICMF Nandyal on a new cotton hybrid IDMF-HH 14 which has been developed; from TNAU centre Tiruchi on increasing cotton yield; from college of agriculture Hyderabad on increasing soya bean production; from ICPR, Kayamkulam on rehabilitating diseased coconuts; from AP agricultural university on effectiveness to control insecticides in coconuts; from TNAU centre Veppankulam on correcting the pencil point disorder of coconut palm, from the research station, Thanjavur on stopping the stem weeding in coconut palm; from the regional station, Vridachalam on making groundnut drought tolerant; from Gandhigram, Madurai on growing Maruri, a perennial aromatic herb; from the oil research centre, Anantapur on growing Davara, an aromatic oil crop; from TNAU on growing palmarosa and citronella — two aromatic grasses for alternate cropping; from the AP agricultural college on intercropping redgram in fox tail millet; from the agriculture college Madurai on how land should be prepared for offseason rains; from the AP agricultural university on growing mesta in drought prone areas; from the agricultural station, Bhavanisagar on countering the root parasite in tobacco; from KAB New Delhi on how lunar cycle affect insect behaviour; from the agricultural college, Madurai on the use of potash to combat pests of chilli; from TNAU on detecting symptoms of chilli flower gall-midge and

their control; from TNAU station, Arappukottai on the means of removing the morinda weed in rainfed black soils; from the regional situation Tirupathi on means of combating the sigatoka leaf spot disease in banana; from TNAU, Coimbatore on the technique nematode disinfection in banana; from the AP agricultural university on how onion thrips can be controlled; from CICRI, Trivandrum on the early maturing of tapioca; from the Indian institute of Horticulture, Bangalore on a new strategy to control cabbage pests; from CTCRI Trivandrum on the integrated control of sweet potato weevil; from Mitra Niketan, Velland on developing early weaving honey jack; from UAS, Dharwad on inter cropping of sunflower and groundnut; from the regional station, Vishakapatnam on early maturing sugarcane varieties; from Horticultural Research station, Yercaud on the growing of fig; from Kerala agricultural university, Vellanikkara on growing bacterial wilt resistant brinjal; from IIHR Bangalore on means of checking mealy bugs in grapes; from UAS Dharwad on breeding buffaloes in summer; from the Animal Health Centre, Mahbubnagar on countering the vectors which are associated with viral infections in sheep and goats; and from the poultry centre, Tiruchi on combatting infectious broiler disease which affect growing chickens.

Mango crop

The mango crop in the state is yielding a record production this year exceeding the 1983 record of 3.5 lakh tonnes. The production target set by the Director of Horticulture is 4.35 lakh tonnes. Favourable weather conditions, especially the good showers of south west monsoon in June-July followed by the dry spell till November helped in the good flowering. What the trees need now is

sound water management, which one or two showers will help.

Tea

The tea industry faces short term and long term problems. In the short term, for the current year, 1989-90, the tea board has fixed a production target of 760 million kg and exports of 265 million kg. The tea industry feels that production will be nearer 700 million kgs and exports 236 million kgs. The latest news from UPASI seems to support the industry forecast. The failure of the North East monsoon in 1988 and absence of winter showers have caused extensive damage to the plantations in the South. UPASI reckons that there is a 38 per cent decline in tea production in the south leading to a low 23 million kg in January-March with a lower output in April. Exports in the first quarter have declined from last year's first quarter exports of 12.2 million kg to 7.8 million kgs. Whether the northern crop can make up the sharp reduction in the south seems doubtful. For the long term, UPASI has drawn up a Rs. 1808 crores plantation plan involving an annual growth of 4.5 per cent for the VIII Plan. It aims at tea production increasing from the present 7.2 lakh tonnes to 8.76 lakh tonnes. Its target for production by 1994-95 is 621 million kg, export of 255 million kg, with accent on value addition.

Coffee

The coffee output for 1988-89 is now placed at 1,95,000 tonnes against the initial 2,20,000 tonnes. For 1989-90, the production would be normally lower at 1,60,000 tonnes. The drought may cause it to be 1,40,000 tonnes. UPASI's VIII Plan projects an increase in production from 1.8 lakh tonnes to 2 lakh tonnes

by 1994-95. It forecasts in the VIII Plan domestic consumption rising to 70,000 tonnes (from the current 60,000) and exports at 1,25,000 tonnes. It recommends change in its market structure as it states that pooling has outlived its utility.

Rubber

Rubber production for the current year is 2.65 lakh tonnes. As usual the tussle between producers and users has started. The government going on the recommendation of the Rubber Board has asked STC to import 35,000 tonnes as of now and another 800 tonnes in March 1990. The rubber users want this

at least doubled. This should be settled by the government having a more precise estimate of demand (using the DGTD) and the extent of increase of synthetic rubber that is possible. UPASI estimates that in the VIII Plan rubber production should increase to 4 lakh tonnes. On this, Maharashtra is setting a good example in releasing 1.50 lakh hectares of its barren forest land for large scale rubber plantation. It is estimated that by 2000 AD industry will need 600,000 tonnes of natural rubber, 1,70,000 tonnes of SBP, 65,000 of PBR, butyle 32,000 tonnes, 18,000 tonnes of special purpose synthetic rubber and 10,000 tonnes of reclaimed rubber. These are large amounts and must be provided for.

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III. Industrial Development in Tamil Nadu

Industrialisation and credit

The government met with the industrialists in early March and announced the revival of the State Planning Commission to which reference was made earlier. The various concessions and incentives announced by the government earlier in 1988 (see Vol XVIII pp 320-321 & 573 - 574) will be continued and strengthened. The first priority is to expand the power availability on which all industrialists agree and the steps to attain this increase was discussed. Public sector, private sector and the cooperative banks in 5 districts — Madurai, Anna (now Quaid-e Millett), Coimbatore, Periyar, and Nilgiris will under the auspices of the Canara bank be the lead bank, extend credit facilities of over Rs. 452 crores to 6.5 lakh bene-

ficiaries involved in agriculture and allied activities and small scale industries as part of their annual credit plans for 1989-90. Agriculture and allied activities will get Rs. 262.29 crores, covering 521,920 beneficiaries, and small scale industrialists Rs. 111.47 crores benefiting 36,744 persons, and services Rs. 82.94 crores for 93,910 persons.

Salem and Neyveli

Salem steel will commission its Rs. 70 crore second Sendzimir mill in 1990 and, 6-7 months ahead of schedule and with that its capacity will increase from 32,000 tonnes to 70,000 tonnes. As noted earlier it achieved a capacity use of 116 per cent in 1988 and will maintain this for 1990, and will increase its

export from 4500 tonnes to 7000 tonnes. The steep rise in the price of Salem Stainless steel sheets in the last one year from Rs. 65 a kilo to Rs. 105 a kilo has affected the utensil industry and trade in Tamil Nadu, which has asked for relief through price reduction when international price of nickel falls. In Neyveli, there are reports that Rs. 1000 crore worth of equipment and machinery meant for the second stage of the second mine cut are lying idle because only 397 acres out of 910 acres needed for second stage has been acquired. This means delaying the power project and sending up its cost at a time when the state and the entire south are power starved. This second stage of the mine expansion which will increase lignite production from 4.7 million tonnes to 10.5 million tonnes per annum must be put through, without following the CIL tradition of schedules being delayed.

MRL, ICF

Madras Refineries is making a fresh investment of Rs. 62.40 crores to establish a) a mini refinery in the Cauvery basin with a capacity of 0.5 million tonnes of crude at a cost of Rs. 100 crores. The project report will be ready by May when the first stage of Rs. 1.5 crore for land acquisition will be completed and the second stage started. It will be located in Panangudi on Nagore-Nannilam road to refine the 120 tonnes crude production from the Nannilam Nariman belt. b) In the Rs. 840 crores aromatic project to be set up by MRL & SPIC jointly, the Toyo Engineering Corporation of Japan is preparing the project report for Rs. 2.7 crores and it has subcontracted Engineers India. Formation of the new company — National Aromatics and Petro Chemicals Corporation is under way. c) The Madras

petrochem is merging with MRL for which MRL is paying Rs. 8 crores for the fixed assets of the Madras Petrochem. b) MRL is to team up with the Chevan chemical company of the US to set up a 15,000 tonne lube additive plant at Manali at a cost of Rs. 100 crores. MRL in its report for 1988-89 reports a crude throughput of 5.475 million tonnes exceeding its installed capacity: it increased production of LPG and petrol by 8.9 per cent, and 12.2 per cent of kerosene and HSD, and 34.5 per cent in lube base stocks. The Integral Coach factory at Perambur is producing locomotives. It has sent to the Calcutta metro system the first battery cum power operated locomotive plus 3 such locomotives for maintenance works in tunnels and for emergency power break downs. During 1988-89 it produced a record 900 coaches.

MFL & SIPCOT

Madras Fertilisers reports that it is setting up 2 gas based fertiliser plants each with a capacity of 600 tonnes of ammonia and 975 tonnes of urea per day. The project cost is Rs. 600 crores. The company made a profit of Rs. 1133 crores in 1988-89 with a capacity use of 117 per cent. SIPCOT reports that it has started work on 3 new growth centres with an investment of Rs. 30 crores. The government is choosing their locations out of 7 centres that are being considered.

TANISSIA & TPL

The Tamil Nadu Small Scale Industries Association, (TANISSIA) Madras welcoming the factoring services introduced by RBI, has suggested that it should ensure prompt payment of bills to small

required to meet all the targets set for elementary education during the VIII Plan which is 2.3 times more than the funds set aside for the III, IV, V, VI & VIII Plans put together. The funds of this order will not be available and so the proposal to postpone 50 per cent of school building construction to the IX Plan is under consideration. Also the non formal education sector faces the axe. In Tamil Nadu, the fate of about 110 to 120 unauthorised teacher training Institutes is to be decided by May end, when the government will notify the rules of recognition of teacher training institutions. The open university way being pioneered by the Indira Gandhi Open University covers 53 courses with 54000 enrolled. In this state over 1,00,000 students are enrolled in the Madras university correspondence course. The Madras University has established a nuclear science centre in cooperation with the Kalpakkam centre. The estimates committee of Parliament has made a critical review of the working of UGC in allowing the uneven growth of universities in the country. Its performances in examination reforms, prescription of minimum standard of instruction and promotion and coordination of university education is held to be very poor. It points out that out of 25 new universities established during the VI Plan and the first two years of the VII Plan, on 13 universities there was no effective consultation with UGC. The Committee noted with dismay that the plan allocation for education has decreased from 7.2 per cent in I Plan to 3.5 per cent in VII Plan, which restricts its effectiveness. It urged the setting up soon of the National Council on Higher Education. It criticised the UGC for going back on the 1964 Sapru committee and 1986 estimates committee recommendations to increase the UGC member-

ship and increase the number of vice chancellor members on it. In their absence and the few full time members, UGC has not carried out the development programmes for the universities. The rise in paper, postal and freight rates and import requirements affects book publishing seriously, and schools and universities and colleges which depend on it. There is also the question of the employment prospects of the 2 million people employed in it. This gives particular point to a recent study which proposes that only way that higher education can be delivered from the resource crunch it faces is by a) granting freeships, interest free loans etc to the poor students and b) charging all others Rs. 1500 and above per annum, with more for engineering and medical studies.

Technical education

A recent review committee report states that the M Tech courses offered by IITs have little relevance to present day needs of society, and are being misused at considerable expense to the Institute and government. This is seen in the high drop out rate from these courses and its use not in industry but to prepare for IAS and UPSC selection with all the facilities of time, scholarship, reading facilities and cheap accommodation. They should be scrapped. The capitation fee collecting private medical and engineering colleges in Karnataka are abolished on paper but are flourishing in actuality. In this state, a committee has been appointed with the Vice chancellors of all the university and the Vice chancellor of Anna University as Chairman to examine the functioning of self financing engineering colleges. The State government has decided to streamline the procedure

for admissions to professional colleges and for this purpose has appointed a committee with the Vice chancellor of Bharathidasan University as Chairman and the directors of technical education, medical education, Indian medicine and homeopathy and Tamil Nadu Agricultural University and Anna University as members. At present the admission procedures last till October or November. UGC is working out an arrangement whereby the facilities of the Institute of Remote Sensing of Anna University can be made available to other universities, with UGC establishing hostels and other facilities for the researchers. The Union government in April granted 'deemed university' status to the National Dairy Research Institute at Karnal. Students in law faculty are asking for a change in the functioning of the 5 year integrated law course which demands that students should clear all subjects of the first 2 years in the 2 years, and which students find too demanding, and want a change to allow them to enter the third year if they have cleared all the subjects of the first year and have fulfilled the attendance requirement for the second year.

Mass Com

The Union government has set up two committees; one is to review commercial broadcasting on AIR & TV and make it more purposeful. It will be headed by the Secretary of the Union information ministry and have advertisers and sociologists on it. The second committee is to examine and make recommendations of colour TV. The current 12 TV production centres are to be increased to 48 by the end of the VII Plan, that is, this year, so that every state and Union territory will have a centre. The current 335 low power

transmitter (LPT) which service 53 per cent of total area and 73.50 per cent of the population is to be increased to cover 78 per cent of the country and 83 per cent of population by the end of the VII Plan. For Tamil Nadu the TV coverage of 86.70 per cent of the population is to increase to 88.1 per cent by the end of the VII Plan and LPTs are to be established at Dindigul, Kancheepuram, Thanjavur, Tiruvannamalai, Tindivanam, Tiruchendur, Tirupattur, Tuticorin, Villupuram and Vaniyambadi to reach inaccessible areas. AIR has 97 radio stations covering 83.71 per cent of the total area and 94.91 per cent of the population and by the end of the VII Plan, the area covered will be increased to 91.1 per cent and population covered 97.5 per cent. In Tamil Nadu the area covered is 96 per cent and by the end of the Plan this will become 100 per cent.

Science

ESCAP in its report on "new technology challenging the region" states that India is far behind China, South Korea and Singapore on R & D investments for which the norms according to ESCAP is 1.5 per cent of GDP. While China spends 2.5 per cent of its GDP, South Korea and Singapore 1.5 per cent, Sri Lanka, Indonesia, Thailand and India spend between 0.15 per cent and 0.79 per cent on their R and D. On the other hand, the Secretary for technical development in the ministry of industry, stated at the biennial conference of UNIDO that R & D expenditure has risen from Rs. 170 crores in 1970-71 to Rs. 1900 crores in 1984-85 that inhouse R & D has increased from Rs. 430 crores to Rs. 1000 crores, that in 1983-84 there were a total of 3145 patent applications, sealed patents were 340 Indian

and 980 foreign, in 1987-88 these were 3457, 588 and 1516 respectively. The Science Advisory Committee to the Prime Minister states that it has recommended the setting up of advanced centres in the universities to commemorate Nehru's centenary, the establishment of joint centres run by national laboratories and universities to provide better R & D facilities to the universities, the initiation of a programme of providing excellence in science education by establishing consortia of universities that can work in collaboration with higher institutions of learning, using their superior resources. It called for the promotion of centres of excellence in universities around gifted scientists and engineers, individually or in small groups and provide them with flexibility and a degree of autonomy from the university administration. It called for immediate launching of post graduate programmes in certain special areas of engineering and technology such as mathematical modelling, computer simulation, materials technology, materials processing and polymer technology at some national laboratories which may be given the status of deemed university for running such programmes. It favours granting autonomy to science and engineering colleges with a proven track record. It has asked for large scale funding for improving the institutional infrastructure of universities and selected science and engineering colleges. Noting that the polytechnics are outdated, it called for formulation of schemes for having various categories of highly skilled technicians to meet their current shortage. It asked for an upward revision of the rewards to technical skills to create greater nations wealth. It also says that next to population control, the generation of employment in rural areas is the most critical issue, and for this indus-

tries generating employment should be promoted. The council reports that its chairman, Rajiv Gandhi, approved this package established after consulting the Planning Commission, and scientists in Bangalore, Calcutta and Delhi. In the 1989-90 budget, science does not do well. The budget for the Department of Space is reduced, that for the department of Science and Technology, of Biotechnology and Scientific and Industrial research are only marginally increased. The Department of Atomic Energy received a 34 per cent increase (Rs. 282 crores) mainly through the International and Extra Budgetary Resources. There is a difference of opinion between DST and the Science Advisory Council on the means of promoting basic research in front line areas. DST has the Science and Engineering council to identify the Thrust Area Programme, select projects for funding and monitor their progress through the Programme Advisory Committee. SAC in its Perspective Plan for 2001 (see Vol. XVIII p. 494) calls for the creation of a statutory autonomous National Science and Engineering Research Board to be the prime focus for the funding of basic research. This difference between the 2 top science bodies should be discussed by them and reconciled.

Health

The Science Advisory Council to the Prime Minister expresses deep concern over the staggering growth of population and recommends that it must not be more than 970 million by 2000 AD. To attain this, it recommends a programme of population education and control, specially among women, of harnessing S & T inputs to control and reduce fertility, and of using communi-

cation technology and managerial skills — that needs to be undertaken on a war footing. The Madras Refineries proposes to establish an occupational health Institute in the Manali complex to cater solely to the chemical and process industries and hazards which

employees of these units in Manali face, taking measures to safeguard their health. The Voluntary Health Services Centre is constructing a maternity cum postpartum block as part of the World Bank's assistance to India Population Project V.

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V. Employment and Labour Relations

In the employment area, there are two major issues. First, plans for employment, and second the rate of employment growth in the 4 years of the VII Plan. On the first, a new plan was somewhat suddenly and hastily announced in Parliament at the end of April. It was a revised Jawahar Rozgar Yojana. It is revised because in the 1989-90 budget this programme was announced with an allocation of Rs. 500 crores (to be financed by the special 8 per cent IT surcharge) to provide employment to 1 person in a family living below poverty line in 120 selected districts. In the revised programme announced by the Prime Minister, the major features are: a) all rural employment programmes — NREP, RLEGP, DWCRA and the original Rozgar Yojana — are merged to provide the union assistance of Rs. 2,100 crores; b) the programme will operate through the country in every state, district and panchayat; c) the programme will provide work for 50 to 100 days in a year to 1 member of each family living below the poverty line in work near the village; d) the programme will place its funds with the panchayat, so that a panchayat with 3000-4000 people will obtain Rs. 80,000 to Rs. 1 lakh to implement the programme; e) the Union aid will be 80 per cent of the Jawahar Rozgar

Yojana; f) atleast 30 per cent of the jobs will be reserved for women; and g) the financial devolution will depend on the level of backwardness, measured by the number of SC & ST, the proportion of agricultural labour to total labour and of agricultural productivity. Also special consideration is to be given to such areas as hills, deserts and islands. Every effort to create employment in this poverty stricken country and its dismal rural country side should be welcomed and so this new revised Jawahar Rozgar Yojana should be welcomed. The timing of the revision is disquieting. Within 4 weeks of the announcement of the original programme, the revision seems to be related to the coming elections and its prospect of garnering votes. Further the panchayats to whom the operations and the funds and the planning of the programme are to be entrusted must be trained and made professionally ready to operate this important and complex programme. They have no expertise at their disposal and they have no employment projects ready. So the possibility of wasting the funds is great. Further the panchayat except in West Bengal and Kerala are in the hands of the rural rich and powerful who can and will divert the programme to serve their interests. The way in which the mini-

mum wages are being defied by them is sad but an important pointer. The financial calculation for the programme needs revision. With the state's share it amounts to Rs. 2625 crores. If 50 days employment is given to 1 member of 440 lakh people living below the poverty line, Rs. 3300 crores will be needed. If half the total goes for materials as per guidelines, only Rs. 1300 crores will be left for wages, transport and supervision. This aspect needs to be looked into. It is a pity that the programme is being launched in such haste with no chance for anyone to be prepared and be ready. The rhetoric on the devolution of the programme to the panchayat sounds very much like election rhetoric. Is it too late to go slow on this programme and concentrate on the 120 districts to start with and use any available funds to strengthen per family allocation under IRDP? On the second issue of the rate of employment generation in the country in the current plan, the assessment of the Planning Commission is that both the rate of growth of employment and employment elasticity in the present plan period in major employing sectors are discouraging. The growth rate of employment which was 2 per cent earlier, has now decelerated to less than 2 per cent. With the labour force growing at 2.5 to 3 per cent, the backlog of the unemployed is swelling and the pressure on available jobs is becoming intense. The decline has been contributed by a slack in employment generation in agriculture and manufacturing. In agriculture better developed and faster growing regions show a declining employment potential — either stagnation or very slow growing. Technological and structural changes leading to higher capital intensity combined with the closure of some traditional industries have slowed employ-

ment growth in the organised sector. In the organised manufacturing sector as a whole, employment elasticity with respect to output has declined from 0.5 in the 1970s to 0.29 in the 1980s. The number of job seekers in employment exchange are 30.1 million in December 1988, and employment growth in the organised public sector was 1.7 per cent and in the private sector 0.8 per cent. The unemployment backlog at the start of the VII Plan was 9.2 million. Whether there will be a decline in this plus the 30 million who will be entering the labour force remains to be seen. The special employment programmes — NREP & RLEGP — are short of the targets and it is said that their figures are inflated. Since labour is growing at 2.5 to 3 per cent per annum and employment at less than 2 per cent, clearing the unemployment backlog and taking care of the likely additions to the labour force would mean that employment will have to grow at 3 per cent in the 1990s to achieve the goal of employment for all by 1990s. The Planning Commission's assessment shows that 6 per cent GDP growth rate for the VIII Plan will not by itself achieve this goal. It would have to be combined with a) a restructuring of incremental investments and output in favour of areas, sectors and production, processes with ample employment potential, and b) special employment programmes on an expanded scale. On the conditions of labour, the 4 days dockers strike brought shipping and work in the ports to a complete halt. The speedy solving of the problem, which in effect gave into all the demands of dock labour, saved the economy from a serious crisis. On industrial relations in the state, the legislature was informed that the situation

is better this year with 211 strikes and lockouts and 21,23,646 mandays lost in 1988 against 234 strikes and

33,335 mandays lost in 1987. The number of workers involved also declined from 1,02,477 to 58,477.

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VI. Other Items

Union Budget, IDRC & Sankara

A symposium on the Union budget 1989-90 on the Doordarshan laid emphasis on its economic strength and lacks and lags, its educational imprint and its tax and accounting problems. The presentations were thus varied and diversified. IDRC has offered to finance a training institute in the state under the Tamil Nadu State Council of Science and Technology to train all generations from school students to entrepreneurs, in modern science and scientific and technical developments, in retraining workers and supervisors in working on the latest machines, and in making entrepreneurs aware of the technology of industrial development. The project costs Rs. 10 crores of which IDRC is providing Rs. 7 crores in machinery and equipment. The Dr. Radhakrishnan Advanced Institute in Philosophy organised a symposium on Sankara Jayanthi at which a Canadian philosopher, an Indian scientist and an Indian philosopher spoke on the sage. The Indian philosopher spoke in sanskrit — the language of Sankara.

Ethiraj College, Craft Foundation and Reader's Digest

The Ethiraj college organised a seminar on the restructuring and upgrading in undergraduate curriculum of Economics in Madras University. The latest develop-

ments in the interdisciplinary nature of the economics curriculum, its mathematical content and its relation to current affairs were brought out vividly. The quarterly meeting of the Madras Craft Foundation concentrated on developing the two phase structure of the Foundation — one phase deals with the museum for which the state and union governments have gifted Rs. 12 lakhs. The other unit which deals with arts and education and society and has attracted international fund of the order of Rs. 60 lakhs. The Reader's Digest had a meeting of its Board of Directors where it reviewed the working of the journal for 1988 and established the final dividend. It noted the effect of the budget on the price of paper which will affect the returns of the journal in the coming years.

IIC

There were four main events in March and April in the India International Centre. First, the Annual General Body met at the end of March and received and approved the Director's report for 1988 and the first quarter of 1989. It also reviewed the audited accounts for the period and approved them. It voted the budget of the centre for 1989-90. Second, there were 2 meetings of the Board of Trustees — the one in March to prepare for the Annual General

Body and the other in April which dealt with elections to the executive committee of the centre and the programme for the year. Third, there were the two panel discussions on the VIII Plan perspectives — in March on the resources needed for the Plan and in April on the Savings and Investment imperative. Fourth, there was a seminar in April on urbanisation where there was a review of the various parametres of urbanisation in India. Suggestions were made for an urban policy for the VIII Plan for the country.

SRC & TNBCE

The Governing Body of SRC was held in March and established the selection committee for selecting the Director and filling other senior staff vacancies. It reviewed the ongoing programme and suggested further development in it. The Selection Committee met in April and chose the Director and filled the other level vacancies, not finding qualified candidates for the senior coordinators posts. The meeting of the TNBCE discussed the working of the affiliated agencies of the centre and decided to hold 2 meetings of the agencies in the mofussil.

TNSC S & T, Renewable Energy and Kale Memorial Lecture

The Tamil Nadu State Council of Science and Technology called the first meeting of the Centre for the Transfer of Technology in March. It was attended by the governing board of university and industry representatives, reviewed the activities of the first quarter and decided that at its next meeting it will decide on its budget, location and further staff. The Council's Executive Committee

met in the 3rd week of March and reviewed its programme and research and grants for travel and seminar, and approved its audited account for 1987-88, approved the recommendation of the Governing Council of the Centre for Transfer of Technology. In the last week of March, there was a meeting of the Governing Council of the TNSC S & T at which the decisions of the executive committee were noted and the budget for 1989-90 was reviewed and approved. The Council and the Tamil Nadu Energy Board organised a joint seminar on Renewable Sources of Energy on March 30. It was attended by 150 industrialists and 50 scientists and engineers. It was a revelation to note the large number of industrialists engaged in manufacture of solar, biogas, windmill and other renewable energy equipment. It was agreed that biomass offered vast possibilities to save conventional energy use followed by solar heaters and cookers. There was early in April a meeting in the Gokhale Institute of Politics and Economics when the Kale Memorial lecture the VIII Plan perspectives were presented. The emphasis was on avoiding going in for a growth oriented strategy which is never attained, and which has been tried for 7 plans and has failed, but to address the real problems of the economy concerning around unemployment and poverty. This was tried in the short lived Janata Plan and the plea was for its revival and trial.

April/May Development Seminar

One of the eleven papers for the May workshop on "Critical Issues in Tamil Nadu Irrigation" replacing the April

Seminar, Organisation and Management of Irrigation Systems in Tamil Nadu by A. Mohana Krishnan appears as the first article. Abstracts of the other papers together with a summary of the wide ranging discus-

sions at the workshop will appear the next issue.

Second Article

A paper, 'Some Aspects of deprivation in Tamil Nadu' appears as the second article.

MIDS News

Mr. M. Thangaraj has joined the Institute as Research Associate with effect from 5th April.

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Dr. A. Vaidyanathan attended a seminar on "How to reach the poor through Irrigation" held by The World Bank, Washington from 12th to 14th April.

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Mr. Krishna Raj, Editor, Economic & Political Weekly visited the Institute and had an informal discussion with staff on 17th April.

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The annual meeting of Ph.D. Scholars and Guides was held at the Institute from 3rd to 6th May. It was attended by nearly 40 Ph.D. Scholars from different parts of the State. In addition, 7 recognised Ph.D. guides from various universities and colleges of Tamilnadu also participated.

The resource persons were Prof. J. C. Sandesara of the Bombay University, Prof. S. Neelakantan of the Bharathidasan University and Dr. Amal Sanyal of the Jawaharlal Nehru University. Prof. Sandesara gave two lectures on current state of research in the economics of Indian Industry. Prof. Neelakantan's lectures discussed the new institutional

approach to economic history while Dr. Sanyal spoke on certain aspects of macro economic modelling of Indian economy.

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As part of the Monthly Seminar series the Institute organised, in a departure from its earlier practice, a one day workshop devoted to a discussion of Critical Issues in Tamilnadu Irrigation. Specially, commissioned papers (eleven in all) prepared and circulated in advance formed the basis of the discussions. Altogether 38 participants including senior officials and knowledgeable experts concerned with irrigation in the state and some interested members of the public participated in a lively and wide ranging discussion. The proceedings of the seminar will be published in due course.

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The annual Interdisciplinary Research Methodology Workshop was held in Bangalore from 8th to 11th June. This Workshop is the first of the series of three dealing with management of renewable resources and dealt with water resources. Altogether 12 papers on various aspects of water resource management were presented and discussed in a 4-day Workshop in which engineers and social scientists from all over the South participated. The papers and proceedings will be published in due course.

April / May Development Seminar

Organisation of Management of Irrigation Systems in Tamilnadu

by

A. Mohanakrishnan

Chief Engineer (Retd.) General & Irrigation, Govt. of Tamilnadu

Tamil Nadu — An Introduction

Tamil Nadu lying in the Southern most part of India is 4% of its geographical size but holds 7% of its population. It lies entirely within the tropical zone and hence has abundant sun. Most part of it lying on the leeward side of the Western Ghats, loses the benefit of the South West monsoon which is more prompt and more dependable. But the North East monsoon brings intense rains, though in spells, in the coastal regions and hence October to December are the rainy months in Tamil Nadu. The soils fall broadly into four major groups, Red soil, Laterite soil, Alluvial and the Black cotton. Red soils, occupy the largest areas in the state while fertile loamy alluvium abound along the coast.

The physiography, the weather the rainfall pattern and the soils decide the vegetation and the cropping on the land which in turn mould the civilisation, the economy and the culture of the people of the land.

The population in the State as projected for 1985-86 was 52.5 millions and the per capita income at 1970-71 price is only Rs. 779. The percentage of population below poverty line also continues to be higher than the country average.

Agriculture and allied activities substantially account for the income of the State in the primary sector. A review of the long time trends covering a period of 25 years shows that has not been any visible change

the cropping pattern. For example the ratio between the food crops and non-food crops has been maintained around 70 : 30 throughout. The share of the paddy in the total gross cropped areas has been maintained at 35 per cent throughout the period. The share of the millets has declined and that of sugar-cane has increased. Among the non-food crops the share of the ground nut has been maintained, that of cotton declined and coconut has increased. One significant finding is that the use of high yielding variety is as high as 96.5% in paddy in 1984-85 indicative of the response of the farmers to the research developments in the farm sector.

The total net irrigated area in 1984-85 was 26.40 lakh hectares 8.96 under canal systems, 7.15 under tanks and 10.07 under wells. The gross irrigated area in the same year was 35.07 lakh hectares giving an irrigation intensity of 132.8. A fact to be noticed is that the irrigated coverage of the cropped area is quite high 49.5 per cent of the gross area sown. This has been achieved by straining every bit of potential that could be harnessed over a long period of history. As in 1984-85, a potential of 1.25 lakh hectares have been created against an ultimate potential of 1.5 under major and medium schemes, while a potential of 1.95 lakh hectares against 2.40 ultimate has been created under minor schemes. The percentage of utilisation of the potential created is also quite high 99.6% in Tamil Nadu, as compared to other States. This is indicative of the fact that the farmers of Tamil Nadu are starving for irrigation and will get ready to use the waters as they are made available and they also know the value of the water.

Tamil Nadu has also harnessed the available head in the river systems for hydro power wherever it is possible. Since the dependability of hydro power is not so good because of poor water resources, thermal power has also been promptly developed and as on 1984-85 end while the installed Capacity in Hydro was 1369 MW. the thermal installed capacity is another 1140 MW. 4447 million units were generated through hydro and an equal 4935 million units from thermal. Besides this the contribution from the Central Projects Neyveli, Thermal and the Madras Atomic Power project is also substantial. What is of relevance is that the consumption of power in the irrigation sector was 27.5% with 10,33,556 pumpsets energised. There are about 1.6 million dug wells and about 0.5 million tube wells now in use for irrigation. This speaks of the ground water utilisation in the State.

In general, farmers in the State are progressive, co-operative and hardworking and given the resources and inputs are capable of developing the economy of the State in the farm sector.

In this scenario, building up an efficient, organisation for the management of the irrigation system becomes important.

Historical Evolution of Irrigation Systems in Tamil Nadu

Tamil Nadu state is served by 33 river systems, most of which draining limited catchments with poor precipitation and that too during the monsoons. The only river system which is grouped under major rivers of India is the river Cauvery which tails into this State draining parts of the neighbouring states

of karnataka and Kerala. Though as much as one third of the geographical area of this state lies in the Cauvery basin, the yield from this catchment is poor. There has been heavy dependence on the flows of this river by the farmers of this state until recently and now the use of its waters has gone into dispute among the basin states.

Irrigation has been practiced in this part of the country from time immemorial. There are several stone edicts carrying information on the interest the local rulers took in providing irrigation facilities to the farmers. The Grand Anicut across river Cauvery built at the mouth of the delta in the second century AD is claimed to be one of the most ancient structures in the world still functioning. Thanjavur delta irrigation is considered to be the earliest in our country.

While digging wells for irrigation is an individual effort, perhaps the earliest mode of irrigation source, creation of small storages through the tanks systems should have started on time, the society could organise the group effort-Local Chieftains with the active cooperation of the beneficiary should have created these tank systems over a long period of history. This activity received governmental support in large measure as the political systems developed into small kingdoms. The contribution made by the Chera, Chola, Pandiya kingdoms and the Pallavas in the creation of the irrigation systems is significant. Besides these tank systems numerous diversion works, anicuts were built on the small streams and tributaries of the rivers to lead the flows occurring during the monsoon period, to be stored in the tanks inland. The tank system in chains, the surplus of one flowing down to fill the other formed in the lower contour and so on can be easily

seen to be technically the most appropriate for the gradually sloping eastern plains, descending down the Deccan plateau influenced by the North East monsoon. The ingenuity of our forefathers in designing and creating this mode of irrigation most appropriate to the area is to be appreciated.

Construction of major and medium reservoirs across rivers is of recent origin and has been possible with the development of the science of hydraulics hydrology and dam building.

A close study of the historical evolution of the irrigation systems in the State will convince the researcher that it was a gradual process moving from one stage to another from wells and springs to small storage tanks and there on to diversion works and channels and finally the large storage reservoirs through the farmer's individual effort the cooperative effort by groups of farmers and thereafter the Government's involvement in the development process.

Historical Development of Irrigation Administration

In sectors of human activity organised administration may develop in two modes. In one, the need is first established, the objectives are defined and an organisation for the administration of the sector is planned and created and then follows the activity. Perhaps the creation of an educational institution, setting up an hospital may fall in this category. On the other, the activity may be already on, developing in different stages in different parts of the society, the need for an organised administration would be felt and an administrative pattern would evolve over a period of

time moulding itself to suit the needs of the times. Irrigation administration falls under this second category.

For centuries, irrigation administration has been village centred and essentially by the beneficiaries. Till about the middle of the last century irrigation through tanks has been the main stay leaving the Cauvery delta which had then more of the flood irrigation type. Ofcourse, there were a number of channels either with or without diversion structures at their head in the Tambaraparani, Vaigai, Cauvery Ponniyar and Palar basins of which a few could sustain the irrigation throughout the crop period and others served only as leading channels to carry the monsoon flows to the irrigation tanks.

The administration of the tank irrigation continues to be still with the beneficiary. In almost all the tanks big and small, which are numerous in the State, there are formal or informal groups of farmers who take the responsibility of utilising the storage in the tank for crop production in their best interest according to an unwritten traditional practice. The group may be a subgroup of the village elders who look after the common interests in the village like the village ponds, the fishing rights in those ponds, the village temples, the threshing floors, the grazing lands and so on or they may be separate group for the irrigation alone. These irrigation committees may be reformed periodically electing the members or through adhoc nomination. The leader is either elected, nominated or accepted hereditarily.

With the onset of the monsoon, as the tank starts receiving the inflows, the irrigation Committee meets and decides on the date of release of waters through the sluices. The farmers get

to know this and get ready to start the cultivation operations. The leader controls the operation of the sluices and drawal of the flows according to the needs of the command. Since most of the commands of these tanks grow wet crops, the flow in the channel system is continuous. In many villages, a common irrigator called Neerkatti exists as the functionary who under the directions of the leader of the committee distributes the flows to all the farms following a traditionally accepted roster and he is paid in kind by the beneficiary during harvest time. Where the irrigation committee is not operative, the village headman takes the role of the leader of the committee.

As in operation, this irrigation committee takes the responsibility for maintenance also. 'Kudimaramath' a system of pooling voluntary labour from among the beneficiary and maintaining the system, has been there over a long time, and continues though a little ineffective in recent times. The irrigation committee, just before the onset of the monsoon, starts clearing the water way of the leading channel to the tank desilts and clears the supply channel systems from the tank sluice downwards and keeps the system in good condition to serve the irrigation season.

In the case of tanks serving more than one village there is a mutual understanding among the villagers on the division of the flows carried through the channels and also a division of labour in the maintenance of the common portion of the conveyance system.

Ofcourse the maintenance of the tank bund and the structures in the

tank bund like the surplus weir and the sluices is taken care of by the Government.

The administrative procedure has been largely the same in the case of diversion systems with the head works maintained by the government department and the channels taken care of by the beneficiary. Even the Thanjavur delta the numerous canal systems are maintained by the farmers while the regulating and other structures are operated and maintained by the government department.

Weaving together historical information available from rock edicts, stone carvings, literature etc. it is in evidence that creation of irrigation systems and their maintenance got a boost during the reign of the Chera, Chola, Pandyas and the Pallavas in the region and the active beneficiary got good governmental support. But there was always internal strife among these kingdoms and they depended on chieftains, landlords and zamindars for local administration and control. The political instability had its impact on the creation of new irrigation works and their maintenance. Things worsened when these kingdoms were wiped out by the Moghul supremacy and their war mongering generals took control in the different part of the present state.

Sir, BAMPYLDE FULLER writing in the first decade of this century, on "India. The land and the People" opines that the Hindus have preserved two institutions over many centuries one the caste and the other Village. By the caste, men are grouped according to their race or occupation, the village groups them according to the locality they inhabit. But the two institutions converge towards single contained societies which can resist the shock of outside aggres-

sion". It is true that the caste and the village protected the society against the harassing activities of changing political systems and preserved its organised vitality. The village continues to be the well knit unit though ridden by several political factions and is now fast loosing its vitality.

Organised administration of irrigation slowly surfaced with the unification of the several pieces of the country during the colonial rule. The British who introduced the bureaucratic form of Government with the District as the administrative unit saw the wisdom in maintaining the individuality of the village.

As they stabilised their position in the region and turned to civilian rule, the first thing they did was to create the office of the 'Superintendent of Tank Repairs' as early as 1809 which went through several changes before it was organised as the Madras Public Works Department in 1858. Since then, the Public Works Department has been administering the irrigation systems in the State, and has been responsible for the development and up keep of the irrigation sources.

With the construction of major irrigation projects with large storages and extensive canal networks spreading over several taluks and even districts more and more of operation and maintenance responsibility devolved on the government departments. Still the distribution of the flows among themselves in the application zone below the outlet is left to the beneficiary who organise themselves to create and maintain the water sources and the field channels below the outlet. The irrigation department operates and maintains the systems upto the outlet.

essentials of Management of Irrigation Systems

Management connotes the functions of planning, organising, staffing, leading and controlling all to be performed to achieve an objective with a system approach and in a 'team' effort. The purpose or the essence of management is coordination and that is to achieve the harmony of individual effort towards the accomplishment of the group objective.

It is now widely accepted that management should be by objectives and the objectives set should be clear, actionable and verifiable to those who want to pursue them. All planning, organising and control should lead to anticipated results, and this needs commitment for performance from the manager and his organisation.

In the management of the irrigation systems the ultimate objective is better production through optimisation of water use. This can be achieved only through an efficient and diligent process of managing the operation and maintenance of the irrigation system.

Operation and maintenance are again inter-related. Unless the system is maintained well, it cannot perform well. For defined operation under varying conditions of availability and demand pattern, only a well maintained system can respond quickly with minimum loss in operation.

An irrigation system in general has the following components.

- a) Storage or Diversion Structures
- b) Conveyance structures like the primary and secondary canal network, and

- c) Distribution network in the utilisation zone.

In each of these components besides the physical system, 'the hardware' to be managed, there is the other part which can be termed as 'software' involving the human element, prescribed rules and regulations etc. which require to be managed for the effective functioning of the system. While the 'hardware' are designed, executed and maintained to meet the requirements of the system objective, the software are to be formulated for the management of the system in all situations in consonance with the other co-systems in the same river basin, so as to yield the results envisaged in the project.

The management objectives for these components may be spelt out as follows :

- a) At the head works, either in storage for the diversion system the management objective has to be maximisation of the availability within the constraints including minimising evaporation loss.

- b) In the transmission zone of the primary and secondary canal system the management objective has to be the conveyance of the quantity of water required under all conditions of demand arising from the stage and nature of the crops in the command with minimum transmission losses, and

- c) In the utilisation zone where the distribution network is laid out to apply water to crops, the management objective has to be to ensure equity among the beneficiary under all conditions of supply and strive to give right quantity of water at the right place for crop use.

In all these sectors of management, the key figure is the manager who has

to motivate and carry his 'team' along with him for an effective functioning.

An effective manager has to be knowledgeable and thorough with all aspects of the system, including the rules and regulations and capable of evolving the various options that would be available for him in times of plenty and scarcity for efficient management in the particular situation. He should have adequate information system to act and also to monitor and measure the performance. A good manager should have the necessary skill acquired through experience and training to meet any situation, have analytical ability to communicate freely and above all be a man of integrity and the correct attitude.

Irrigation systems are public utility systems handling water the most important resource for production which at the same time is most common placed and therefore mistakenly construed as something free for all to use. The systems also operate in the open, spread over a large expanse with several people with different intensions having easy access to them, regulated and controlled by a small team of personnel. Their management is hence complex and difficult.

Organisation Presently Managing the Irrigation Systems

Presently, management of irrigation systems in the State is with two groups of personnel, the team of people in different cadres and departments maintained by the Government, and the beneficiary themselves. These two groups are widely variant in the strength of numbers, training, knowledge and skill, objectives, motivation and attitude. Yet the exigencies of this management re-

quire that these two groups function jointly understanding the strength and weaknesses of each and aim at a Formal Joint Management for better results.

The Public Works Department is the Government organisation which is responsible for the planning, execution and the management of the irrigation system upto the outlet where from the beneficiary take over. This organisation is built up as a pyramidal structure with the section officer in the base rising up to the Chief Engineer at the top in six tiers. The personnel are those who have acquired the required qualification through their academic programmes and have also had the necessary training and experience on the field. But the main ill of this organisation is that it is still catering to two different wings of the Government namely the buildings and irrigation and the personnel are interchangeable at any point of time in any cadre, which goes against the very principle of specialisation in a distinct discipline of the profession. Unfortunately the functional requirements of these two wings namely the buildings and irrigation are totally different and this interchange very often brings in a manager even at the level of the Executive Engineer to act in a situation of which he is totally ignorant and inadequately prepared. This leads more often to safe treading in the traditional path and very little scope for initiative and acceptance of challenge. Adaptation to the changing needs and the modern concepts of management is also slow. The organisation has thus remained a functional unit of the government not necessarily effective or efficient in management.

Another drawback in this organisation has been that by the specifications of the personnel and the job requirements,

they get confined to the defined task of designing, executing, operating and maintaining the system to deliver the waters at the outlet and do not have the responsibility to see that the water delivered is brought to maximum use by the farmers. In short they do not apply their minds in the application zone and do not build up contact or acquaintance with the farmers in an official capacity. The manager remains unaware of the visible results of his management and has no direct involvement in the economic progress or otherwise of his own customers. The management thus fails to be result oriented.

The Public Works Department organisation is based on territorial departmentation and that is perhaps the best suited for operation over a wide geographical area. But the territory that has been defined for each level of operation has been made synonymous with the administrative units like the Block, the Taluk and the District with no reference to the spread of the irrigation systems in those units and this is unfortunate. For purposes of reporting and administrative convenience and control, the Government have preferred this mode of departmentation which is most unsuitable for management of irrigation systems. The 1968 reorganisation of the Public Works Department equated the jurisdiction of the Superintending Engineer with the District because the Government at the Head quarters are more interested in centralising their information systems at the district modes than looking at the functional needs of engineering units.

Basin approach is fundamental to the efficient management of the water resources. Water budgeting is a must for future planning in this water short State and should be done at the basin level, the

sub basin level and micro basin level. Operation and maintenance has to be always in the background of the total basin concept. When claims and counter claims are to be met, one should have an understanding of the total basin, and its functioning to take the right decision. The organisation of the functionaries should be basin wise, so that the yield and the demand could be matched to the extent possible at each level and system operation could go on satisfactorily in all years, normal, above and below normal as well. The managers can then be made to accept responsibility for the management of the total water resources in the basin which will indirectly commit them for better performance. Basin wise reorganisation of the department thus becomes an important step for efficient management.

Otherwise, the cadre designations and functions as they exist, and the line of authority from the ultimate authority, for management to every subordinate position, have been time tested and found to be functionally efficient and may not require any modification. Engineering organisation should be essentially field oriented with the minimum time of the executive staff being required in the office. That is how the Executive Engineer's position has been pivotal in the organisation with all the cadres below him assisting him in execution and the cadres above him guiding and assisting him in administration.

It has to be mentioned in this context that the existing organisation is also demotivated with their pay scales, as the lowest in the country, and with their services not getting due recognition.

The other department of the government which has recently entered the irrigation system arena is the Agricultural Engineering Department. When the other States in the country were busy launching Command Area Development Programme with the hope of integrating the services of the Government departments for the overall development of agriculture, Tamil Nadu preferred to confine itself in creating on-farm development works for easy distribution of the irrigation flows below the outlet. The Agricultural Engineering Department was entrusted with this task and has developed a wing to execute this programme of creation of micro-distribution systems below the outlet and formalise the pattern of distribution among the farmers. The farmers are expected to operate and maintain the structures and the farm channels created under this programme.

The other group of people who are involved in the management of the irrigation systems is the beneficiary themselves. As already indicated, they manage the distribution systems below the tanks and the micro-distribution system below outlets in the major and medium projects all by themselves with their own formal or informal organisations. They may or may not be knowledgeable of all aspects of the system, but they certainly do possess the skill and are capable of mutual cooperation and adjustments for a satisfactory management of the flows made available to them in the system operation. They accept leadership, elected or nominated and respect traditional practices.

The farmers' participation in irrigation management has been quite significant till recently with the 'Kudimaramath' practices also prevailing in a good measure. With the fast development of major and medium projects in the

new areas and the stress in water use in many of the basins leading to near scarcity conditions most of the time, the farmers groups are finding it difficult to cope up with the new demands with their traditional practices. Also the political interference at all levels has eroded the village leadership slowly and there is even growing tendency for more and more of dependability on government machinery in the farm sector.

To what extent can this dependability be allowed to build up and is it a healthy trend is the question that requires to be answered.

"That Government is best which governs least" is an old adage which remains true. It is impossible to maintain any public gravity system in good order without the full involvement of the beneficiary. Governments can seldom bear the complete cost of the maintenance of the irrigation projects neither can they effectively distribute the water below the outlet, settling disputes, resolving, conflicts, punishing offenders, enforcing cropping decisions, planning rotational distribution among themselves for the best use of the available waters etc. which the Government cannot undertake to do all by themselves. A few relevant observations on this may be useful. "Governments should not do the farmers' business. Development experience world wide indicates that field channel construction operation and maintenance, on-farm improvements and general management of the irrigation water conveyance system below the outlet can be accomplished only with the direct farmer involvement". "In general, government should unambiguously avoid doing that which communities can do for themselves in their own interest, but

should intervene when exceptional problems are beyond a community power to overcome".

An unbiased approach for the strengthening of the farmers, organisations to play their part in the "Formal Joint Management" of the system may yield better results in the present context. The communication gap between the official machinery and the farmers' groups should be bridged and an atmosphere of involvement and familiar rapport between the farmers and the governmental authorities, needs to be created.

A few suggestions:

1. Human element in management is the key factor. Management which has been long thought of as the prerogative of the official-dom has got to now move towards the consumer, the farmer. A Formal Joint Management has to be evolved for a successful achievement of the objectives.

Irrigation system management is dynamic and a continuous process. The prospects and the failures keep on varying day to day depending upon the extent to which one will be able to match the demand and the availability. In such a scenario it is necessary that every information is shared and kept open to public and all concerned take joint responsibility. Designed on the lines similar to the Training and Visit system in agriculture, a new programme called the Irrigation Assessment and Action Programme (IA & AP) has been suggested to the Government by the author in 1985 which has also been accepted by the Government.

This programme is designed to be operated at the grass-root level namely

at the irrigation section. Farmers in the jurisdiction of each irrigation section are advised to visit the local section office at 4.00 p.m. *every Monday*. The section officer will be *positively available* along with the field staff at the section. During this meet the irrigation procedure followed in the previous week could be reviewed and the result assessed. An Action Plan would then be drawn up to be followed during the next week in full understanding of the supplies available and the demand that will arise during the week. The process goes on week after week until the cropping season ends. Again when the next season is to start all major discussions like the date of opening of the system are taken in consultation with the farmers. A fair trial for this programme has to be given for a few more years before we can see visible results.

2. The Public Works Department needs to be reorganised to function as the Department of Water Resources for the development of the water resources of the State and staffed with personnel with the necessary qualification and experience to seek new areas and specialise on water resources management.

3. The functional jurisdiction needs to be reoriented to align with the river basins, and the system managers made accountable for the maximisation of the resources and the economical and efficient use of the scarce resource water.

4. The irrigation management has to be under unitary control and through one single department taking the responsibility for the harnessing of the water, planning, designing and executing the irrigation works, upto the outlet point and even beyond, if technical skill is

required to help the farmers group, and manage the system right from the head works to the farm where water is brought to use.

5. The farmers' organisations already functioning should be strengthened and where they are absent should be created and made self reliant.

6. Research and Training establishments are to be created to provide

training facilities for all the in-service personnel of the Public Works Department at all levels and the farmers, on water management and optimisation of water use.

7. Appropriate organisational network is to be created for a coordinated function of the departments of irrigation, agricultural production in the State.

Some Aspects of Deprivation in Tamil Nadu

(A Selective Summary of Parts of the book *Tamilnadu Economy: Performance and Issues* (MIDS: 1988)*)

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1. An assesement of what nearly four decades of planned development have meant, in *concrete* terms, to the people of Tamilnadu must necessarily take account of the levels of well-being which it has been possible for them to attain. In this context, the evidence points compellingly to a disquieting situation in which deprivation and disparity occupy a significant place in the socioeconomic aspects of life for the citizens of this State.
2. Two useful analytical categories in terms of which the issue can be appraised are those of *freedom* and *discrimination*. 'Freedom' refers to what the economist Amartya Sen calls 'the capability to do this or that, to be this or that'; an important pointer to the 'goodness' of a society must be seen to reside in the extent to which certain positive freedoms are protected from being systematically endangered or violated. This is particularly the case in respect of certain very rudimentary rights such as :
 - the right to some minimally acceptable standard of living as measured, say, by the level of consumer expenditure ;
 - the right not to be hungry ;
 - the right to shelter ;
 - the right to freedom from disease ;
 - the right to life ;
 - the right to educational attainment ;
 - the right to livelihood, and the like.

* Text of a lecture delivered at Vasavi College, Erode, on February 8th 1989, and at Loyola College, Madras, on February 10th 1989. These lecture notes lay no claim to originality: they represent a quick condensation of selected chapters (specifically, Chapters 2, 3, 4 and 9) of the Madras Institute of Development Studies' recent (1988) publication *Tamilnadu Economy: Performance and Issues* published by Oxford & IBH.

3. *Discrimination* is a violation of the right to equality. The philosopher Ronald Dworkin speaks of two types of the right to equality: one is the right to treatment as an equal, and the other the right to equal treatment. The first of these two conceptions of the right to equality is regarded by Dworkin to be fundamental, and the second, derivative. The unequal treatment of persons who should be treated as equals constitutes an act of discrimination. The extent of discrimination prevalent in a society, in respect of the categories of positive freedom outlined earlier, can be inferred from the unequal sharing of resources and burdens among the members of the population categorized, for example, as poor/nonpoor, female/male, rural/urban, and backward caste/forward caste.
4. Several of the chapter in the book *Tamilnadu Economy: Performance and Issues*, recently brought out by the Madras Institute of Development Studies — notably Chapter 2 ('Demographic Trends'), Chapter 3 ('Occupational Structure and Employment'), Chapter 4 ('Poverty and Inequality') and Chapter 9 ('Education, Health and Housing') — have been directly concerned with an examination of the issues just discussed. I propose, in what follows, to undertake a summary of the findings in these chapters. It goes without saying that my claim to authorship of this note is restricted to just that associated with the role of summarizer, and does not in any way extend to original work (save in the context of Chapter 4 of the volume under discussion, of which I am author.)
5. Consider, first, the right to a minimum standard of living as measured by the level of consumer expenditure. The official norms of the poverty line level of consumer expenditure are not much more than destitution lines. Under the circumstances, it is disturbing to note that for the eleven-year series of observations that has been presented in Chapter 4, and which span the last two decades, the average head-count ratio (i.e. the proportion of the population in poverty) stands at nearly 50 per cent. The shortfall in the mean income of the poor, as a proportion of the poverty line, has, on average, been of the order of 28 per cent in the rural areas, and nearly 30 per cent in the urban areas. The average of the Sen index (of poverty) series works out to .179 for rural Tamilnadu, and to .197 for urban Tamilnadu. Neither the head-count ratio, nor the proportionate expenditure gap, nor yet the Sen index has shown any encouraging trend of a decline over time. One must conclude that the positive freedom embodied in the right not to be poor, or to enjoy some minimally acceptable standard of living, has been poorly secured in the State. This becomes all the clearer when we note that Tamilnadu's standard of rural welfare, in 1973-74, compared poorly with that of the other States of the Indian Union, by finishing up only twelfth in a field of fourteen States. Tamilnadu's relative position on the *poverty* front — measured either by the head count ratio or the Sen index — has also been unflattering.
6. Against this generalized background of deprivation, one notes that the burden of poverty falls with parti-

cular severity on one particular occupational category : that of *workers*, in both agriculture and industry. The enactment of minimum wage laws would appear to have done little to eliminate this striking aspect of discrimination. If we categorize the population into its rural and urban components, we find that both the magnitudes of and trends in various poverty — and inequality — related indicators are more pronouncedly severe in the urban than in the rural areas of Tamilnadu : this could perhaps be because of rural out-migrants into urban areas being confronted either by unemployment or by absorption into an impoverished tertiary sector urban workforce ; in a sense, a large part of urban poverty could be seen as absorbing the rural 'spillover'.

Turning to *inequality* as such, we note that disparities in the levels of consumer expenditure have been quite deep in the State : the Gini ratio of inequality in the distribution of consumer expenditure has betrayed no trend of a decline over time, in either the rural or the urban areas. In 1983, the average per capita consumer expenditure of the richest decile exceeded that of the poorest decile by a factor of eight (respectively nine) in the rural (respectively, urban) areas of Tamilnadu. The disparities in entitlements to final goods mirror the powerful disparities in the distribution of income-earning assets and of land; Gini ratios of inequality in the range of .70 to .75 speak for extraordinarily high rates of concentration.

Consider, next, the right to freedom from hunger. In 1972-73, the pro-

portion of people that might have been judged to be living in a state of nutritional inadequacy in relation to a norm of 2,400 kilocalories per person per day was of the order of 81 per cent. A little over 5 per cent of the population, in the same year, must be deemed to have been in a state of drastic undernutrition — consuming less than one-half the nutritional norm of 2,400 kilocalories. These figures render further comment superfluous.

9. What of the right to shelter ? Chapter III throws considerable light on the extent to which this elementary positive freedom has been secured in Tamilnadu. The simplest and most narrowly defined index of housing availability is the ratio of the number of dwelling units (to any description whatever) to the number of households : this ratio, in 1981, was less than unity in both the rural and the urban areas of the State — pointing to the presence of absolute deprivation in the matter of having access to a roof over one's head. The picture worsens drastically when we take account of the *dimensions* of a dwelling unit : the proportion of households in Tamilnadu living in single-room residences, in 1981, was as high as 57 per cent as against a national average of 39 per cent, while the proportion of households living in residences with three or more rooms was only around 16 per cent, as against an all-India average of 27-28 per cent. The *quality* of housing stock suggests that where the right to shelter is secured, it is secured in a very rudimentary fashion for large numbers of people : in 1981, nearly 70 (respectively, 40) per cent of houses in the rural (respectively,

urban) areas were of *kutcha* or *semi-pucca* structure. When we categorize houses according to the amenities — such as toilet facilities, drinking water supply, and lighting — to which they have access, the situation becomes even more grim. About 40 per cent of houses in the urban areas of Tamilnadu did not have access to any toilet facilities (1980 figures). A survey conducted on Madras slums in 1979 by the Operations Research Group reveals that about 65 per cent of the slums in the City again had no access to toilet facilities at all. Where drinking water supply is concerned, figures for 1978 suggest that nearly 75 per cent of rural households were denied access to this facility ; major problems of availability are a feature of urban areas as well. In 1978, only around 20 per cent of rural households had electric lighting ; the situation was definitely better, though far from good, in the urban areas : 60 per cent of urban households had access to this facility.

10. The distribution of the limited resource of housing presents considerable evidence of discrimination against the poor and the scheduled caste sections of the population. Thus, 1981 figures suggest that nearly 65 per cent of households in the lowest expenditure group (with a per capita monthly expenditure level of less than Rs. 30/-) lived in one-room houses, while only around 20 per cent of the households in the highest expenditure group (with a per capita expenditure level exceeding Rs. 150/-) fell in this category of housing status. Similarly, while only around 13 per cent of the households in the lowest expenditure group had electric lighting, nearly 90 per cent of those in the

highest expenditure group had access to this facility. Figures for 1977-78 show that less than 6 per cent of rural scheduled caste households, and less than 13 per cent of urban scheduled caste households lived in *pucca* dwellings ; the corresponding figures for all households were substantially higher, at 18 per cent and 47 per cent respectively in the rural and urban areas of the State. On several counts the housing situation would appear to be worse in rural Tamilnadu than in urban Tamilnadu ; but the most acute manifestation of the problem is perhaps in the urban areas — in the form of the emergence and proliferation of *slums*. According to the estimates of Nagaraj and Rukmini (1984), slums in Madras City in 1971 accounted for 30 per cent of the population, but only for 6 per cent of the area.

11. Low living standards, as manifested in low levels of per capita consumer expenditure ; inadequate nutritional intake ; and serious shortfalls in access to housing which compel large numbers of people to live in overcrowded and insanitary surroundings without even access to clean drinking water ; these are ingredients of a situation which are scarcely encouraging in respect of advancing the rights to life and freedom from disease. The chapters on demography and health are revealing in this context.
12. Data have been presented in the above-mentioned chapters on life expectancy rates, death rates and infant mortality rates. Over the period 1951-1961, the expectation of life at birth was 41.09 years — less than the figure for the country

as a whole (43.85 years); a similar picture obtains for the period 1970-75, when expectation of life at birth was 49.6 years for Tamilnadu males, as against a national average of 50.5 years. The life expectancy rates for females, over these periods, have been less than for males, and very close to the all-India figures. Over the period 1970-75, expectation of life at birth for males was 10.3 years higher in the State of Kerala than in Tamilnadu; and for females, the gap was even wider — at 13.8 years — in favour of Kerala. Thus, while life expectancy rates have displayed an increasing trend over time during the course of this century, their absolute levels are far from encouraging in relation to achievable potential — as manifested in the performance of the neighbouring State of Kerala. The death rate — defined as the number of deaths per one thousand population — has been high in Tamilnadu, and has contributed significantly to the State's relatively low rate of population growth. In 1980-83, the death rate in Tamilnadu was 11.5 — just marginally lower than the figure for India (12.2), and over 1.7 times the corresponding figure for Kerala. Over this period, the death rate in the rural areas (13.2) has been significantly higher than in the urban areas (8.0). The infant mortality rate (number of infant deaths per thousand live births) in Tamilnadu was 93 in 1980 — again less than the national average of 114, but nearly 2.5 times the corresponding figure for Kerala. The urban infant mortality rate (64) in 1980 was much lower than the rural rate (103). The data on life expectancy at birth, death rates and infant

mortality rates clearly indicate that the rural areas of the State are worse off than the urban areas, just as females are significantly worse off than males. Indeed, the declining trend over time in the sex ratio (number of females per thousand males in the population) strongly suggests that incremental benefits over time on the health-and-physical-well-being front have been disproportionately diverted to males.

13. We consider, next, the status which prevails in respect of morbidity (sickness and injury). Data for 1973-74 suggest that the level of morbidity was nearly 50 per cent higher in Tamilnadu than in the country as a whole. Sicknesses of specific concern to the State have been cholera, endemic filaria, trachoma and leprosy — for the last of which the prevalence rate in Tamilnadu (15 per one thousand) was some two-and-a-half times the rate for the entire country in 1984-85. What is the extent of curative and preventive facilities that are available — in terms of hospital beds, doctors and primary health centres — to combat the high rates of morbidity and mortality which obtain in the State? At the beginning of 1985, the population-to-hospital beds ratio in Tamilnadu was 1142 — which is marginally better than the all-India figure of 1330, but significantly worse than the figures for Kerala and Maharashtra (591 and 731 respectively). In 1977, while the population-bed ratio was in the region of 760 for Madras city, it was a staggering 6900 for the rural areas. Where the availability of doctors is concerned, Census data for 1971 suggest that in Tamilnadu, 80 per cent of allopathic doctors were in

the urban areas, and that the population-to-doctors ratio in the rural areas of the State was as high as 180,00. Evidence of discrimination as between the city and districts is again available in the context of access to doctors: as against a population-doctor ratio of 620 for Madras city, the figure for the districts was 4840. The coverage of Public Health Centres (PHCs) in Tamilnadu has been quite low: as against a norm of one PHC per 30,000 population and one subcentre per 5,000 population, the figures for the early 1980s suggest that actual coverage has been of the order of one PHC per 80,000 population and one subcentre per 10,000 population in the rural areas of the State. The coverage in terms of maternal and child health services — which is the chief concern of the subcentres — has also been disappointing: in the late 1970s, more than 60 per cent of deliveries in rural Tamilnadu were estimated to have been at home and without the assistance of trained personnel: only between 20 and 30 per cent of the target population benefitted from the immunization and prevention programmes for children and mothers. The overall state of inadequacy of resources for combating health related problems in the State is reflected in the fact that only around 2 per cent of the total Sixth Plan outlay was allocated to health.

14. Poverty, undernutrition, and the economic compulsion to live in overcrowded and insanitary conditions have, as already noted, contributed considerably to the high levels of morbidity and mortality in Tamilnadu; a third factor, which has

its share of responsibility for the State's poor record in guaranteeing to its people the rights to life and freedom from disease, is the restricted access to *literacy and educational attainments*. The higher age at marriage for females, and the sharp decline in marital fertility rates in Kerala, could be attributed to the relatively high levels of female literacy in that State; lower infant mortality rates, arising from more hygienic child-rearing practices, also owe much to literacy attainments. Apart from these *instrumental* advantages, the right to education must be regarded as a basic positive freedom of much intrinsic worth. To this issue — on which Chapter III throws light — we now turn.

15. *Literacy*, which is generally taken to be the ability to read and write, is perhaps the most rudimentary aspect of formal education. From only around 6.5 per cent of the population at the beginning of the century, the proportion of literate persons in the population had gone up to a little more than a half by the beginning of the 1980s. Literacy figures have certainly been more impressive for Tamilnadu than for the country as a whole. Even so, the picture is far from satisfactory. Disparities in literacy attainment among different groups of individuals are pronouncedly evident from the Census data for 1971 presented in Chapter III: the number of literate individuals per one thousand of the relevant population was 454 for all persons; 370 for rural persons; 309 for females; 219 for rural females; 218 for scheduled caste persons; 113 for scheduled caste females; 90 for scheduled tribe persons; and

just 45 for scheduled tribe females. Beginning with an overall picture of absolute inadequacy, it worsens very swiftly when we take account of caste and sex based disparities. The literacy rate among adults, at 50 per cent in 1981, was higher than the national average, but compared poorly with the neighbouring State of Kerala, with an adult literacy rate of around 80 per cent. The position of females — particularly in rural areas — is again strikingly backward: only 38 per cent of adult females, and 23 per cent of adult females in rural areas, were literate. Literacy rates among *workers* have also been very low. Another important indicator of educational status is the proportion of the school-age (5-14 years) population receiving instruction: this ratio, according to 1971 Census figures, was 50 per cent for all children, and 41 per cent for girls. The growth in the number of schools and in enrolment has been impressive in the post-Independence period in Tamilnadu. Over the period 1960-61 to 1980-81, the enrolment in primary education has nearly doubled, while the increase in enrolment in middle and secondary schools has been even greater. The proportion of middle school students continuing into high school has also been on the increase. Impressive also is the fact that enrolment of girls has been growing faster than the overall rate of enrolment at all stages of school education. Despite these encouraging features, it must be observed that overcrowding and high pupil-teacher ratios reflect severe inadequacies in the availability of basic educational facilities. The rate of enrolment in *collegiate*

education in Tamilnadu — as elsewhere in the country — has increased faster than the rate of enrolment at the high school level. However, doubts regarding the functional relevance and quality of collegiate education continue to be entertained by educationists.

16. Overall, while indicators of educational status (including public spending on education) have been better for Tamilnadu than for the country as a whole, they have been significantly worse than for Kerala; and rural, Female and scheduled caste and scheduled tribe persons have been the particularly disadvantaged groups in the attainment of this particular freedom.
17. Access to *employment* is surely an important factor underlying the various dimensions of deprivation we have discussed. Chapter II provides information on the extent to which the right to livelihood has been freely enjoyed by the people of this State. In 1983, the person-days unemployment rate (PDUR) was 18.5 per cent for males in the rural areas, and nearly 15 per cent for males in the urban areas; these figures are considerably higher than the corresponding all-India figures of 8 per cent and 9.2 per cent respectively. The rural and urban PDURs for females was 23.4 per cent and 17.4 per cent respectively, which again compared very unfavourably with the corresponding figures for the country as a whole (10.4 per cent and 12.1 per cent respectively). In 1983, the unemployment rate for males in Tamilnadu was the second highest among all States, while the unemployment rate for females was

the third highest. Over the ten-year period 1972-73 to 1983, all sex-residence categories in the State have exhibited an increase in the unemployment rate. The rural male unemployment rate in Tamilnadu has increased nearly five times faster than for the country as a whole, while the urban unemployment rates over the period 1977-78 to 1983 have *increased* in Tamilnadu and *decreased* at the all-India level. That unemployment and deprivation should be intimately inter-related is hardly surprising; and among the *employed*, as we have already had occasion to note, agricultural labourers and industrial workers are among the most impoverished occupational categories. Work done by Kurien (1981) suggests that by and large there has, if anything, been an overall decline in the real wage rate for agricultural wage workers in Tamilnadu. Insofar as industrial workers are concerned, data from the publication *Tamil-*

nadu An Economic Appraisal suggest that the proportion of wages in total emoluments (wages *plus* salaries) has declined from 78.75 per cent in 1962 to 58.18 per cent in 1978-79. Briefly, the right to livelihood — both in terms of access to employment and the remuneration from employment — is one which has been poorly secured in Tamilnadu.

18. To sum up: Tamilnadu's record in the matter of guaranteeing certain very basic positive freedoms to its citizens is one in which the attainment of these freedoms has been frustrated for large numbers of people; and the discriminatory force with which the burden of deprivation has fallen on a few particularly vulnerable sections of society — rural, female and scheduled caste, tribe persons — has been severe. This observation is not novel: what deserves mention is that the fact is even less so.

Nineteenth Census of Social Science Research in Southern States

1989

Introduction

The Nineteenth Census of Social Science Research has dropped to 238 from last year's 313. Table I which tabulates the entries according to states and institutes as well as disciplines shows that the coverage is far from being exhaustive. For instance, from Andhra Pradesh only 7 institutes have responded, Karnataka 5, Kerala 2, and Tamilnadu 12. This is rather disappointing inspite of making special efforts to canvass information and sending reminders. Letters were sent out to as many as 250 institutions. We would welcome suggestion from users of the census on how its coverage can be made more comprehensive.

Table I as already mentioned, gives the list of institutions that have participated in the census and the general classification of entries according to the

subjects. In all 27 institutions (Departments) responded to the request for information. Of the total 238 entries, Economics leads with 80, which is a sharp decline from last year's 163 entries. The second place is taken by Political Science which has 70 entries held by Education with 38 entries last year and the third place goes to Commerce and Business Administration with 31 entries held by Political Science and Public administration with 35 entries last year. The figures for the remaining subjects are Education 28, Anthropology 10, Psychology 9, Geography 5, History 4 and Sociology 1.

The rows in Table I gives information about the institutions arranged according to States. The states total are also indicated. Surprisingly for the first time Andra leads with 82 entries over Tamilnadu's

80 with Kerala and Karnataka sharing the third and fourth positions.

In Andhra, Political Science takes the lead followed by Economics, in Karnataka Anthropology followed by Commerce, Kerala Economics Commerce led by and in Tamilnadu Economics is followed by Political Science and Public Administration.

Table 2 gives a more detailed classification of the census according to the purpose for which research is being done. Out of the 238 entries, 131 leads to Ph. D. theses and 81 to M. Phil dissertations, the rest being research not linked to degrees.

Presentation of Census

Part I of the census which reports on research projects is organised as follows :

The classification is first, subject-wise, second, institution-wise (University, institute and college), third, degree-wise (M.Phil, Ph.D. and projects not leading to any degree) and fourth, sub-area-wise (alphabetically) and within each sub-area the order is chronological. The subject classification and the institutional listing is alphabetically arranged beginning with Anthropology.

Every entry first carries the title of the project. This is followed by the sub-area to which the research project belongs. It should be noted that the sub-area is as given by the respondents. Where this or any other information is absent from any entry, it may be understood that the same was not furnished by the respondent. The sub-area is

followed by a brief account of the objective and methodology of the project. Then follow the degree to which the project leads (Gen standing for 'General' is indicated if the project does not lead to a degree), the date of commencement of the project and date of termination, in that order. Finally, the names of the researcher and supervisor respectively are furnished. The abbreviation '(Ind)' appearing against the name of the researcher (s) indicates that the project has been undertaken independently by the researcher (s).

In the case of projects which have been reported either in the last census or in an earlier one, two points should be noted (1) The objectives and methodology of projects are not repeated if they have already been reported in sufficient detail. However all other information is furnished. (2) In addition to other details, the objectives and methodology are included in cases where: (i) this information was missing in the earlier report, (ii) the presentation in the current report appeared to be more clear or detailed, and (iii) any change was noticed in the Objectives and or Methodology.

The following abbreviations have been used in the presentation :

- A : Sub-area
- O : Objectives
- M : Methodology
- R : Name of the researcher
- S : Name of the supervisor
- Gen : General
- Ind : Independent Research

In part II of the Census, the areas of specialisation of different centres is listed on the basis of information supplied by the heads of concerned centers (departments or institutes as the case may be). It is hoped that the information given in part II will help the researchers to find out where research work of their interest is currently going on. The appendix provides the

addresses of the universities, institutes and colleges which have responded to the census.

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

	Anthropology	Commerce & Business Administration	Economics	Education	Geography	History	Political Science & Public Admini- stration	Psychology	Sociology	Total
I. ANDHRA PRADESH										
1. Andhra University	...	...	...	...	...	...	...	1	...	1
2. Nagarjuna University	...	...	...	...	...	...	9	...	...	9
3. Sri Krishnadevaraya University	...	...	11	...	...	...	51	...	...	62
4. Sri Venkateswara University	...	...	...	...	...	4	...	...	...	4
5. University of Hyderabad	...	...	...	...	...	...	...	...	...	4
6. Institute for Development & Planning Studies	...	...	4	...	...	...	...	...	...	4
7. Centre for Economic and Social Studies, Hyderabad	...	...	2	...	...	...	...	...	...	2
Andhra Pradesh Total :	...	...	17	...	...	4	60	1	...	82
II. KARNATAKA										
1. Bangalore University	...	...	...	...	...	...	...	8	...	8
2. Gulbarga University	...	...	3	...	...	...	...	...	...	3
3. Karnatak University	10	...	...	6	...	...	...	...	...	16
4. University of Mysore	...	5	...	...	...	...	...	...	...	5
5. Kousali Institute of Management Studies	...	3	...	...	...	...	...	...	...	3
Karnataka Total :	10	8	3	6	...	...	...	8	...	35
III. KERALA										
1. Cochin University	...	19	6	...	...	...	...	...	...	25
2. University of Kerala	...	4	...	6	...	...	...	...	...	10
3. Indian Institute of Regional Development Studies, Kottayam	...	...	6	...	...	...	...	...	...	6
Kerala Total :	...	23	12	6	...	...	...	...	...	41
IV. TAMIL NADU										
1. Annamalai University	...	...	...	3	...	...	...	...	...	3
2. Bharatiar University	...	...	11	...	...	...	...	...	...	11
3. Madurai Kamaraj University	...	...	...	7	...	...	...	...	1	8
4. Tamilnadu Agricultural University	...	...	3	...	...	...	...	...	...	3
5. University of Madras	...	...	...	6	5	...	...	...	...	11
6. Centre for Research on New International Economic Order	...	...	5	...	...	...	...	...	...	5
7. Indian Institute of Technology	...	...	6	...	...	...	...	...	...	6
8. Madras Institute of Development Studies	...	...	10	...	...	...	...	...	...	10
9. Madras Christian College, Tambaram	...	...	4	...	...	...	10	...	...	14
10. Sacred Hearts College, Tirupattur	...	...	1	...	...	...	...	...	...	1
11. Sri Ramakrishna Mission Vidyalaya, Coimbatore	...	...	3	...	...	...	...	...	...	3
12. Stella Maris College, Madras	...	...	5	...	...	...	...	...	...	5
Tamilnadu Total :	...	...	48	16	5	...	10	...	1	80
Grand Total :	10	31	80	28	5	4	70	9	1	238

TABLE : 2

**Nineteenth Census of Social Science Research in Southern Universities
Subject Classification**

Sl. No.	Area	Page No.	Ph.D.	M.Phil	General	Total
1—10	Anthropology	S. 7	9	—	1	10
11—41	Commerce & Business Administration	S. 8	31	—	—	31
42—121	Economics	S. 15	38	27	15	80
122—149	Education	S. 35	14	8	6	28
150—154	Geography	S. 43	3	1	1	5
155—158	History	S. 44	1	1	2	4
159—228	Political Science & Public Administration	S. 45	28	42	—	70
229—237	Psychology	S. 60	6	2	1	9
238—	Sociology	S. 62	1	—	—	1
	Total		131	81	26	238

Part 1. Research Projects**ANTHROPOLOGY****Karnatak University**

1. Anthropology Study of Motivation Factors for acceptance and adoption of small Family in Rural Setting

A : Social Anthropology

O : —

M : —

Ph. D. : 1981 : ongoing

R : Vell Koliwad

S : B. G. Halbar

2. Rural Urban Migration and Social Cultural Change among the Brahmins of Dharwad

A : Social Anthropology

O : —

M : —

Ph. D. : 1982 : ongoing

R : P. S. Adi

S : B. G. Halbar

3. Sin and Crime among the Iranis

A : Social Anthropology

O : To find the concepts of Sin and Crime among Iranis, the extent of Sin and Crime among them & Cultural, Social Change among the Iranis.

M : Anthropological

Ph. D. : 1982 : June 1988

R : Nataraj

S : N. K. Kadetad

4. Social Regulation of fertility amo the Muslims of Hubli

A : Social-Cultural

O : —

M : —

Ph. D. : 1983 : Aug. 1988.

R : Shalinda

S : Prabha Mahale

5. Social-Cultural Change among 1 Ex - untouchable Communities Mysore.

A : Social-Cultural Anthropology

O : —

M : —

Ph. D. : 1984 : July 1988

R : Ningaiah

S : Prabha Mahale

6. Social-Economic Study of 1 weavers in Hubli

A : Social-Cultural Anthropology

O : —

M : —

Ph. D. : 1984 : July 1989

R : Surekha Haldipur

S : Prabha Mahale

- Idiga of Chittoor District : A Study in Change and continuity

A : Social Anthropology

O : —

M : —

Ph. D. Nov. 1985 : Nov. 1989

R : K. Viswanatha Reddy

S : K. G. Gurumurthy

- Hanbans of South India — A study

A : Social Anthropology

O : —

M : —

Ph. D. : July 1986 : July 1990

R : Aruna Hallikeri

S : K. G. Gurumurthy

- Social Anthrological Study of a Normatic Artisan Tribal Community in a Metropolitan Setting

A : Social Anthropology

O : —

M : —

Ph. D. : Dec. 1986 : ongoing

R : Anil Mahajan

S : K.G. Gurumurthy

0. Women's Work and family Strategies — A Study of Basavis in Karnataka.

A : Socio-Cultural Anthropology

O : —

M : —

Gen : July 1986 : Aug. 1989

R : Shalinda

S : Prabha Mahale

COMMERCE AND BUSINESS ADMINISTRATION

School of Management Studies,
Cochin University of Science and
Technology

11. Investment in human capital in Kerala — A cost benefit Analysis.

A : Labour Economics

O : —

M : —

Ph.D. : Ongoing

R : A. S. Cheriyan

S : P. Sudarsanan Pillai

12. A study of the growth and prospects of the pepper industry in India.

A : Industrial Economics

O : —

M : —

Ph.D. : Ongoing

R : K. M. Chandrasekar

S : N. Parameswaran Nair.

13. Export Promotion process and potential

A : International Economics

O : —

M : —

Ph.D. : Ongoing

R : C. A. Francis

S : Ranganathan

14. A study of the application of modern marketing techniques in hotel industry.

A : Marketing

O : —

M : —

Ph.D. : Ongoing

R : Joseph Jacob

S : Ranganathan

15. Procurement and Marketing of natural rubber with particular reference to Co-operative Sector.

A : Industrial Economics

O : —

M : —

Ph. D. : Ongoing

R : K. K. Kuriakose

S : N. Ranganathan

16. Value Orientation of professionals in Kerala.

A : Managerial Economics

O : —

M : —

Ph. D. : Ongoing

R : C. J. Thomas

S : P. Ramachandra Poduval

17. Performance effectiveness of nationalised banks.

A : Banking

O : —

M : —

Ph. D. : Ongoing

R : Zachariah Thomas

S : P. Sudarsanan Pillai

18. Economics of Coffee Plantations Industry in India.

A : Plantation Economics

O : —

M : —

Ph. D. : Ongoing

R : Bose P. R.

S : P. Sudarsanan Pillai

19. Commitment of Women Industrial Workers.

A : Industrial Economics

O : —

M : —

Ph. D. : Ongoing

R : Gladis Mary John

S : N. C. Pillai.

20. A study of corporate financial reporting practices.

A : Financial Economics

O : —

M : —

Ph. D. : Ongoing

- R : K. M. Aruna
S : K. George Varghese
21. A Study of the performance of the Jeevan Sathi & Jeevan Mithra Policies offered by LIC.
A : Industrial Economics
O : —
M : —
Ph. D. : Ongoing
R : Baby Joseph
S : P. N. Rajendra Prasad.
22. A study of capital structure in Major Industrial concerns in Kerala.
A : Industrial Economics
O : —
M : —
Ph. D. : Ongoing
R : K. A. Mathew
S : P. R. Wilson
23. Management controls in Industries.
A : Industrial Economics
O : —
M : —
Ph. D. : Ongoing
R : Antony D. Parackal
S : P. R. Wilson
24. Role of intermediaries in international trade.
A : International Economics
O : —
M : —
Ph. D. : Ongoing
R : O. V. Abdul Faisal
S : K. George Varghese
25. Commitment to work of Bank officers
A : Banking
O : —
M : —
Ph. D. : Ongoing
R : Anto John
S : N. C. Pillai
26. Executives growth due to continuing professional education.
A : Economics of Education
O : —
M : —
Ph. D. : Ongoing
R : J. Baby
S : C. M. George
27. Infantile paralysis in small scale industries in Kerala.
A : Industrial Economics
O : —
M : —
Ph. D. : Ongoing

- R : Babu Joseph
S : P. R. Wilson
28. The Alwayes Industrial Belt.
A : Industrial Economics
O : —
M : —
Ph. D. : Ongoing
R : K. K. Roshan
S : K. K. George
29. Performances appraisal of Public Sector manufacturing units of Government of Kerala.
A : Industrial Economics
O : —
M : —
Ph. D. : Ongoing
R : Varghese Mathew
S : K. C. Sankaranarayan
- University of Kerala
30. Leadership effectiveness in selected public sector undertakings in Kerala.
A : Organisation Behaviour
O : To find the leadership styles and their effectiveness in the selected public sector undertakings, the various factors (variables) that influence the effectiveness of leaders and develop a new test pattern to measure the leadership effectiveness in Public sector undertakings.
- M : To identify the variables which influence the leaders such as external influence, internal influence, supervisors, subordinates acceptance, trade union influence, informal group influence and qualities or traits influence etc. Develop Interview Schedules and conduct opinion surveys, attitude surveys on executives, Supervisors and workers in the selected public sector undertakings in Kerala. statistical tools such as average, Standard Deviation, Correlation, testing hypothesis etc used.
Ph. D. : Feb. 1987 : March 1990.
R : N. Ramalingam
S : C. N. Purushothaman Nair
31. Tourism in Kerala : Problems and Prospects
A : Tourism
O : To analyse the main problems faced by the industry in Kerala and project the potentialities of tourism, make suggestions regarding promotional aspects
M : Data from Tourists through survey method and existing literature.
Ph. D. : Oct. 1987 : Oct. 1990
R : S. V. Sudheer
S : C. N. P. Nair.
32. Staff Management in Selected Co operative Societies in Kerala
A : Personnel Management

O : To evaluate the system of Recruitment and Selection procedure currently followed by the Co-operatives and its impact on the working of societies, examine the working conditions of the employers with special reference to the wage incentive structure and other Welfare amenities to the employees, suggest an effective staff management Policy suitable to the co-operatives functioning in the state.

M : The present study is exploratory in character based on case studies and survey method of various theories and styles of staff management and their practicability and applicability in co-operatives in Kerala and study the existing system of staff management policies prevailing in different co-operatives in the staff of Kerala.

Ph. D. : Aug. 1918 : Ongoing

R : Thomas Joseph

S : M. K. Ramachandran Nair.

13. The Kerala State Cashew Development Corporation — An Evaluative Study

A : Industry

O : To assess the role of the KSCDC in the development of cashew industry in Kerala, evaluate its working and ascertain the impact of the working of the KSCDC in improving the Socio-economic status of cashew workers in Kerala.

M : Primary data from cashew workers by using interview-schedule. Data on the working of the KSCDC by using questionnaire.

Ph. D. : Sep. 1988 : Ongoing

R : Deyanandan M.N.

S : M. Sarangadharan

University of Mysore

34. Financial Management in Public Enterprises — A Case Study of Selected Public Undertakings in the State of Karnataka.

A : Financial Management

O : —

M : Survey Method

Ph.D. June 1984 : Dec. 1988

R : B. Shivaraj

S : M. Venkatesh.

Kousali Institute of Management Studies

35. Resource use Management Productivity and returns to scale to paddy farms of coastal Andhra Pradesh.

A : Farm Management

O : Study the resource availability and resource use management in paddy farms for both seasons and by farm sizes, the nature and behaviour of cost curves according to season and size of farms, estimate the resource productivity and returns to scale from paddy farms.

M : For evaluating the above objectives production function approach is being followed.

Ph.D. : Aug. 1981 : Completed

R : S. Adinarayana

S : Bhagawati Prasad

36. A Strategy for Regional Development Planning : A case study of Western Nepal.

A : Regional Economics

O : Study the existing planning processes and evolve an appropriate strategy for the economic development of the Western Region of Nepal.

M : The secondary data from different departments of the government of Nepal, the primary data through scheduled questionnaire and participant observation.

Ph.D. : 1981 : Completed

R : Vijay Raj Sharma

S : C.B. Tigadi

37. An Economic approach to power supply and demand management : A case study of Kerala.

A : Operation Research

O : Analyse the present system of power supply and demand management and evolve viable management strategy for decision makers in order to overcome the short and medium term energy crisis.

M : Macro-economic and operations Research approach within the framework of system analysis supported by field investigations and secondary data.

Ph.D. : 1981 : Completed

R : P.P. Pillai

S : C.B. Tigadi

38. Management of Finances in Small Scale Industrial Units.

A : Financial Management

O : Study the capital structure in the selected units to determine the cost of capital and problems of working capital management in the selected units.

M : Empirical study based on field survey method, following, personal interview method.

Ph.D. : Dec. 1983 : Completed

R : Kalchetty Eresi

S : Bhagawati Prasad

39. Portfolio Management — A study of the Unit Trust of India.

A : Portfolio Management

O : To determine the rates of return on equity investment in India, estimate risk underlying equity returns and thereby the return generating process and evaluate the performance of the portfolio of the Unit Trust of India.

M : Geometric mean annual returns computed for all holding periods

for the years 1964-1988, from the monthly price, dividends, and capital structure data collected for 140 actively traded equity shares. Using the CAPM approach, the Betas of the equities estimated using the OLS regression analysis, and mean variance efficiency of the rates of return tested. From the annual reports of the UTI, information on the portfolio of the UTI gathered and annual returns computed.

Ph.D. : July 1985 : ongoing

R : Uma Shashikant

S : Bhagawati Prasad.

10. The Indian Roller Flour Milling Industry — A study of profitability and its Determinants.

A : Finance

O : To study the growth and development of the Roller Flour Milling Industry so that its position on the Food supply map of India is delineated, examine the problems besetting the fast-growth of the Industry, analyse the reasons for narrow operating margin of the industry, evaluate the mortality rate of the producing units in the industry, assess the overall profitability and measure factors contributing to it.

M : Stratified random sampling technique used. The milling units in each state are stratified in four-stratums according to their registered capacity in Metric-tonnes. 10% of the units

from each stratum at random mainly on the basis of the availability of the data, data collection-questionnaire and structured interviews, data processing regression runs & correlation-analysis.

Ph.D. : Nov. 1987 : Nov. 1990

R : Rekha Singhal

S : Bhagawati Prasad.

41. Towards A New Tax-Order, With reference to Individuals.

A : Finance

O : Reduction in the complexity of the current direct tax structure both in number and incidence will pave way for a higher total tax collections and reach new equilibrium, 'zero' rate of individual income-tax, social and economic welfare maximises. Does it really end up so? It is more so in case of salaried class.

M : The period taken is 1951-51 to 1986-87, as it indicates the trends in the taxation and its incidence since the inception of economic planning up to the year 1986-87. A time series data for the above period collected for the total revenue collection (direct + indirect taxes), the total number of direct tax assesses over the years, the rate structure of taxes, its impact and the trends in national income distribution can be utilised to justify the hypothesis.

Secondary sources, documents like gazettes, official docu-

ments, commission reports, etc. Observation of the current direct tax structure and a questionnaire on research problems prepared.

Ph. D. : Aug. 1987 : Aug. 1990

R : Vijayalakshmi C. Ingalagi

S : Bhagawati Prasad.

ECONOMICS

Sri Venkateswara University

42. Marketing of Tobacco in Dattalur, Nellore District, Andhra Pradesh.

A : Agricultural Economics

O : To examine the production and marketing framework of tobacco in a select village of Nellore district.

M : Primary and secondary data are collected through a structured schedule. Measures of Central tendency and dispersion used.

M. Phil : 1985 : 1988

R : G. Venkateswarlu

S : G. Raghava Reddy.

43. India's Foreign Trade Since 1969.

A : International Economics.

O : To review the trade policy of India since 1969, analyse the composition and direction of Principal imports and exports of India since 1969.

M : Secondary data used and measures of central tendency, dis-

persion and student-t-test are employed.

M. Phil : 1936 : 1938

R : C. Venkata Ramanaiah

S : G. Raghava Reddy

44. Instability in Agricultural Growth in Anantapur District.

A : Agricultural Growth and Instability.

O : To study growth rates of crop production, examine the instability associated with growth, analyse the factors influencing growth and instability in agriculture.

M : Secondary and Primary data, Linear growth rates, C. V, etc. used.

Ph. D. : Sep. 1978 : March 1981.

R : V. Reddeppa Reddy

S : K. Venkata Reddy

45. Role of Commercial Banks in the Development of Rural and Cottage Industries.

A : Industrial Organisation

O : To study the place of rural and cottage industries in the economy of the district, analyse the growth, structure and evaluate their constraints and prospects.

M : Secondary and primary data collected. Measures of central tendency, Gini Co-efficient,

ANOVA and tests of significance made.

Ph.D. : 1982 : 1988

R : M. Balasubrahmanyam

S : G. Raghava Reddy

46. An economic analysis of Primary Agricultural Credit Societies in Nellore District, A.P. Since 1980.

A : Agricultural Finance

O : To study the structure, conduct and performance of PACS in Nellore District and their role in the economic development of the farming community.

M : Secondary and Primary data through stratified random sample survey by canvassing a schedule. Measures of Central tendency, dispersion, Lorenze Curve, tests of significance and ANOVA employed.

Ph.D. : 1984 : 1988

R : P. Kothanda Rami Reddy

S : G. Raghava Reddy.

47. Dairying in Rural Development : A Study of Dairy Cooperatives in A.P.

A : Cooperative Dairying in Rural Development

O : To study the working of dairy cooperative societies at the village level, their impact on milk production, marketing and consumption, and the effects of dairy cooperatives on income and employment generation in rural areas.

M : Experimental Research Design. Two cooperative villages and two control villages & Stratified proportionate Random sampling used

Ph.D. : 1984 : Ongoing

R : G. Sreedhar

S : K. Venkata Reddy

48. The Silk Weavers of Dharmavaram. A study in Migration and Entrepreneurship.

A : Rural Industrialisation

O : To identify the structural determinants of Rural Urban migration, examine the capabilities and constraints of Entrepreneurship, the relevance of Gandhian concept of industrialisation.

M : —

Ph. D. : 1986 : Ongoing

R : C. Sudhakar

S : Uma Mohan

49. Regulated markets in Agricultural Marketing

A : Rural Marketing

O : To study the impact of Regulated markets on farmer income, examine the benefits accrued to different categories of farmers through Regulated markets & reasons for utilising or not.

M : —

Ph. D. : Nov. 1987 : Ongoing

R : K. Bhaskar

S : K. Venkat Reddy

50. Impact of National Adult Education programs on Learners, Literacy, functionality and social awareness in Anantapur Dt.

A : Adult Education

O : —

M : —

Ph. D. : Ongoing

R : K. Govindappa

S : —

51. Voluntary Action for Rural Development

A : Rural Social Work

O : To analyse the voluntary efforts in Rural Development, i.e. Strategy of community organisation, Programmes of economic development and impact of the voluntary action.

M : Case study supported by interviews with Project staff, leaders and target people.

Ph.D. : Jan. 1988 : March 1989.

R : P. Murali Dharudu

S : —

52. Impact of IRDP in Anantapur District.

A : Rural Banking

O : To study the socio-economic profile of the beneficiaries and the impact of IRDP

M : —

Ph.D. : 1989. On going

R : N.V. Narayana

S : —

Centre for Social and Economic Studies, Hyderabad

53. District Plan of East Godavari

A : Regional Planning

O : Estimate incidence of poverty and unemployment and identify the potentials for growth of the district.

M : —

Ph.D. : Gen : 1986 : Dec. 1988

R : S. Subrahmanyam, K. S. Reddy Rama Raju. V.

S : —

54. Rice Milling Industry in A.P.

A : Specific Industry Studies

O : To examine the working of the rice mills of different technologies in terms of capacity utilisation, Rate of return on capital etc.

M : Sample study covering 68 units for the reference year 1985-86.

Gen : Dec. 1986 : Ongoing

R : V. Surendar

S : —

Institute of Development and Planning studies, Vishakapatnam

55. Agricultural Growth and Rural-Urban Resource Flows — A Case Study of East Godavari District.

A : Rural - Urban Relations

O : To analyse the shifts in rural-urban linkages in consumption, agricultural production and household investment sectors in a developed district and study the implications of the resource flows for growth and poverty in the district.

M : Secondary data for the periods before and after the Green Revolution analysed.

Gen : July 1986 : July 1988.

R : B. Sarveswara Rao

S : S. Subramanyam

6. Baseline Studies and Evaluation of Slum Improvement Project, Vishakapatnam.

A : Urban Slum Studies

O : Prepare Baseline Studies on selected slums in respect of socio-economic status, physical and social environment, health and welfare, status papers on important aspects of slums and evaluate the impact of slum improvement programmes.

M : Selection of slums based on social area analysis, Profiles of selected slums, General Survey of Sample Households.

Gen : Feb 1988 : June 1989.

R : B. Sarveswara Rao, B. Swarajyalaxmi, P. V. Sarma.

S : — (Ind)

57. Zonation of Environmentally Sensitive Areas for Protection in Andhra Pradesh.

A : Environmental Study.

O : Identifying and selection of environmentally sensitive areas in Coastal Andhra Pradesh, Study the Pollution potential and threat to environment arising from industrialisation process and suggest measures for protection of the environment on the basis of industrial location criteria.

M : Collection of relevant data (metrological, geo-physical, ecological and socio-economic) in selected areas, assess the environmental carrying capacity in the air and water regimes and determine the industrial location criteria specific to the selected areas. (Viz a region; and Godavary-Krishna Basin)

Gen : Oct. 1988 : April 1990

R : B. Sarveswara Rao & T. Shivaji Rao & M. N. Sastry.

S : (Ind.).

58. Action Research on Water Management in the Lower Tandava River Basin.

A : Water Management

O : To identify the problems of water management in the area, to assess the Water (Surface and Ground) potential and agricultural potential, promote optimal use of land and water resources & encourage and promote Village Development Groups to take up action and mobilise support for them.

M : Interdisciplinary collaboration in technical and socio-economic, surveys and analysis and Document experience in working with Village Development and target groups.

Gen : Oct. 1988 : July 1989

R : B. Sarveswara Rao, V. B. Sarma.

S : (Ind).

Gulbarga University

59. Commercial Banks & Agricultural credit : A case study of Gulbarga District, Karnataka.

A : Agricultural Finance

O : —

M : Primary data from selected farmers

M.Phil : Jan. 1988 : Dec. 1988

R : Vijayalakshmi Warad

S : M.S. Kallur

60. Economic conditions of Agricultural Labour in a Backward Economy — A Case Study of Gulbarga District in Karnataka.

A : Agricultural Labour

O : —

M : Primary Data

M.Phil : Jan. 1988 : Dec. 1988

R : Shivasharanappa Dabha

S : C.K. Degoonkar

61. An evaluation of employment Affirmation Schemes in Karnataka — A case study of Gulbarga District.

A : Rural Employment

O : —

M : Primary Data

M.Phil : Jan. 1988 : Dec. 1988

R : Honnappa

S : B.N. Nimbur

Cochin University

62. Economic Impact of Entrepreneurship Development Programme.

A : Economic Development

O : To analyse whether it has achieved its objective or not, find its impact on the economic development of the district concerned, and suggest measures for the improvement of the programme.

M : Primary Data.

M.Phil : Dec. 1988 : Dec. 1989

R : Ummer E. K.

S : Rajasenan

63. Movement of Input and Output prices of Rice in Kerala and its impact on Area, Yield and Output.

A : Agricultural Economics

O : To analyse the trends in area, yield, total production, input and output prices of rice in the state, districts, and taluks, estimate the impact of output and input prices on area, yield and total production of rice, estimate the nature

of price control and public distribution system in Kerala and the agricultural price policy of the Government.

M : Secondary data

Ph.D. : Dec. 1984 : May 1988.

R : K.U. Thressiamma

S : K.S. Sankaranarayanan

Rural Transformation Kerala : A case study of three Panchayats.

A : Rural Economics

O : Identifying changes in income, employment and population, the structural changes in land ownership and assets of the rural population and examining infrastructural development.

M : Three panchayats were selected; one each from Trivancore, Cochin and Malabar representing high-land, midland and low land according to geographical classification. Primary data collected from households in selected areas in these panchayats using a pre-tested questionnaire. The field survey recored materials trainees like settlement patterns, of the village, house types diet, dress ornaments and footwear; furniture, common means of transports of goods and passengers.

Ph.D. : March 1985 : May 1988

R : K.G. Jose

S : K.C. Sankaranarayanan

65. Women Entrepreneurship in the Industrial Manufacturing Sector of Kerala.

A : Women's Studies

O : To study the pattern and extent of supply of women entrepreneurs, assess the relative effect of socio-economic factors both as inhibitors and promoters of women entrepreneurship, examine the entrepreneurial support system — their related strengths and weaknesses, profile of women's industrial units and different problems facing women entrepreneurs.

M : Tabular and Statistical Tools used.

Ph. D : Sep. 1985 : Jan. 1989

R : V. Anna

S : N. Chandrasekharan Pillai

66. Efficiency in Central public Sector Enterprises in Kerala

A : Public Sector

O : A study on central public sector Enterprises in Kerala for the period 1975-85, examine the productivity and profitability trends, capacity utilisation rate and the Real wage rate etc.

M : Secondary Data

Ph. D. : June 1987 : June 1990

R : Antony M. T.

S : Jose T. Payyappilly.

Indian Institute for Regional Development Studies, Kottayam

68. Agriculture Labour in Kerala.

A : Economics, Political Science and Sociology.

O : To analyse the economic conditions of agricultural labour in Kerala in terms of employment, unemployment, wage rates, level of living etc. Socialisation process, problems of caste and commercial groupings etc. and trade union consciousness and level of participation.

M : Secondary and primary data through intensive field survey based on questionnaire schedule as well as collection of qualitative data through discussions with leaders of the movement.

Gen : Oct. 86 : March 1989.

R : Shaji V. Joseph

S : Jose George

69. Water Management Problems in Kerala — A case study of Periyar Valley Irrigation Project.

A : Irrigation Economics

O : To scrutinise closely the existing maintenance work in storage reservoir, canal net work and water course, field channels and suggest practical remedies to improve them; examine the suitability of the present method of irrigation for different crops; explore the possibility of introducing furrow / corrugated / sub-surface / drip method of irriga-

tion to perennial crops; ascertain how far canal structure and farm irrigation structures contribute to present inefficiency of irrigation and identify the bottlenecks in the operation / administrative machinery, with special reference to the communication net work and proficiency.

M : Survey Method.

Gen : March 1987 : April 1989.

R : A. M. Ravindran

S : C. J. Joseph.

70. Tribal Development : Legislation and Enforcement.

A : Political Science (Social Legislation)

O : To evaluate specific Acts and welfare measures adopted for tribal development in Kerala; loopholes in the enforcement of legislation in tribal development; the problems of land alienation, assess the situation of bonded labourers and suggest measures for implementation of the Act.

M : Survey research

Gen : Sep. 1987 : March 1989

R : S. S. Sreekumar

S : Kumares Chakravarty.

71. Concurrent Evaluation of National Rural Employment Programme.

A : Rural Development

O : To evaluate the effectiveness of NREP and the inadequacies and shortfalls.

M : Survey method.

Gen : Nov. 1987 : Oct. 1988

R : V. K. Kurien

S : M. V. George.

72. Concurrent evaluation of Adult Education Programme.

A : Adult Education

O : —

M : Survey method

Gen : Nov. 1988 Dec. 1989

R : S. S. Sreekumar

S : Molly Mathew

73. Concurrent Evaluation of IRDP 3rd round of Survey.

A : Rural Development

O : To evaluate the effectiveness of IRDP in the case of 'new, 'old and very old' beneficiaries ; the inadequacies and shortfalls of IRDP performance ; based on the above, the Government of India and the State Government are expected to take corrective actions.

M : Collection of available data from BDOs and Banks and primary data directly from the beneficiaries.

Gen : Jan. 1989 : Dec. 1989

R : V. K. Kuriën

S : M. V. George.

Bharathidasan University

74. An evaluation of worker's participation in Management.

A : Industrial Economics

O : To analyse the role of shop council, works committee and other sub-groups in decision making, assess the determinants of the effectiveness of the worker's participation in management and examine their impact of industrial relations.

M : Structured questionnaire for primary data from the representatives of various workers' councils / committees on their impressions on the functioning and outcome of the scheme.

M. Phil : July 1987 : Dec. 1988

R : J. Rajalakshmi

S : C. Thangamuthu

75. An economic appraisal of Art Plate making in Thanjavur.

A : Industrial Economics

O : To examine the economics of cost structure, production process and marketing of Thanjavur Art plate and study the socio-economic conditions of Art Plate making households and assess their standard of living.

M : Primary data from 50 randomly selected households engaged in Thanjavur Art Plate making.

M. Phil : July 1987 : Dec. 1988

R : S. Jansirani

S : C. Thangamuthu.

76. Structure, Distribution and Price-spread of Milk Marketing in Tiruchirappalli Town.

A : Agricultural Economics

O : To find out per day procurement and distribution of total quantity of milk through co-operative and non co-operative sector in Tiruchi Town, work out the marketing price-spread and margins, measure the different categories of milk distributors, vendors receipts in the co-operative and non co-operative sectors, analyse the milk market structure and study the growth of milk procurement and distributions in Tiruchirappalli District Milk Producers Union over the period (1980-81 to 1987-88)

M : Primary data and secondary data from sample respondent of 84 co-operative sectors.

M. Phil : Aug. 1987 : Jan. 1989.

R : A. Mohan

: S. Neelakantan

77. A study on Small Scale Entrepreneurs in SIDCO Estates in Thanjavur and Pudukottai Districts.

A : Industrial Economics

O : To examine the socio-economic background of the entrepreneurs in the SIDCO Estates of Thanjavur and Pudukottai district, analyse the performance of the units in SIDCO estates of the select two districts and the relationship between background of the entrepreneurs and performance of the units.

M : All the units in two SIDCO industrial estates of Thanjavur and two estates of Pudukottai Districts covered. Primary data regarding socio-economic profile of the entrepreneurs and their performance analysed.

M. Phil : Aug. 1987 : Jan 1989.

R : K. Subramanian

S : S. Iyyampillai.

78. Economic Status of women in Trichy Town.

A : Economics of Human Resources

O : To develop an appropriate index to access the economic status of women, both at micro and macro lends, find out the relationship among women's income, education, occupation, allocation of time to do various household activities and participation in household decision making activities.

M : The sample selection is purposive and two different set of societies viz. rich and poor selected. The sample size is 100. Detailed questionnaire prepared to gather all the household decision making activities. Percentages, averages, standard duration coefficient of variation, Chi square test mean and percentage contribution to total household income etc. are worked out,

M. Phil : Aug. 1987 : Sep. 1988

R : S. Shanthi Getzpe Ranjini Devi.

S : S. Iyyampillai.

79. Socio-economic background of entrepreneurship in Salem Taluk.

A : Economics of Entrepreneurship Development.

O : To find out the differences in the socio-economic background of two groups of entrepreneurs and differences in their performance

M : Enterprises established mainly by the help of Industry, promotional agencies and others are compared in terms of profit and performance.

M.Phil : Sep. 1987 : Sep. 1989

R : S. Liyabath John

S : S. Iyyampillai

80. Economic conditions of Agricultural Labour.

A : Agricultural Labour

O : To study the wage structure of agricultural labour, analyse employment patterns and estimate household income from various sources for agricultural labourers.

M : Field work and primary data collection from a random sample of 100 agricultural labour households, supplemented by secondary data from various sources.

M.Phil : March 1988 : Sep. 1988

R : A. Narayanamoorthi

S : V.B. Athreya

81. Economic conditions of workers in coir industry.

A : Labour in the unorganised sector

O : To study the economic and social conditions of coir workers and the status of women coir workers.

M : Primary data through field work in Pattukottai Block of Tanjore Dt.

M.Phil : March 1988 : Ongoing

R : A.G. Chitra

S : V.B. Athreya

82. Performance of Sugar Industry in Tiruchirapalli District.

A : Industrial Economics

O : To study the performance and problems of sugar industry in Tamil Nadu with special reference to Tiruchirapalli District, study the financial performance of the Kothari Sugars & Chemicals Pvt. Ltd. and Jawaharlal Nehru Sugar Mills Ltd. during 1977-78 to 1986-87 and their physical performance.

M : One private and one public sector industry selected on the basis of purposive sampling and a comprehensive analysis of cost structure, output, employment and profit for 10 year period from 1977-78 to 1986-87 made.

M.Phil : April 1988 : Oct. 1988

R : P. Saravanan

S : S. Lakshmi.

83. Performance of Metal Production Industries and Machinery & Machine Product Industries in Tiruchirapalli Taluk.

A : Industrial Economics

O : To study the structure of capital employed in small scale units and the proportion of licensed and working capital in the total capital employed, the sources and quantity of finance invested in small scale units, analyse the efficiency of capital employed in the small scale units, the cost structuring proportion of fixed and variable costs in the total production costs to the relationship between the capital employed and the cost structure.

M : Out of 508 units 51 units (10% from metal products industry and Machinery and Machine Tool products industry selected)

M.Phil : —

R : J. Gunasekaran

S : S. Lakshmi.

84. Economic Aspects of Nationalisation of Bus Transport in Tamil Nadu.

A : Transport Economics

O : To trace the economic history of bus transport in Tamil Nadu, the working of the State Transport Corporations in Tamil Nadu & analyse the political economy of nationalisation and assess the extent to which the objectives of nationalisation have been fulfilled.

M : Primary and secondary data- Alongwith Historical and analytical methods, legal case studies and arguments used - Statistical tools like compound growth rates, rank, correlation and multiple regression models employed.

Ph.D. : March 1984 : April 1987

R : S. Sundari

S : S. Neelakantan.

Indian Institute of Technology, Madras

85. A : Financial Policies — Signaling

O : The study of impact of financial decisions like Dividend Policy, Capital Structure etc. on the Wealth of the shareholders.

M : Journals, Stock Price analysis (event study)

Ph. D. : Jan. 1987 : Ongoing.

R : S. Narayan Rao

S : L. V. L. N. Sarma

86. Group Technology

A : Group Technology

O : Determining Disjoint Machine Groups and part families from a given zero-one machine component matrix.

M : Operations Research (Assignment Method)

Ph. D. : Jan. 1987 . Ongoing

R : G. Srinivasan

S : T. T. Narendran

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1987, 19, 536

87. A : Flexible Manufacturing Systems

O : —

M : —

Ph. D. : Jan. 1988 : Ongoing

R : B. Madhavan

S : T. T. Narendran

88. A : Group Technology and Flexible Manufacturing System.

O : —

M : —

Ph. D. : Sep. 1988 : Ongoing

R : V. Venugopal

S : T. T. Narendran

89. Development of Educational System in the Madras Presidency

A : Economics of Education

O : —

M : —

P. hD. : Dec. 1988 : Ongoing

R : K. Venkatesh

S : S. Ambirajan

90. Management — Technical Development & Its Impact

A : Irrigation

O : Quantification of S & T development in irrigation in last two decade and assesment of its impact with reference to Kerala.

M : Journal reports analysis & socio economic survey.

Ph. D. : Dec 1988 : Ongoing

R : V. Santhakumar

S : S. Rajagopalan & S. Ambirajan

Tamil Nadu Agricultural University

92. Economic Analysis of India Tea Exports and its Domestic Linkages.

A : International Trade

O : To assess the general trends of Indian tea industry, evaluate the temporal and spatial dimensions of Indian tea exports, study and develop an integrated model to explain the domestic performance of tea industry in terms of area, production, consumption, prices and integrating the export component with it and, assess the perspectives for the industry and contrasting with that of the Tea Board.

M : Trend, Polynomial Trend, Exponential Trend, Seasonal, Cyclical Factors, Adaptive Fitting Forecast, Econometric Models viz, Domestic Consumption (Demand) Production (supply), Area Response, Domestic Prices, Exports and Commodity Model employed.

Ph. D. : 1984 : 1988

R : P. Paramasivam

S : V. Rajagopalan

92. Crop Planning under Risk for Typical Dry Farms in Anantapur District of

Andhra Pradesh — An application of Quadratic Risk Programming.

A : Production Economics

O : To determine and measure the extent of risk in dryland agriculture; assess the risk eversion attitude of the farmers in dryland areas; devise efficient farm plans under different expected levels of income and suggest suitable policy measures for efficient risk management in dry farming area.

M : The stratified random sampling technique adopted to evolve optimal crop plans under risk for the typical farms, data on gross income, paid-out costs over 10 years collected. Methods of Compound Growth Rates, Seasonal Indices, Regression Analysis, Fourier Analysis and Quadratic Risk Programming used.

Ph. D. : 1984 : 1988

R : Subba Reddy

S : A. Kandaswamy.

93. Improving Small-Holder Maize Based Farming Systems and Technology Adoption in Katete and Petauke Districts of Eastern Province, Zambia.

A : Production Economics

O : To describe the farming systems as found in the region in order to provide solid data base for future agricultural policy measures; assess the effect of exp'oughing on total and maize cultivated area, maize yield, production and income and identify

present resource endowment levels and analyse the present production pattern in order to explore the possibilities of increasing agricultural income.

M : A three stage random sampling method used. Two districts, Katete and Petauke, and two blocks from each district were selected. A replacement random procedure was used to select villages and respondent households. 10 villages, five from each camp, were randomly chosen. Totally, 120 respondent from households were randomly chosen from the selected villages. Functional analysis and the linear programming technique were employed.

Ph.D. : 1985 : 1988

R : C. A. Njobvu

S : A. Kandaswamy.

Centre for Research on New International Economic Order

94. Managing the Demand for Petroleum Products in Road Transport Sector.

A : Transport energy economics.

O : To examine past and present consumption patterns of petroleum products by the Road Transport Sector, arrive at methods of saving energy and maximising fuel efficiency, review and evaluate government policy and practices in the area of energy conservation and oil substitution, and using recent energy demand forecasts for the year 1990 and 2000, attempt made

to suggest suitable demand management policies relating to consumption of diesel and petrol.

M : Time series and cross section data on the petroleum and Transport sectors analysed to discern long term trends/changes in these sectors. Case study method using secondary data to analyse transport energy consumption patterns in the movement of passengers and freight in a particular region adopted.

Ph.D. : April 1982 : Dec. 1985

R : Koshy M. Cherail

S : K. Rajarathnam.

Issues in Foreign Trade of Selected SAARC and ASEAN Countries.

A : International Economics

O : To study the trends in global trade of selected developing countries during 1961-82; the trends in production, exports and consumption of three selected commodities viz. Tea, Rubber and Palmoil; price movements in nominal and real terms as between producers who are exporters and selected exporters who are not producers; assess the extent of instability in prices of selected commodities and cause thereof and the existing institutional support and international agreements that influence trade prospects for agricultural products.

M : Instability in prices and export was studied with the help of the model developed by Cuddy

and Della Valle. A multiple regression model was specified and estimated to study elasticity of export with respect to selected variables such as production, domestic consumption, export prices, domestic price, price of close substitutes, exchange rate and buffer stocks. On the basis of review of past studies and the scatter diagrams a log model was chosen for the estimable equation and estimated by ordinary least square method for data covering 22 years. All statistical tests were conducted with the help of t and F statistics for five percent and one percent levels of significance.

Ph.D. : Jan. 1982 : Ongoing

R : V. Jacob John

S : K. Rajarathnam.

96. Commercial bank finance to weaker sections (with particular reference to Chinglepet district).

A : Monetary economics

O : To assess impact of bank credit on weaker sections, implementation of various schemes, uses of funds, special emphasis to be laid on the terms of lending under DIR scheme, IRDP and review the achievements of important parameters and pinpoint the avoidable deficiencies in the process of implementation with reference to what was envisaged in the formulation of the programme.

M : Case study method

Ph.D. : April 1983 : April 1985

R : S. Subedha

S : K. Rajaratnam.

97. Fulfilment of basic needs in India

A : Poverty

O : To assess relative importance assigned to the fulfilment of basic needs as compared to other sectors in the Five Year Plans, the pattern of consumer expenditure in India, income-wise and the fulfilment of basic needs with reference to selected districts in Tamil Nadu.

M : Intensive study of selected districts of Tamil Nadu from primary data.

Ph.D. : April 1983 : 1987

R : Alamelu Rambhad.

S : K. Rajarathnam.

98. Tribal Development in Tamil Nadu since 1950 with special reference to Malayali and Irula Tribes of South Arcot, Salem and Chinglepet districts.

A : Development Economics

O : To study socio-economic problems of the scheduled tribes in Tamil Nadu, the programmes implemented by the Government and voluntary agencies with reference to Tribal sub-plan in Tamil Nadu and formulate a new strategy for planning and administration.

M : —

Ph.D. : Jan. 1985 : Jan. 1987

R : N. Sundararaj

S : K. Rajaratnam.

Madras Institute of Development Studies

99. The economic impact and Social Implications of the public Distribution system in Tamil Nadu.

A : Development Economics

O : To examine the trends in the procurement operations of the civil supplies corporation, study the interlinkages between the controlled market and the free open market in terms of purchases, distribution, price institutional arrangements etc. & examine alternative strategies for increasing the public distribution of essential commodities in Tamil Nadu.

M : Analysis of Secondary and primary data through statistical and survey methods.

Ph. D. : Feb. 1984 : Ongoing

R : C. Annadurai

S : C. T. Kurien

100. The Millet Economy of Tamil Nadu.

A : Agricultural Economics

O : To assess the changes in area, yield and production of major millets in the past three decades; understand the purposes of growing millets (home consum-

ption, market, livestock, kind wage payment etc.), analyse the price and demand aspects of millets.

M : Time series secondary data and cross section primary data collected from the field survey.

Ph. D. : Feb. 1984 : August 1988

R : M. S. Edwin Innocent

S : R. N. Poduval

101. Groundnut Economy of Tamil Nadu.

A : Agricultural Economics

O : To identify and analyse the nature and sources of patterns in growth and instability of groundnut area, yield and production within Tamil Nadu — 1960-61 to 1980-81; identify patterns of growth and instability in groundnut area, yield and production across Tamil Nadu & study the factors underlying the different patterns of growth and instability.

M : Identified 8 important groundnut growing districts in Tamil Nadu; to study growth and instability, 5 year moving average and percentage deviation from this trend analysed for proximate factors underlying different patterns use, a series of decomposition exercises done and for identification of actual factors influencing changes in area and yield supply response analysis used.

Ph. D. : June 1985 : June 1989.

R : Asha Krishnakumar

S : A. Vaidyanathan

102. Temples, tenants and agrarian relations.

A : Rural Economics

O : To understand the evolutionary process of the existing land relations under the above religious institutions, how far the particular forms of land relations hinder/help the development of productive forces in agriculture and the effect of the particular land tenure-under which the religious institutions control the lands-on productivity and growth.

M : Historical materials mainly from Tamil Nadu archives to understand the evolutionary process of inam tenure and the changes in methods/modes of land management atleast from the British period and field work in areas where the religious institutions control land, board, and other relevant individuals. Samples will be based on scientific methods.

Ph.D. : June 1986 : June 1990

R : R. Vidya Sagar

S : A. Vaidyanathan

103. Bovine Economy of Tamilnadu.

A : Agriculture

O : To study the change in the structure and composition of the work animals and their relative importance in the bovine economy, the composition and the efficiency of the milch animal population and their relative importance and assess the impact of state policy on the bovine economy of the state.

M : Related to bovine economy at the state level to the lower levels of administration and the changes seen at the lower levels. Questions that cannot be answered through secondary data will be addressed at the village level.

Ph.D. : Feb. 1937 : Feb. 1991

R : George Mathew

S : A. Vaidyanathan

104. Housing in Madras Urban Agglomeration.

A : Urban Economics

O : Study various aspects of housing shortage, housing quality, accessibility to private and public amenities, housing and land value, housing finance and the government policies towards housing would be studied in each zone of Madras City and in different types of satellite towns.

M : —

Ph.D. : April 1986 : Ongoing

R : Rukmani Ramani

S : K. Nagaraj

105. Factors determining Fertilizer Consumption and its growth in Tamil Nadu : 1950-89.

A : Agricultural Economics

O : To study the fluctuations and trends in fertilizer use, the diffusion and intensity of fertilizer use under irrigated and unirrigated conditions, the factors responsible for variations in fertilizer use,

technological, economic and institutional factors & analyse the importance of agricultural extension and fertilizer research on educating farmers to apply appropriate fertilizer nutrients.

M : Study is based on time series secondary data. Techniques such as growth rates, stepwise multiple regression and simple correlation regression applied.

Ph. D. : Jan. 1986 : 1990

R : T. C. Mohanam

S : Dr. A. Vaidyanathan.

106. Conjunctive use of surface and ground water in Tamil Nadu Agriculture.

A : Agricultural Economics

O : To understand above phenomenon at macro level will be conducted on important irrigation system in Tamil Nadu using secondary data and at Micro-level to understand the problem in detail. Case studies of irrigation system conducted covering both and tank irrigation.

Ph. D. : March 1983 : Ongoing

R : P. Anbazhagan

S : A. Vaidyanathan

107. Agrarian Surpluses and Economic Change : A study of the Development of Telangana Region of Andhr Pradesh.

A : Agricultural Economics

O : To identify the factors that have played a decisive role in generating the surplus and transferring it into other sectors and know the mode of utilisation of economic surplus.

M : As far as the secondary data is concerned, no direct information is available about the volume of aggregate marketed surplus. Available data is grossly inadequate varying, over time and space. In particular, the market arrivals data provided by the Ministry of Food and Agriculture relate only to some selected organised market centres. Hence we will mostly rely on the primary data.

Ph. D. : July 1993

R : T. Prabhakar Reddy

S : Nasir Tyabji.

108. Irrigation Organisation Under Two Major Tanks in Tamil Nadu.

A : Irrigation

O : —

M : To have an indepth understanding of the process of change in the irrigation system which is mainly influenced by changes in land control, demographic pressure and agricultural technique from the past to the present time and to see how these adaptations have come about and with what consequences to the efficiency of water manegement and its effect on productivity.

Ph. D. : Oct. 1992

R : K. Sivasubramaniyan

S : A. Vaidyanathan.

Madras Christian College, Tambaram

109. Changing pattern of female labour participation in agriculture — A case study of Tamilnadu

A : Urban Economics

O : Factors responsible for the changing role of female labour participation in agriculture, Criteria to identify uneconomic lines and its repercussion on the village economy

M : —

M. Phil : 1986 Sep. : 1987

R : Ceclia Subashini

S : Nancy David

110. Development Banking in India.

A : Industrial Finance

O : To study the Role of IDBI, analyse Industry-wise Scheme-wise financial assistance

M : Cost-effectiveness techniques

M. Phil : Aug 1989 : Ongoing

R : Kesawaram

S : C. Selvaraj

111. Fertilizer Industry in India

A : Industrial Economics

O : To study the performance of Fertilizer Industry in India with special reference to the factors affecting profits

M : Ratios, correlation and regression analysis used.

M. Phil : Sep 1987 April 1989

R : R. Sharada

S : V. Jaishankar

112. Peripheral Development and its impact on rickshaw pullers.

A : Socio-Economic studies of rickshaw pullers.

O : The study relates to the peripheral development which had taken place in Pallavaram, Chrompet and Tambaram on account of rickshaw pullers.

M : Collection of primary data

M. Phil : Sep. 1987 : Dec. 88

R : M. Christ Ponraj

S : Dickie Sams

Sacred Heart College, Tirupattur

113. Development Perspectives of North Arcot District of Tamilnadu.

A : Development Economics

O : To identify the structure of North Arcot Economy pertaining to the ownership and control of resources; analyse the regional pattern of development within the district; assess the impact of rural development programmes

on the standard of living of the people with special reference to target groups.

M : The primary data collected from a cross section of population belonging to rural, urban and tribal areas of the district with the help of pre tested schedules. Multiple linear regression used to estimate consumption, saving and expenditure.

Gen : Oct. 1986 : April 1988

R : K. Padmanabhan

S : (Ind.)

Sri Ramakrishna Mission Vidyalaya, Coimbatore

114. Participation of Women Textile Workers in the consumer cooperatives.

A : Consumer cooperatives

O : To assess the extent of women Textile Workers' Participation in consumers cooperatives, identify the factors contributing to and constraints in their participation.

M : Field survey method and personal interview technique employed. Simple random sampling procedure adopted to gather data from 100 women workers who were members of consumer cooperative stores.

M. Phil : June 1987 : 1981/88

R : Chandrakala

S : V. Kulandaiswamy

115. Marketing efficiency of Marketing Co-operatives — A study in a potato region in Tamilnadu

A : Agricultural Marketing

O : To examine the dimensions of marketing services rendered by the marketing cooperatives in the selected region. probe farmer members' utilisation and satisfaction vis-a-vis marketing efficiency and co-operatives on the marketing costs and price-spread

M : Field survey, Interview technique and Cooperative Marketing Societies in the potato region of Tamilnadu were purposively chosen (ie Nilgiris District). The two blocks viz., Udagamandalam and Coonoor which produce about 70 percent of total products in this district were chosen on a simple random basis.

M. Phil : Sep 1987 : Dec 1988

R : Madhan Gopalan

S : Muthusway Gopalan

16. An Evaluation of the Performance of consumers, stores in the Distribution of Consumer Goods — A Study in Coimbatore Dist.

A : Consumers Cooperation

O : To evaluate the performance of consumers' stores in the distribution of consumer goods; identify the problems faced by the consumers' stores distributing the consumer good; and understand the consumers' satisfaction with the services of the stores

M : Survey method, both primary and secondary data used, Stratified random sampling procedure adopted for the selection of sample stores and consumers.

M. Phil : 1988 : Dec 1989

R : Bhaskar Chandrasekar

S : A. John Winfred

Stella Maris College, Madras

117. A study of the trends in Public Expenditure on Health Programme in Tamil Nadu.

A : Health

O : To study the pattern of Public expenditure on health proper and the importance given to each program.

M : Secondary data and time series Analysis.

M. Phil : Aug. 1988 : Oct. 1989.

R : V. Satyasri

S : Chellam Mitran.

118. Evaluation of Housing Programmes in Tamil Nadu with special reference to MIG.

A : Housing

O : To study the magnitude of the problem of housing in Tamil Nadu, evaluate the demand for housing (MIG) in a particular area and assess the supply position as given by the Housing Board.

M : Secondary Data

M. Phil : Aug. 1983 : Oct. 1989.

R : S. Sripriya

S : S. Latha

119. Women Entrepreneurs in Garment Industry in Madras.

A : Entrepreneurship Among Women

O : To find out whether increasing number of women are taking up Entrepreneurship and Reasons why women prefer Garment Industry.

M : Primary and secondary data.

M. Phil : Aug. 1988 : Oct. 1989.

R : K. J. Shirley

S : Helen Vincent

120. Pricing Policy of Tyre Industry.

A : Industry

O : Factors affecting the demand and supply of tyres and Govt. Policy towards tyre pricing

M : Secondary and Primary data

M. Phil : Aug. 1988 : Oct. 1989

R : Mary Abraham

S : S. Ramani

121. State Aid to Industrial Development — A Cast Study of TIDCO.

A : Industry

O : To assess the role of TIDCO in fostering industrial development

in the state, determine the share of TIDCO in the various industrial development indicators of Tamil Nadu.

M : Secondary Data.

EDUCATION

Karnatak University

122. Relationship between Teacher Behaviour, Pupil personality and Pupil growth outcome.

A : Teacher Behaviour

O : To find out the effect of teacher classroom behaviour on academic pupil — achievement, relationship between pupil personality centration and murticism, on academic achievement and determine the interaction effect of teacher behaviour and pupil personality on academic achievement.

M : Six hundred IX standard students randomly selected based on their responses to Eysencks JPI. Five teachers of the selected schools and the investigator formed the teacher sample. Description statistics co-efficient of correlation two way ANOVA adopted.

Ph.D. : Dec. 1981 : Sep. 1987,

R : R.T. Jantli

S : Shashikala Deshpande

123. Effectiveness of remedial instructional micro teaching course

in improving instructional competence of primary school Science teachers.

A : Micro Teaching

O : To identify the weak teaching skills of primary school science teachers, prepare remedial self-instructional micro teaching course for the weak teaching skills & evaluate the effectiveness of remedial self-instructional micro-teaching course in strengthening the weak skills and in improving the general teaching competence and study the attitude of teachers towards such courses.

M : Weak teaching skills of primary school science teachers identified by observing their lessons with the help of skill-based observation schedule. They were found to be weak in probing questions, demonstration skills, Remedial self-instructional micro teaching courses prepared.

Ph. D : 1984 : 1988

R : Satanarayan Singh

S : S. M. Patted

4. Relative effectiveness of two models of teacher preparation at the primary level in Karnataka.

A : Teacher Preparation

O : To investigate if the products of the two models of teacher preparation differ on self perception, student perception, teaching profession perception and instructional objectives perception,

investigate if they differ on actual lesson observation and head-master's ratings of teacher effectiveness.

M : Two hundred primary school teachers — 100 with P.U.C. (Edu) and another 100 with T.C.H. — constituted the sample of the study. Data relating to perceptions were obtained by administering perception scales. Class-room teaching performance of teachers assessed by observing their lessons, using a lesson observation schedule, Head-Masters' ratings of teacher effectiveness were obtained from them on a rating scale.

Ph. D : 1984 : 1987

R : V. Ramachandra Rao

S : G. M. Patted

125. A Factor Analytical study of some structure of intellect Factor Based Tests in Kannada for Children of School Leaving Age.

A : Educational Technology

O : To identify the structure of intellect factors represented by the tests and scoring procedures evolved by the investigator in the past and confirm such of the tests for future use, arrive at the ability profiles of students standing high on total performance on some selected representative tests & procedures.

M : Administering SI Tests (Figure 1, Symbolic & Semantic, Ramachandrarachars Creativity Response Matrices & Selected Passi Tests

of Creative Thinking, Computing necessary descriptive statistics, arriving at an inter correlation matrix of tests/scoring procedures.

Post Doctoral : 1986 : 1983

R : K. Ramachandrarachar

S : (UGC Sponsored)

126. Developing and Evaluation of a Self-Instructional Module on preparing instructional objectives

A : Curriculum

O : To develop a module on preparing instructional objectives, compare the effectiveness of the module against the lecture method using student gain as criterion, determine student and achievement under the two conditions, study the attitude of students — towards modular way of learning, study the relationship between student achievement under modular learning and attention towards self instruction.

M : Thirty three B.Ed. trainees formed the sample of the study. The study had an equivalent group design with complete randomisation. On the day the experiment was conducted only 26 students were present, 13 men and women in each group.

Gen : 1986 : 1988

R : Shashikala Deshpande

S : (Ind)

127. Working of Secondary School Finance : A case study

A : Educational Finance

O : To study the pattern of growth of income of the secondary school; study the pattern of growth of expenditure, probe into the allocation of funds on different items of expenditure and estimate the cost per pupil at the secondary schools.

M : Intensive investigation into the growth of income and expenditure of a secondary school since its inception in order to study the financial trends undertaken. A case study approach followed. The data collected from the school records, annual reports and pay bills personally. Percentages calculated in order to estimate the proportions of income and expenditure. Frequency polygons used to study the variations in the income and expenditure.

Gen : Mar. 1987 : Mar. 1989

R : H. M. Kasinath

S : (Ind)

University of Kerala

128. Aim of Education as perceived by the community

A : Aim of Education

O : To find out the opinion of different state of the society and aims of education at Primary and Secondary levels & compare these aims in relation to different sections that propose these

- M : Survey — Questionnaire / Interview
Ph. D : 1981 : June 1988.
R : Shahul Hameed Rawther
S : K. Sivadasan Pillai
129. Evaluation of Teaching Learning Materials in Malayalam used in Adult Education Centres in Kerala
A : Adult Education
O : Evaluating all primers available in Malayalam; this availability and use of Handbooks, work-books, Guide books etc. in Adult education.
M : Survey cum experimentation.
Ph. D : 1984 : Dec. 1988
R : Usha Suran Varghese
S : K. Sivadasan Pillai
130. A Comparative Study of the organisation and conduct of various Agencies involved in the Adult Education Programmes in Kerala.
A : Adult Education
O : To identify the organisation and conduct of various Adult education agencies of Kerala, identify the agencies engaged in the Adult education programmes, ascertain the nature and functions of the agencies and identify constraints and suggest measures for overcoming difficulties.
M : Survey Method (Random Sampling techniques).
Ph.D. : Dec. 1984 : May 1989
- R : Rema Devi. B.
S : K. Sivadasan Pillai.
131. Development and Testing of Criteria for the Preparation of Neoliterate Books in Malayalam.
A : Adult Education
O : To evaluate available neoliterate books in Malayalam, grade the books according to their standard, content and suitability, pool opinion of experts on the preparation and production of neoliterate books.
M : A Survey - cum - Experimental method adopted.
Ph.D. : March 1987 : Ongoing
R : C. Narayana Pillai
S : K. Sivadasan Pillai.
132. A study of the Parental Involvement in the Education of Mentally Handicapped Children.
A : Education of the Mentally Handicapped Children.
O : To find out the present level of involvement of parents in the education of their mentally handicapped children, the involvement of parents in developing the basic educational skills, the role of teachers and school authorities in ensuring parental involvement and the relationship between socio economic status of the family and parental involvement.

- M : —
Ph.D. : Sep. 1987 : Sep. 1991
R : P. S. Sukumaran
S : R. Sujatha Rani.
133. Evaluation of Mother & Child Series broad cast by All India Radio, Trivandrum.
A : Mother & Child Care
O : To find out the views of listeners (organised and unorganised) on the broadcast series — by way of content, format, impact etc, the level of attainment of regular listeners and suggest improvements for future programmes.
M : Survey, Interview; Questionnaire and observation.
Gen : Aug. 1988 : Nov. 1988.
R : K. Sivadasan Pillai
S : (Ind)
- Annamalai University
134. Pupils Academic Achievement in Relation to their Intelligence, Neuroticism and Locus of Control in IX Std in Chidambaram Town.
A : Educational Psychology
O : To find out the relationship between academic Achievement and intelligence of school children, the relationship between Academic Achievement and Neuroticism, the relationship between Academic Achievement
- and internal and external locus of control.
M : Normative Survey Method.
M. Phil : Sep. 1988 Sep: 1989
R : A. Ujwala Devi
S : M. Andal
135. Development of Reasoning And Creativity Among the IX standard Students.
A : Educational Psychology.
O : To find out whether there is any significance in the development of reasoning and creativity among boys and girls, whether there is any significant difference between the development of reasoning and creativity among talents of standard IX, and their socio-economic status.
M : Normative-Survey.
M. Phil : Sep. 1988 : Sep. 1989
R : S. Mahender Reddy
S : V. S. Bhooma
136. Personality, Perception of Role Conflict and Job Stress of Women Teachers in High Schools.
A : Educational Psychology.
O : To find out the differences in the characteristics of personality of women teachers, perceive the presence or absence of Role conflict in them, find out their job stress and relationship among them.

M : Survey Method.

Ph.D. : Dec. 1987 : Dec. 1990

R : V.C. Mysore Rani

S : M. Andai

University of Madras
Dept. of Adult Education

37. Study of Effectiveness of Audio Forums in Terms of Perception and changes of Adult Learners in selected Villages in Chingleput District (Tamil Nadu) for Delivering Population Education Messages.

A : Media

O : To study the effectiveness of different forums of perception and attitude of the target population at selected villages in Chingleput District, Tamilnadu as part of the follow up of the "Diagonostic Study of Population Growth, Family Planning and Development, 1971 - 81 Tamilnadu" (Population Education), consider some of the selected impediments, identified in the document titled "Diagonostic Study of Population Growth, Family Planning And Development 1971-81, Tamilnadu" for purposes of remedy, action and research.

M . Quasi Experience

Ph.D. . Dec. 1988 . Ongoing

R . R. Jayagopal and M. Chitra

S . R. Jayagopal

University of Madras
Dept. of Education

138. Sports Schools in Tamil Nadu.

A : Physical Education

O : To case study the four sports schools in Tamil Nadu, the academic performance of the sports students in relation to that of non-sports students and the sports performance of the sports students.

M : Case Study approach supplemented with questionnaires, inventories and interviews.

M. Phil : Sep. 1987 : Dec. 1988

R : S. Sundararajan

S : P. S. Balasubramanian

139. Cost Accounting of Education in Higher Secondary Schools.

A : Economics of Education

O : Application of Cost Accountancy, Principles to Educational Costing

M : Survey ; Questionnaire, interview schedules.

M. Phil : Sep. 1987 : 1988

R : Mumtaz Begum

S : P. S. Balasubramanian

140. Intellect Profile, Hemisphericity and problem solving ability in Mathematics of VIII std. students.

A : Mathematics Education

O : To identify hemisphere dominance of students, study problem solving ability in Mathematics of students intellect profile of students & the relationship between intellectual variables and problem solving variables.

M : Survey ; relevant tools to measure the variables. 600 middle school students selected at random from the sample.

Ph. D. : 1983 : 1988

R : A. Sengottaiah

S : P. S. Balasubramanian.

141. Development of Human Resources at the District Level Educational Administration in Tamil Nadu.

A : Educational Administration

O : To measure a critical appraisal of the way in which human resources are managed in the Inspectorate at the district level in Tamil Nadu, perception of officers regarding the various aspects of human resources development in the Inspectorate, Job satisfaction level of the Officers and the power structure at present and the amount of decentralisation required.

M : Survey ; personal interviews, questionnaires, job satisfaction scale

Ph. D. : 1984 : 1988

R : M. Rajaram

S : P. S. Balasubramanian

142. The effect of synectics Training on Creativity and Hemisphericity of Higher Secondary Students.

A : Creativity Education

O : To identify and categorise the students style of learning and thinking, study the effect of

creativity training on the shift in the dominance of hemisphericity and find out the relationship between types of learning modes and creativity of students.

M : experimental study ; pretest-treatment-post test design.

Ph. D. : 1986-1988

R : D. Venkataraman

S : P. S. Balasubramanian

Madurai Kamaraj University

143. Who Succeeds in Secondary Education.

A : Secondary Education

O : To find out whether secondary education is successful with respect to its major aims, whether there is association between social class and success in education.

M : 292 boys and 180 girls were taken and score card was developed to measure the ability and achievement of the students under different aspects.

M.Phil : 1985 : Sep. 1988

R : P. Vijayal

S : G. Subramania Pillai

144. Educational Practices in Chola Kingdom (850-1279 A. D)

A : History of Education

O : To trace the educational condition that prevailed in the Chola

country upto 850 A. D. and those prevalent from 850 to 1279 A. D.

M : Documentary analysis employed and visits, identification centres in order to collect the materials pertinent to the Cholas.

M. Phil : Dec. 1987 : Sep. 1988.

R : Nagarajan

S : K. Krishnan

145. Educational Values of Medieval Sculpture.

A : Education

O : To find out the work to analyse the identification of the sculptures, in which the one is proposed to be identified & the educational impact through sculpture in the society

M : Documentary analysis was done and important historical places were visited.

M. Phil : Dec. 1987 : July 1988

R : S. Sukendar

S : P. N. Muthiah

146. A Comparative study of the B.Sc and M.Sc Chemistry curriculam of affiliated and autonomous colleges.

A : Curriculum

O : To develop a set of criteria for assessing the B.Sc. and M. Sc. chemistry curriculam and compare the B.Sc and M.Sc chemistry curriculam followed in Affiliated and autonomous colleges.

M : Quantitative as well as qualitative analysis done in the assessment of chemistry curricula in terms of the criteria developed.

M. Phil : April 1988.

R : V. Mesmin Jayanthi

S : K. Krishnan.

147. Access to calculators and its impact on computation works.

A : Educational Technology

O : To take stock of the possession of calculators by faculty students and office assistants of different discipline of M. K. university, understand the nature of calculators possessed like type, make, mode and functions of calculators, find out the purpose for which the calculators are used.

M : Interview was conducted to all the teaching departments of the M. K. Universities.

Gen. Sep. 1987 : April 1988.

R : G. Subramania Pillai

S : (Ind.)

148. Technological Inputs in P. G. Class Room.

A : Educational Technology

O : To find out how far the technological aspects are introduced in the PG class rooms.

M : Conducting Interview and gathering data.

Gen : No. 1988 : ongoing

R : G. Subramania Pillai

S : (Ind.)

149. Micro Enterprise Development Education — A Multinational study.

A : Vocationalisation

O : To assess the problems of educated unemployment in different countries, consolidate the different strategies followed in different countries for encouraging self-employment and the suggestions offered for self-employment opportunities by different nations.

M : Questionnaire administered to 45 respondents from 14 different countries.

Gen. : Nov. 1988 : Feb. 1989

R : G. Subramania Pillai

S : (Ind.)

GEOGRAPHY

University of Madras

150. Time — Space convergence effects on Madras Peripheries.

A : Urban Geography

O : To find out the time-space convergence to Madhavaram, Thiruvannamiyur, K. K. Nagar over 20 years, advantages and disadvantages experienced by commuter assessed.

M : Isochrone mapping Travel time distance for 20 years in 4 years,

Multi regression analysis and Distance decay analysis used.

M. Phil : 1987 : 1988

R : C. Sambasivam

S : T. Vasantha Kumaran

151. Spatial aspects of Homeopathic Medical service in an Urban Health Care Delivery System — A Case study of Bangalore.

A : Geography of Health and Health Care.

O : Analysis of spatial distribution of Medical service, distribution of homeopathic service and complementarity of homeopathic service in an urban health care service.

M : Quantitative Technique of Factor Analysis, Spatial Models of Service Zones and Various Cartographic Techniques.

Ph. D. : Feb. 1984 : June 1988

R : N. L. Subhadra Iyengar

S : A. Ramesh.

152. Environmental Impact Analysis — A Case of Upper Palar River Basin.

A : Environmental Impact Analysis

O : Analytical study of Tanneries, analysis of chemistry of effluents and impact of effluents on agriculture and domestic use.

M : Appropriate statistical and cartographic methods.

Ph. D. : Jan. 1988 : 1990

R : V. Madha Suresh
S : T. Vasanthakumaran.

153. Environmental Degradation in Mountain Areas

A : Environmental Issues

O : Analysis of Deforestation & Identification of landslide and erosion and impacts.

M : Appropriate cartographic and statistical Methods.
Ph. D. : Oct. 1988 : 1992.

R : K. Pannerselvam

S : S. Subbiah.

154. Industrial Development And the Environmental Implications in Madras Basin.

A : Environmental Implications Analysis.

O : To identify the type of industries, industrial effluents and solid wastes and air pollutants by the industries and the mode of discharge to the environment in the basin, evaluate the possible impact of discharge on land, air quality, water quality and quality of land scape in the basin and identify the alternative development scenarios and suggest policies and frame work for the development of the basin maintaining the environmental quality of the basin.

M : Primary survey, Secondary data collection, Field Techniques and Remote sensing analysis.
Gen : Jan. 1988 : Oct. 1991.

R : A. Ramesh & N. Sivagnanam.
S : (Ind).

HISTORY

University of Hyderabad

155. Socio Historical Study of Sati system in India (with special reference to Ancient India)

A : Ancient Indian History.

O : To understand the indigenous roots of the problem, investigate the foreign influence if any (society or government) and dealing of the problem during different historical periods.

M : Study on origin and growth of the Sati system in India, and stock of the dealing of the problem during different administrations. The present context of the problem will also be investigated.

M. Phil : Jan. 1988 : 1989

R : Parry Sudhakar

S : T. R. Sharma

156. A study of the Temples of Karimnagar Dist. in A. P.

A : Ancient Indian History.

O : A study of Hindu, Jain and Buddhist monuments of district Karimnagar, its relationship with society and economy of the place upto A. D. 1200.

M : Based on multiple, original and secondary sources as well as vigorous field work and incorporates a comprehensive study of the temples of Karimnagar district in Andhra Pradesh.

Ph. D. : 1984 : 1988

R : Ramanaiah

S : T. R. Sharma

157. Lord Ganapati And Ganapatya cult in India.

A : Ancient Indian History

O : Origin, Growth and development of Ganapati Call, its in-depth study from all points of view -socio-scientific, literary, mythology and Art.

M : Data from all available sources both primary and secondary from literacy texts, taxicons, art objects which includes visits to various museums and Ganesha temples specially in South India and Maharashtra.

Gen : 1988 : 1989

R : T. R. Sharma

S : (Ind)

158. Source Book on the Socio Economic History of Deccan.

A : Ancient Indian Social and Economic History.

O : Collection of relevant source material and its organisation in a thematic way under technology, society, economy, ideology from a variety of sources-

archeology, numismatics epigraphy and literature.

M : Data based on the social and economic sources available in the ancient and early material context which have hitherto not been highlighted.

Gen : Aug. 1988 : Aug. 1991

R : Aloka Parasher Sen

S : (Ind)

POLITICAL SCIENCE AND PUBLIC ADMINISTRATION

Sri Venkateswara University

159. Geo-Political Pattern of the Indian Ocean Region.

A : —

O : To study the impact of geopolitics on India's foreign policy, Politics of Indian Ocean region and appropriate strategies.

M : Historical, analytical and scientific based on books, monographs and news paper cuttings.

M. Phil : Feb. 1983 : 1985.

R : R. Sreenivasan

S : M. V. Subbarao

160. Rural Development Administration with special reference to Naidupet Taluk, Nellore District.

A : —

O : Importance of development Administration, rural develop-

ment administration as a means of eliminating rural poverty with special reference to Naidupet Taluk, Nellore Dt.

M : Case study method with critical examination of the official records.

M.Phil : Feb. 1983 : 1985

R : A. Devakumari

S : M. V. Subbarao

161. Non-aligned movement (1961-1986)

A : —

O : Significance of NAM, Progress of NAM through summit meetings & India's special role in the NAM.

M : Descriptive, narrative and analytical based on the critical examination of the secondary sources.

M.Phil : April 1984 : 1985

R : P. Raghu Ramaiah

S : M. V. Subbarao.

162. Age of Retirement in Andhra Pradesh.

A : —

O : Study the critical chronological account of the factors leading to decision of the government of Andhra Pradesh in 1983 to reduce the age of retirements to 55 and its restorations later.

M : Perusal of Newspapers, Court Judgements and internals.

M.Phil : Jan. 1985 : 1986

R : S. Moses

S : K. V. Narayana Rao.

163. The importance of being a District Leader of Political Profile of Chenchusubba Reddy of Nellore.

A : —

O : To make an intensive study of district politics, study the importance of personality in politics and highlight the significance of district-background.

M : Historical — Interviews — Secondary sources (books and of journals)

M.Phil : Jan. 1985 : 1986

R : E. Balagangadhara Reddy

S : N. H. S. Sitarama Sarma.

164. Indo — Sri Lanka — Relations

A : —

O : To study role of Indian Sub continent in world Affairs, Indo-Sri Lanka Relations & Problems of double Nationality and state lessness.

M : Historical, analytical and critical based on secondary sources.

M. Phil : Jan. 1985 : 1986.

R : S. Nagesh

S : M. V. Subbarao.

165. Organisation and working of Mandalas

A : —

O : Significance of Mandalas, role of mandal development officer and people's participation in Mandalas.

M : Interview method, case study approach with quantitative techniques.

M. Phil : Jan. 1985 : 1986.

R : P. Chinna Thataiah

S : M. V. Subba Rao.

166. Chief Minister Sri. N. T. Rama Rao — A Study of his 15 point programme (Pragati-patham)

A : Govt. & Politics of Andhra Pradesh

O : To study critically the development policies & programmes of TDD through 15 point programme.

M : Data from primary and secondary sources from Govt. secretariat.

M. Phil : April 1985 : July 1986

R : B. Veera Raghavulu

S : S. Sri Krishna.

167. Personality in Politics: A profile of Shrimati Indira Gandhi

A : Indian Govt. & Politics

O : To study the personality of Mrs. Gandhi as P.M. of India, to know how far she was successful as Prime Minister of India.

M : Secondary sources from the library books.

M. Phil : April 1985 : June 1986.

R : K. Devadanam

S : S. Sri Krishna.

168 Indo-Soviet Treaty — Its Impact on Non-Alignment Movement (1966-77)

A : —

O : To know whether India has become a dependent country by having a treaty with USSR, assess whether this treaty is a security pact or not, if so how far can it influences NAM in general and particularly Indians as non-aligned country, whether India has deviated from its policy of non alignment or not.

M : Primary Sources like papers, documents and secondary sources like text-books, magazines & journals.

M.Phil : April 1986 : 1988

R : B. V. Muralidhar

S : M. V. Subbarao.

169. Peddireddi Timma Reddy — A Political Study

A : —

O : To record the significance of personality in politics, throw light on the contemporary politics of Andhra Pradesh & evaluate the role of a leader belonging to the dominant caste of the Rayalaseema Region.

M : A Case study

M. Phil : April 1986 : 1987

R : Ali Akbar Basha

S : N. H. Sitarama Sarma

170. A profile of State level administrative system in Andhra Pradesh.

A : —

O : To discuss the relationship between Governor, Chief Minister, Council of Ministers, know whether the relationship between the three and how far cordial from the emergence of the state of Andhra Pradesh.

M : Primary and secondary sources.
M. Phil June 1989 : Nov. 1987

R : V. Venkata Narasaiah

S : S. Srikrishna

171. Policies & Programmes of TDP Govt. in A. P. under the leadership of N. T. Rama Rao

A : Govt. & Politics of Andhra Pradesh

O : To know how the policies and programmes of TDP are reaching the poor for their welfare.

M : Collection of primary and secondary sources from the Govt. records and TDP office at Goundripet, Hyderabad.

M. Phil May 1986 : June 1988

R : G. Syamala Devi.

S : S. Srikrishna

172. Abolition of Legislative Council in Andhra Pradesh

A : —

O : Critical appraisal of the events leading to the abolition of the

Andhra Pradesh Legislative Council.

M : Study of news paper, legislative developments and discussions with legislative officers.

M.Phil : May 1986 : 1988

R : V. Sampooramma

S : K. V. Narayana Rao.

173. Party politics and general elections — A case study of Chittoor Dt. 1983-85.

A : —

O : To focus on the inter-relation between party politics and general elections, explain the politics of linkage and discuss the importance of district.

M : Case study, Historical Interviews, secondary sources (books and Journals).

R : K. Krishna Murthy

S : N. H. Sitarama Sarma.

174. Gandhi and Rural Development

A : —

O : Relevance of Gandhism, urgency of Rural Development, & Foundations of welfare administration.

M : Analytical & Critical

M.Phil : May 1986 : 1988

R : D. Balaramaiah

S : M. V. Subbarao.

175. Gandhian Concept of Freedom

A : —

O : To know the ideas of Gandhi on Freedom, How Gandhi influenced his thoughts to achieve Freedom & the non violence methods adopted.

M : University library i.e. secondary sources and other primary source.

M.Phil : June. 1986 : 1988

R : D. Ramakrishna Rao

S : M. V. Subbarao.

176 Enhancement of Reservations for backward classes by the Govt. of Andhra Pradesh (1986).

A : —

O : Study of the agitation following the enhancement of reservation for backward classes on jobs and admissions in July 1986 and the ultimate refusal to the status as a result of the impact of legislation and judicial pronouncement.

M : Library research depending on news papers, G.O's committee reports on court judgements and interviews with the activists in the agitation.

M.Phil : Aug. 1987 : Ongoing

R : K. Sita Ramaiah

S : K. V. Narayana Rao.

177. Revitalisation of Panchayat Raj Administration in A.P. — A case study of mandal Panchayats.

A : Mandal Panchayats

O : To find out the pros and cons of the problems of revitalisation of Panchayat Raj Administration in A.P.

M : Primary and secondary sources, material available at A. P. State secretariat and TDP Office.

M.Phil : Aug. 1987 Sep. 1988

R : B. Gopalakrishnamurthy

S : S. Sri Krishna.

178. A Profile of Urban Administration in AP under TDP — A study.

A : Urban Government

O : Urban policies and programmes of TDP Govt. in A.P. & analyse the steps taken by the TDP Govt. in AP for urban growth.

M : Primary and secondary sources from the AP Secretariat, AP legislative secretariat and TDP Office, Gandipet, Hyderabad.

M.Phil : Aug. 1987 Sep. 1989

R : G. Ananda Rao

S : S. Srikrishna.

179. The role of the Governor in the Centre State relations — A study.

A : —

O : To study the role of Governor in the Centre State Relations, since the emergence of Multi — party Governments in the states.

- M : Historical research and review of literature on the subject, observation method in the context of the latest developments.
M.Phil : Aug. 1987 : Feb. 1989.
- R : M. Subramanyam
- S : V. Chandra Mouliswara Rao.
180. Socio Economic Welfare Programs for SCs, STs, BCs, in Andhra-pradesh under the Telugudesam party Rule.
- A : —
- O : The plight of Backward classes in A.P., the contribution of Telugu Desam towards Backward classes and problems and prospects of backward classes.
- M : Case study and interview methods based on news paper information.
M.Phil : Aug. 1987 : Ongoing
- R : K. Mahandata
- S : M. V. Subbarao.
181. Implementation of Six Point formation (1973) — in A.P.
- A : —
- O : Analysing the background in which the six point formula was evolved and a critical review of its implementation.
- M : Study of documents, newspapers, and discussions with legislator, the members of the Administrative Tribunal and others.
M.Phil : Sep. 1987 : Ongoing
- R : K. Narasimha Reddy
- S : K. V. Narayana Rao.
182. Municipal Elections — 1987 in Rayal-seema
- A : —
- O : To focus on the importance of the study of local body, study regional politics and examine the impact of elections on party politics.
- M : Regional Study, Case-Study, Interviews and Journals, Govt. records & party documents.
M.Phil : Sep. 1987 : Ongoing
- R : B. Chinnaiah
- S : N.H. Sitarama Sarma
183. Non aligned movement from Colombo to Havana — May 1978.
- A : —
- O : To study significance of NAM, through summits & Economic charter of NAM.
- M : Critical, scientific and comprehensive analysis of the NAM through summit meetings based on the records on the summit meetings.
Ph.D. : Feb. 1978 : May 1985
- R : B. Padmnabha Reddy
- S : M.V. Subbarao
184. Caste and Politics in Andhra Pradesh — A case study of Chittor District.

- A : —
- O : To study the political awareness, political background of citizen of Chittoor district, the socio economic pattern and its impact on the interaction of caste politics, study the political consciousness of various caste groups, political participation of the castes, perception of power and caste.
- M : Statistical tools such as percentages and tables formulated are interpreted in a scientific manner.
Ph.D. : 1979 : 1986
- R : K. Bhaskar Reddy
- S : M.V. Subbarao
185. Political Profile of Dr. Smt. Durgabai Deshmukh.
- A : —
- O : To present a critical comprehensive indepth, political profile of Dr. Smt. Durgabai Deshmukh, make an attempt to cover in depth different aspects of her public life, contribution towards planning, development, women's welfare, social welfare, her philosophy and her views on affairs of the day.
- M : The life History method and perusal of personal documents, Library oriented research besides unstructured Interviews conducted with a number of people, associated with her.
Ph.D. : July 1981 : Ongoing
- R : A. Samanthaka Mani
- S : M.V. Subbarao
186. Rural Development and Panchayath Raj-Institutions in Andhra Pradesh — A Case study in Chittor Dt.
- A : —
- O : Discussion of the role of Panchayat Raj Institutions in Rural development in theory and practice in the context of the changing structure of Panchayat Raj Institutions in Andhra Pradesh.
- M : Library research and field survey in selected Panchayat Samithi.
Ph.D. : June 1983 : Jan. 1988
- R : Y. Gurappa Naidu
- S : K. V. Narayana Rao.
187. Social Philosophy of Dr. Ambedkar
- A : —
- O : Importance of Dr. Ambedkar for BCs, roots of political philosophy to be traced and his significance.
- M : Comprehensive and Library oriented.
Ph.D. : May 1984 : Ongoing
- R : C. Chandraiah
- S : M. V. Subbarao.
188. N. T. Rama Rao : A political Study
- A : —
- O : To add to the literature on Political Profiles, focus on the relation between films and politics, highlight — the charisma of N. T. Rama Rao and discuss

the place of personality in politics.

M : Case-study-Interviews - Secondary sources (books, periodicals, Journals, daily newspapers — T.D.P. and documents).

Ph.D. : Dec. 1984 : Ongoing

R : P. Lakshminarayana

S : N. H. Sitarama Sarma.

89. India's Foreign Policy during the Rule of Mrs. INDIRA GANDHI 1966-1983.

A : —

O : Highlights of India's Foreign Policy, Mrs. Indira Gandhi, contribution to India's Foreign Policy & continuity and change of India's foreign policy.

M : Analytical, critical and Library oriented, based on Primary and Secondary sources.

Ph.D. : Dec. 1984 : Ongoing

R : B. Rajini

S : M. V. Subbarao.

90. Centre — State Relations and Inter State Co-operations : A Case study of Telugu Ganga Project.

A : —

O : Review of Centre-State Relations, significance of Telugu Ganga Project, imperatives of Interstate co-operation.

M : Scientific, comprehensive and critical study of the Primary and

secondary sources on Water disputes in India and abroad.

Ph.D. : April 1985 : Ongoing

R : T. J. Sampath Kumar

S : M. V. Subba Rao.

191. The Radical Humanist Movement in Andhra Pradesh (1948 — 1983).

A : —

O : To study the importance of a great movement on regional studies and examine the progress of an important movement at the state level.

M : Historical, Case-Study, Institutions, Periodicals, and Journals.

Ph.D. : April 1985 : Ongoing

R : G. Sudha Rani

S : N. H. Sitarama Sarma.

192. The Role of India in the Non-Aligned Movement — A Study.

A : The imperatives of non-aligned movement, role of India in NAM & Prospects and Problems of NAM.

M : Scientific and evaluative, examining the available primary and secondary sources.

Ph.D. : April 1985 : Ongoing

R : K. Yasoda

S : M. V. Subbarao.

193. Municipal Finances in Andhra Pradesh — A Case Study of Anantapur Municipality.

A : Municipal Finance Administration.

O : To study feasibility of funds, to various Municipalities and find out any waste of expenditure.

M : A Case Study

Ph.D. : May 1986 : Ongoing

R : V. Subbalakshmi Devi.

S : K. V. Narayana Rao

194. Role of the Opposition in Andhra Pradesh 1975-1985.

A : —

O : To indicate the role of opposition in parliamentary Democracies in General, examine the policies and programmes of the opposition at National as well as State Levels in India and, critically evaluate the functioning of opposition inside and outside the Legislature in Andhra Pradesh 1975-1985.

M : Secondary information from newspapers, magazines, various books, Andhra Pradesh Assembly proceedings, Govt. Records, stock Registers, Articles etc.

Ph.D. : May 1986 : Ongoing

R : D. Sundar Ram

S : K. V. Narayana Rao

195. The working of the office of the P.M. of India — A case study of Smt. Indira Gandhi.

A : Indian Political system

O : To study the working of the Prime Minister of India, know how far the office of the P.M. is successful in discharging its objectives-particularly during the regime of Smt. Indira Gandhi.

M : Primary and Secondary sources.

Ph.D. : June 1986 : April 1988

R : K. Devadanam

S : S. Srikrishna

196. Political census in Rayalseema

A : —

O : To discuss critically the discontent on the Rayalseema region over a period with particular emphasis on the nature of leadership in different movement.

M : Library based study supplemented by interviews with protest leaders and others.

Ph.D. : May 1986 : Ongoing

R : G. Prabhakar

S : K. V. Narayana Rao

197. Puchalapalli Sundaraiiah—A Political Study.

A : —

O : To contribute to the literature on political profiles, focus on the communist movement in India and highlight the role of a prominent leader in the growth of the communist-movement in India.

M : Historical-Interviews - Secondary Sources (books, periodical Jour-

nals & daily newspaper-party documents-government records).

Ph.D. : May 1986 : Ongoing

R : J. Brahmaiah

S : N. H. Sitarama Sarma.

198. Party Political and General Elections in Andhra Pradesh : A case study of Kurnool Dist.

A : —

O : To study the inseparable relation between party politics and general elections, focus on district studies and examine the mutual impact of electoral politics at the district and state levels.

M : A case-study method, an analysis of districts as the unit of study, Interviews and Govt. records, party documents, Journals, Periodicals used.

Ph.D. : May 1986 : Ongoing

R : H. Malini Paul

S : N. H. Sitarama Sarma

199. Problems in administration of affiliated colleges in Andhra Pradesh.

A : —

O : To discuss the problem in administration of affiliated colleges of different types of management.

M : Study of the changing educational Act, rules, regulations, case law and of the problems of selected affiliated colleges.

Ph.D. : May 1986 : Ongoing

R : V. Madhava Rao

O : K. V. Narayana Rao.

200. Regional Party rule in A.P. : A case study of TDP under the leadership of Shri. N. T. Rama Rao.

A : Govt. and politics of Andhra Pradesh.

O : How far regional political parties are successful in running the State administration, particularly in A.P.

M : Primary and secondary sources, books from the libraries, seminar papers regarding various programmes of TDP in A.P., material from the secretariat collected.

Ph.D. : May 1986 : March 1988

R : B. Veera Raghavulu

S : S. Srikrishna.

201. Political Profile of Sri. Bezawara Gopala Reddy.

A : —

O : A study of the role of Bezawara Gopal Reddy in provincial and National politics.

M : Based on long extended interviews with Bezawara Gopal Reddy and supplemented by library resources.

Ph. D. : May 1986 : Ongoing

R : G. Janakiramamurthy

S : K. V. Narayana Rao.

202. Administration of Chittoor Dist. Board 1910-1953

A : —

O : Study of the Administration of the local district Boards in general and Chittoor District Board in particular.

M : Archival Study.

Ph. D. : May 1986 : Ongoing

R : C. Kupamma

S : K. V. Narayana Rao.

203. Dr. B. R. Ambedkar and Political mobilisation of Scheduled castes.

A : Political Profiles (Political Personalities),

O : To know how far Dr. B. R. Ambedkar was successful in uplifting the scheduled caste and his efforts.

M : Primary and secondary sources, Interviews with Mrs. Sabita Ambedkar, with his son and attending conferences and seminars on Dr. Ambedkar.

Ph. D. Oct. 1986 : Ongoing

R : P. Venkatarathnaiah

S : S. Srikrishna

204. Personnel management in Public Enterprises-A case study of A. P. Dairy development Corporation Ltd.

A : —

O : To study the policies of the personnel Administration in respect of A. P. Dairy Development Corporation, and the problems in the areas of Recruitment, Training and performance of the personnel of the corporation and

suggest viable remedies for effective personnel management.

M : Review of the records, interview the concerned administrators and sample selection of the cross section of employees in addition to the comparative study of the personnel policies of the public enterprises in Andhra Pradesh.

Ph. D. : Jan. 1987 : Ongoing

R : L. Ramachandra Reddy

S : M. V. Subbarao.

205. Leadership of Panchayathi Raj Institutions in Chittoor District.

A : —

O : To discuss the socio-economic characteristics of the emerging leadership of Panchayati administration over a period.

M : Field work supplemented by study of news papers.

Ph.D. : Feb. 1987 : Ongoing

R : P. Venkataramana

S : K. V. Narayana Rao.

206. Party Politics and General elections in Andhra Pradesh — A Case Study of Nellore (1971-85)".

A : —

O : To study the inseparable relation between party politics and general election, focus on the district study and examine the mutual impact of electoral politics at the District and State levels.

M : A case-study method, analysis of district as the unit of study, and Interviews, Govt. records and party documents Journals, periodicals.

Ph.D. : July 1987 : Ongoing

R : K. Thiagaraju

S : N. H. Sitarama Sarma.

17. Urban Government and Politics —
A Case Study of Municipal Councils in Chittoor District.

A : —

O : To focus on the importance of the study of local body, examine the implications of urban electoral politics and a case-study of Chittoor in Rayalseema.

M : Case-study method, Interviews, Government record, Documents of political parties and journals, periodicals.

Ph.D. : Aug. 1987 : Ongoing

R : T. C. Batri Reddy

S : N. H. Sitarama Sarma.

Agitation for Separations of Andhra — A Case Study.

A : —

O : Critical appraisal of the Andhra agitations with emphasis of the impact of Judicial pronouncements, the nature of leadership and the role of the congress.

M : Library Study ; Interviews

Ph.D. : Aug. 1987 : Ongoing

R : A. Balaramaiah

S : K. V. Narayana Rao.

209. Electoral Politics in Chittoor District 1952-53 : With reference to elections to State legislative Assembly.

A : —

O : Analytical Discussion of the factors leading to the electoral outcomes in different elections.

M : Library study, discussions with Contestants of the Assembly.

Ph. D. : Aug. 1987 : Ongoing

R : E. Ramesh Babu.

S : K. V. Narayana Rao.

Nagarjuna University

210. A Study of Anti-poverty Programmes in Guntur District.

A : Rural Development Administration.

O : To study the administrative machinery implementing the anti-poverty programmes at Block level and estimate the impact of the anti-poverty programmes on beneficiary group.

M : Survey research based on Research Techniques like Questionnaire, Interview observation etc.

M. Phil : Jan. 1986 : Ongoing

R : B. Rama Rao.

S : M. Bapuji

211. The Role of Governor (AP) — The Politics of Chittoor district.

A : International Relations

O : —

M : —

M. Phil : Jan. 1986 : Ongoing

R : D. Prakash B. Rajendra

S : A. G. Naidu

212. A Study of Govt. run Welfare hostels in Guntur District.

A : Administration of Social Welfare Programmes.

O : To study the administration and organisation of the welfare hostels, elicit the problems and perspectives of the wardens, matrons and study their effectiveness

M : Data from the primary and secondary sources and from the social welfare hostels through a questionnaire.

M. Phil : May 1988 : May 1989.

R : P. L. Raju

S : B. P. C. Bose

213. Trade Union Movement in the Rajahmundry Cooperative Spinning Mills Limited

A : Indian Constitution

O : To find out the role of leadership, relation between employees and management and degree of job satisfaction.

M : Questionnaire Method

M. Phil : Sep. 1988 : Ongoing

R : K. Pitchaiah

S : N. Ashirvad.

214. A study of District Level Planning in Andhra Pradesh.

A : Planning

O : To examine the Planning process at district level and study the implementation, monitoring and evaluation processes of planning.

M : Questionnaire, Interview, Discussions.

M. Phil : Oct. 1988 : Ongoing

R : D. J. Sekhar

S : M. Bapuji.

215. A study of the administration of Welfare Programmes for Backward classes in Guntur District.

A : Social Welfare Administration

O : To analyse the administrative machinery implementing the Welfare programmes for the Backward classes & study their impact.

M : Questionnaire, Interview, Discussions

M. Phil : Oct. 1988 : Ongoing

R : K. Ramakrishna Rao

S : M. Bapuji.

216. The Official Language Policy in Andhra Pradesh : A study of its implementation and Implication.

A : Public Policy

O : To study the implementation of the official language policy and estimate its effects on the administration.

M : Based mainly on Published and unpublished literature.

M. Phil : Oct. 1988 : Ongoing

R : C. V. Raghavacharyulu

S : M. Bapuji.

217. A study of the Administration of Zilla Parishad of West Godavari, Andhra Pradesh.

A : Rural Local-Government

O : To study the organisational pattern of the Zilla Parishad & examine the personnel, financial and functional aspects.

M : Questionnaire Discussions, Interview.

M.Phil : Oct. 1988 : Ongoing

R : R. Surya Rao

S : M. Bapuji.

218. A Comparative Study of Party Organisation at Local Level — A Case Study of Guntur District in Andhra Pradesh.

A : Organisational Behaviour.

O : To collect and analyse data relating to local level party organisation in order to study the internal dynamics of party organisation and compare various political parties covered in the sample, in terms of extent of internal democracy and prevalence of oligarchical tendencies.

M : Empirical Method.

Ph. D. : —

R : G. Satya Mani.

S : C. V. Raghavulu.

Madras Christian College

219. Action groups — A study

A : Pressure & Action groups.

O : To define action groups with their historical background, analyse the types, strength and weakness and the future role of action group in modern Pol. perspective.

M : Exploratory study.

M. Phil : Aug. 1986 : Sep. 1987

R : E. Suresh Paul

S : J. Ramesh Sundar.

220. Political Awareness, participation and voting Behaviour — A study of Palayamkottai Panchayat Union.

A : Indian Political system.

O : To study the factor influencing the Pol. participation of the people, determine the basis of Pol. participation, the education, income etc. and study the voting behaviour of Panchayat Union.

M : Exploratory Study.

M. Phil : Aug. 1986 : 1988.

R : C. Kandaswamy

S : J. Ramesh Sundar.

221. Leadership in Rural Areas.

A : Rural Politics.

O : To find out the pattern of rural leadership and factors influencing rural leadership

M : Exploratory study.

M. Phil : Sep. 1987 : Ongoing

R : Hariharan

S : A. Subramanian.

222. Impact of Modernization — A Study of the TODAS.

A : Tribal Studies

O : To evaluate the impact of modernization in a Tribal Community.

M : Descriptive study

M.Phil : Sep. 1987 : Aug. 1988

R : Rhena Gnanasundaram

S : Alexander Mantramurti.

223. Electoral process and voting Determinants in India — A Study.

A : Political system

O : To evaluate the Indian Election process in the current political context, evaluate the voting determinants and stress the need for revamping the present Indian Electoral process.

M : Exploratory Study

M.Phil : Sep. 1987 : Aug. 1988

R : M. D. Sridhar

S : J. Ramesh Sundar.

224. Study of Political Participation of Nayars.

A : Political Science

O : To ascertain the extent to which education and other factors influence the political participation of Nayars.

M : Descriptive Study

M.Phil : Sep. 1988 : Aug. 1989

R : Sheela Menon K.

S : Alexander Mantramurti.

225. Protective Discrimination (Reservation Policy) — A Study.

A : Caste Politics

O : To find out major factors which (may probably) lead to backwardness of people, evolve criteria for reservation in educational institutions.

M : Exploratory Study

M.Phil : Sep. 1988 : 1989

R : K. Naganatha Durai

S : Alexander Mantramurti.

226. The Muduvars in Coimbatore District — A Study.

A : Tribal Studies

O : To assess the level of development, knowledge of leadership & Impact of modernisation.

M : Descriptive Study

M.Phil : Sep. 1988 : Aug. 1989

R : R. Jaya

S : Alexander Mantramurti.

227. The Regional conflict in S. Asia due to the insurgence of USA & USSR with spe. reference to Indo Pakistan relations — A study.

A : International Relations

O : To evaluate the regional conflict in S. Asia, bring out the role of USA & USSR in S. Asian region and specifically highlight USA & USSR role in Indo-Pak. relations.

M : Historical and Descriptive Study
M.Phil : Sep. 1988 : Aug. 1989

R : Sangeetha Thapliyal

S : J. Ramesh Sundar.

228. Indian Ocean as a Zone of Peace — A study.

A : International Relations

O : To highlight the fact that Indian ocean serves as a zone of peace and not of rivalry.

M : Historical and Descriptive Study
M.Phil : Sep. 1988 : Aug. 1989

R : Gayatri Sai

S : J. Ramesh Sundar.

PSYCHOLOGY

Andhra University

229. Menstrual Distress & Personality

A : —

O : —

M : —

Gen. : Sep. 1988 : Ongoing

R : Denise & Ani

S : V. S. Pramila.

Bangalore University

230. Career profiles of woman in public relations Profession

A : Organisational Behaviour

O : To highlight certain key characteristics of woman in PR, to arrive at a personality profile.

M : Interview, observation, questionnaire

M. Phil : Nov. 1981 : Dec. 1988

R : Bhagwathi

S : G. Mohan Kumar

231. Traditional & Non-traditional career choice : A Psychological study.

A : —

O : Study sex role orientation of individual and its relation to sex typing of occupational choice (whether masculine or feminine occupation) and the effect of sex typing of individual and occupation on a few related psychosocial variables-occupational stress, fear of success, mental health, self esteem and life satisfaction.

M : Using the interview and questionnaire technique 120 subjects were contacted.

M. Phil : Jan. 1988 : Dec. 1989

R : Subata Shenoy

S : Sudha Bhogle.

232. An enquiry into the pattern of Linguistiveness in children and the influence of parents and teachers behaviour on them

A : Child Psychology

O : To study the patterns of curiosity behaviour in children, the

influence of parents attitude towards child rearing, on curiosity behavior and the teacher's attitude & its influence on curiosity behaviour.

M : A battery of 3 tests of curiosity specifically developed for the research, one test of intelligence-developmental intelligence, screening test, PARI, KUPPUSWAMY's SES, and an information schedule on teacher's and demographic details used.

Ph. D. : 1981 : 1988

R : C. V. Geetha

S : Vinoda N. Murthy

233. Organisational and Interpersonal implications of job stress in prison personnel.

A : Organisational Psychology - Stress Research.

O : To identify the different job stressors in prison warders, the effect of job stress on organisational variables like job satisfaction, work efficiency, determine the effect of job stress on personal variables like Neuroticism and family life satisfaction and study the moderating effect of coping methods and personality on the effect of stress on individuals.

M : A field survey method adopted in 17 different prisons in Karnataka, sample of 241 warders belonging to different prisons interviewed separately.

Ph.D. : Feb. 1985 : Ongoing

R : Ashok H. S.

S : Indira Jai Prakash.

234. Neuropsychological correlates of stuttering.

A : Clinical psychology - Neuropsychology speech disorders.

O : To study the neuropsychological correlates in Stutterers, investigate the relationship of these correlates and the severity and type of stuttering.

M : Hand preference questionnaire rating scales to assess severity of stuttering, tool to assess type of stuttering used along with a battery of neuropsychological tests, based on Dual-task paradigms, dichotic-monaural listening techniques, tasks of bimanual coordination, averaged evoked potentials on a sample of 50 right handed male stutterers and a control group of right handed non stutterers.

Ph.D. : Aug. 1986 : Aug. 1990

R : Sudha Nair

S : Vinoda N. Murthy.

235. A Psychosocial Study of Men and Women at Middle and Later Life.

A : Adult Hood and Aging

O : To study Age and sex difference, urban and rural comparison and psychosocial aspect.

M : Study focusses on age and sex differences among middle and old aged individuals both in urban and rural areas. The age

S. 62

group of 40-55 yrs constituted the middle aged group and 60-75 yrs constituted the old age group. The sample was drawn from rural and urban areas, semi-structured interview schedule and questionnaires used.

Ph.D. : Nov. 1987 : Ongoing

R : B. R. Anuradha

S : Indira Jaiprakash.

2.

6. Institutionalized Elderly-A study of the impact of structured Life Review Process on their psychological well being.

A : Social Gerontology

O : To study the psychosocial factors related to psychological well being in institutionalized elderly, the impact of structured life review process on psychological well being in elderly, and compare the impact of S. L. R. process of psychological well being of elderly in different type of institutions for elderly.

M : 360 elderly subjects randomly selected from different old age homes, in Bangalore city. Institution are broadly classified into 2 types and both male and female subjects are selected using stratified random sampling technique.

Ph. D. : July 1988 : Ongoing

R : Harini Kumari

S : Indira Jai Prakash

Psychological correlates of Burnout
Human service professionals

A : Mental health.

O : To identify cases of burnout and the underlying psychological factors among human service professionals, evaluate psychological intervention as an approach to reduce burn out.

M : Identify cases of burnout by administering a burnout inventory to about 400 college and high school teachers, physicians and nurses in Bangalore city, responses to measures of personal orientations, needs, occupational stress, life satisfaction and cognitive abilities will be obtained from respondents with high, low and moderate levels of burn out feelings, and performance on the these measures will be compared in the experimental and control groups before and after the psychological intervention developed to overcome feelings of burnout.

Ph. D. : Nov. 1988 : Ongoing

R : S. Sujatha

S : Achala Umapathy

SOCIOLOGY

Madurai Kamaraj University

238. A sociological study of the Role of Commercial Banks in Rural Development.

A : Rural Development

O : To identify the areas of development on which the banks concentrate, evaluate the p

adopted by the banks for credit delivery, examine the social composition of beneficiaries of the banks' assistance and the extent to which the objectives of banks' assistance programme have been realised.

M : Selecting four villages, at random, in a southern district of Tamil Nadu served under service area approach, by four nationalised banks pioneering in the field of rural development, Interviewing the beneficiaries

of banks' assistance with the aid of interview Guide, assessment through observation of the extent of realization of objectives of banks, assistance programme and taking a voluntary agency as a frame of reference for the evaluation of bank role in rural development.

Ph.D. : Jan. 1989 : 1992

R : P. Sritharan

S : C. N. Natarajan.

PART II
Specialisations

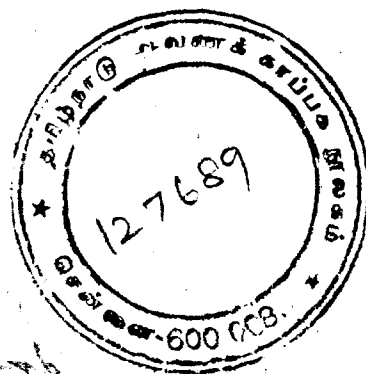
Area of Specialisation	Centre
Anthropology	
Cultural Anthropology	— Karnatak University
Social Anthropology	— Karnatak University
Commerce and Business Administration	
Banking	— Cochin University of Science & Technology
Business Policy	— Indian Institute of Technology, Madras
Management Development	— Administrative Staff College, Hyderabad
Marketing management	— Administrative Staff College, Hyderabad Tamilnadu Agricultural University
Operations Management	— Indian Institute of Technology, Madras
Organizational behaviour	— Administrative Staff College, Hyderabad University of Mysore
Personal Management & Industrial Relations	— Administrative Staff College, Hyderabad
Public Sector Management	— Administrative Staff College, Hyderabad Cochin University of Science & Technology
Economics	
Agricultural Economics	— Sri Krishna Devaraya University Administrative Staff College, Hyderabad Centre for Economic & Social Studies Hyderabad Gulbarga University Bharathidasan University Tamilnadu Agricultural Development MIDS, Madras Sri Ramakrishna Mission Vidyalaya
Cooperation	— Sri Ramakrishna Mission Vidyalaya

Area of Specialisation	Centre
Development Economics	— Osmania University Tamilnadu Agricultural University CRNIEO Madras MIDS, Madras Madras Christian College
Human Resource Development	— Sri Krishnadevaraya University
Economic History	— Indian Institute of Technology, Madras
Economic Planning	— Sri Krishnadevaraya University
International Economics	— Gulbarga University Bharathidasan University CRNIEO, Madras
Industrial Economics	— Centre for Economic & Social Studies, Hyderabad Cochin University of Science and Technology MIDS, Madras Madras Christian College
Monetary Economics	— Madras Christian College
Managerial Economics	— Cochin Institute of Science & Technology
Political Economy	— Bharathidasan University MIDS, Madras
Property Rights & Economic change	— Bharathidasan University
Public Finance	— Osmania University Gulbarga University Indian Institute of Technology
Resource Economics	— Administrative staff college, Hyderabad Tamilnadu Agricultural University
Rural Economics	— Sri Krishnadevaraya University Administrative staff College, Hyderabad Gulbarga University Bharathidasan University Tamilnadu Agricultural University MIDS, Madras
Urban Economics	— MIDS, Madras Madras Christian College
Womens Studies	— MIDS, Madras Madras Christian College, Tambaram

Area of Specialisation	Centre
Education	
Adult Education	— Adult & Continuing Education, University of Madras
Curriculum Development	— Annamalai University
Computer Education	— University of Madras
Educational Evaluation	— Karnatak University
Educational Psychology	— Karnatak University Annamalai University
Educational Research	— University of Kerala
Educational Technology	— Karnatak University University of Madras
Guidance & Counsel	— University of Kerala
Innovation in Education	— University of Madras
Language Teaching	— University of Madras
Non-formal Education	— University of Kerala University of Madras
Population Education	— Karnatak University University of Kerala Adult & Continuing Education, University of Madras
Sociology of Education	— Annamalai University
Social Welfare	— University of Kerala
Teacher Education	— Karnatak University University of Kerala
Geography	
Environmental Planning	— University of Madras
Geomorphology	— University of Madras
Health Geography	— University of Madras
Regional Planning	— University of Madras
Rural Geography	— University of Madras
Resource Analysis	— University of Madras

Area of Specialisation	Centre
History	
Archaeology	— University of Madras
Ancient Indian History	— University of Hyderabad University of Madras
Ancient South Indian History	— University of Madras
Cultural History	— Karnatak University
Economic History of Modern India	— University of Hyderabad
Epigraphy	— University of Madras
Medieval Indian Economic History	— University of Hyderabad
Social History	— University of Hyderabad
Political Science & Public Administration	
Development Administration	— Nagarjuna University
Gandhian Thought	— Karnatak University
Indian Political Process	— Nagarjuna University
Indian Political System	— Sri Venkateswara University Karnatak University
International relations	— Nagarjuna University Karnatak University
Local Self Government	— Karnatak University Madras Christian College
Modern Political Theory	— Karnatak University
Panchayati Raj	— Sri Venkateswara University
Party Politics	— Sri Venkateswara University
Political Behaviour	— Nagarjuna University
Public Administration	— Sri Venkateswara University Karnatak University Madras Christian College
Social Welfare Administration	— Nagarjuna University
Theories of Administration	— Karnatak University
Tamilnadu Politics	— Madras Christian College
Western Political Thought	— Karnatak University

Area of Specialisation	Centre
Psychology	
Child Psychology	— Bangalore University
Clinical Psychology	— Bangalore University University of Madras
Counsel & Guidance	— Andhra University
Experimental Psychology	— University of Madras
Industrial Psychology	— University of Madras
Neuro Psychology	— Bangalore University
Organisational behaviour	— Bangalore University University of Madras
Social Psychology	— University of Madras
Sociology	
Sociology of Kinship	— Madurai Kamaraj University
Sociology of Organisations	— Madurai Kamaraj University
Sociological Theory	— Osmania University
Political Sociology	— Sri Krishnadevaraya University Osmania University.



Publications of the Institute consist of the following categories

1. Publications brought out by Messers Sangam Publishers : These consist of a series of monographs mainly relating to Rural Development of Tamilnadu 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. Cyclostyled Publications : These consist of Working Papers, Digest Series, Data Series, Popular Series, Interns Reports and Offprint Series brought out since 1978. Detailed 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 M.I.D.S. pp. 92, priced at Rs. 10/- per copy and Rs. 6/- for bonafide Research scholars.

b) *Area Studies Bibliography Tamil Nadu* (1984 published by M.I.D.S. pp. 226 Rs. 30/- for paper cover & Rs. 40/- bound volume.

a) & b) obtainable from the Programme Coordinator of MIDS.

4. Special Publications*

a) *Poverty — An Interdisciplinary Approach* edited by B. Sarveswara Rao & 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 & published for MIDS by M/s. Dialogue Publishers, New Delhi pp. 136 Rs. 70/-

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

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

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

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MADRAS INSTITUTE
OF
DEVELOPMENT STUDIES
(M I D S)

The Institute was founded by Dr. Malcolm S. Adiseshiah in 1971 and was reconstituted in 1977 as 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 Tamilnadu and India.

The activities of the Institute are:

- Research leading to Ph.D. and M. Phil 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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