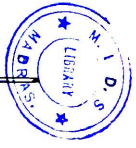
BULLETIN

MADRAS DEVELOPMENT SEMINAR SERIES

VOLUME VIII No. 4 APRIL 1978

74, SECOND MAIN ROAD, GANDHINAGAR,
ADYAR, MADRAS-600 020.



MONTHLY BULLETIN

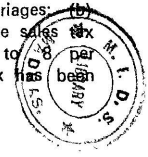
CONTENTS

EDITORIAL—SOME HIGHLIGHTS

I General Economic Scene

State:

1973–79 State Budget: The Budget for 1978–79 was presented in February to the State Legislative Assembly and Council. It showed a slight worsening of the deficit account for 1977-78, which is good considering the magnitude of the expenditures that were involved in relief and rehabilitation consequent on the cyclone and floods. As against the revenue budget receipts and expenditure both of which have increased, the revenue from Rs. 633.24 crores to Rs. 652.98 crores and expenditure from Rs. 663.40 crores to 709.47 crores, the revenue deficit shows an increase from Rs. 30.16 crores to Rs. 56.49 crores. Capital receipts show a fall from Rs. 246.34 crores to Rs. 209.29 crores and expenditures even more steeply from Rs. 285.40 crores to Rs. 227.18 crores, so reducing the capital account deficit from Rs. 39.06 crores to Rs. 17.89 crores. Against these deficits, the public account shows an increased amount from Rs. 40.51 crores budgetted to Rs. 50.93 crores revised, and with Rs. 3.74 crores of revised opening balance against the budgetted Rs. 9.82 crores, the overall deficit has increased marginally from Rs. 18.89 crores to Rs. 19.71 crores. This minus opening balance of Rs. 19.71 crores is carried over to the 1978–79 Budget where the revenue receipts are shown at Rs. 680.08 crores and expenditures at Rs. 726.76 crores, involving a budget deficit of Rs. 46.68 crores. Capital receipts are estimated at Rs. 286.19 crores and expenditure at Rs. 282.01 crores, giving a surplus of Rs. 4.18 crores. The Public Account is shown at Rs. 28.16 crores, giving an overall deficit of Rs. 14.34 crores and if to this the opening negative balance of Rs. 19.71 crores is added, the final deficit (closing balance) is Rs. 34.05 crores. It is against this deficit that the government proposes additional taxation measures which will bring in Rs. 9.55 crores, reducing the net budgetary gap to Rs. 24.05 crores which will have to be covered by the joint effort of the Union and State governments. The new taxes are: (a) the motor vehicles tax increased by Rs. 15 to Rs. 25 per seat per quarter and Rs. 80 on contract carriages and Rs. 40 on tourist carriages; (b) except on kerosene where the sales tax is reduced from 8.5 per cent, to 8 per cent, on 20 items the tax has been



raised as on bullion from 1 to 2 per cent, dressed hides and skins from 1.5 to 2 per cent, cotton yarn waste, cotton waste, artificial silk yarns, staple fibre yarn, jute and cardamum from 3 to 4 per cent, on soaps from 5.5 to 6 per cent, on cement, industrial gases, stainless steel, paints and colours, plywood and glass ware from 5 to 6 per cent and on petrol and diesel by 2 paise per litre—all these increases became effective on February 21, the day after the Budget was introduced: (c) the agricultural income tax structure has been revised to lower the burden on lower income groups—but is revised downwards for everyone as the exemption limit is raised from Rs. 5,000 to Rs. 10,000, between Rs. 10,000–Rs. 15,000 the tax is reduced from 20 to 15 per cent, between Rs. 15,000–Rs. 20,000 from 30 per cent to 20 per cent, between Rs. 20,000–Rs. 25,000 from 35 to 25 per cent, between Rs. 25,000- Rs. 30,000 from 45 per cent to 30 per cent, between Rs. 30,000–50,000, 45 per cent and in the further ranges new slabs are proposed for Rs. 50,000–Rs. 70,000 55 per cent, for Rs. 70,000–Rs. 1,00,000 60 per cent, above Rs. 1 lakh–65 per cent: (d) the compounding facility for plantation crops is withdrawn and non–plantation crops limited to 30 standard acres. On compounding cases Rs. 50 per standard acre for 10–15 standard acres, Rs. 50 per 15–20 standard acres, Rs. 70 for 20-25 standard acres and Rs. 90 for 25–30 standard acres are levied. As noted in the last issue (p. 127), the Annual Plan outlay for 1978–79 is Rs. 305 crores which will mean that for the 5 year 1974–79 the Plan outlay will be Rs. 864 crores for the first 4 years plus Rs. 305 crores for the coming fifth year making a total of Rs. 1,122 crores against the Rs. 1,169 crores approved by NDC. The major development programmes are: (i) Rs. 15.87 crores for strengthening seed farms, schemes for increased production of pulses and millets, intensive coconut development in Kanyakumari, Ramanathapuram and Coimbatore districts and orchard development in Salem and South Arcot. With the opening of new centres at Ramanathapuram, Salem and Nilgiris 3 more districts will be covered by farmers training centres: (ii) in Animal Husbandry, 16 key village blocks will be reviewed, 10 new veterinary dispensaries will be opened, 7 upgraded and 2 animal disease intelligence units established. The Intensive Cattle Development Project being operated in 4 districts will be extended to Tiruchirapalli: (iii) under Dairy Development Rs. 16.5 lakhs have been provided for strengthening the Tiruchi and Srirangam and Salem Co-operative Milk Supply: (iv) against Fisheries, for improved marketing of fish, Rs. 3.4 lakhs have been provided for strengthening fishermens' co-operatives and Rs. 92.4 lakhs for the Fisheries Development Corporation for mechanised boats purchases and Rs. 1 crore for fishermens' housing: (v) under Forests, Rs. 4.2 crores for plantation, processing sandalwood industries and 19 lakhs for houses and roads for forest staff and forests: (vi) Rs. 7.41 crores for co-operatives, Rs. 1.6 crores for the State and Development Bank, Rs. 2 crores for opening fair price shops in every revenue village in 4 districts this year—Kanyakumari, Tirunelveli, Ramanathapuram and Madurai: (vii) Irrigation: 7 new schemes are to be completed benefitting 32,000 acres of new area and Stabilising irrigation in 1,13,500 acres. Modernisation of Cauvery Irrigation System will be continued (Rs. 2 crores), improvements in Periyar-Vaigai irrigation (Rs. 10.94 crores aid from the World

Bank), extension of Parambikulam–Aliyar (Rs. 3 crores) minor irrigation and reclamation of tracts (Rs. 4·21 crores) and improved water use and management in farmers' fields for which Rs. 111 crores have been requested: (viii) Power: Rs. 114 crores are provided with a third unit at Tuticorin, the 630 MW thermal plant planned at Neyveli and expediting of Kalpakkam—all of which will improve power prospects: (ix) Industries: Rs. 8.57 crores for TIDCO, SIPCOT, SIDCO, TIIC and TASCO, Rs. 20 lakhs for capital aid to the State Mineral Development Corporation for developing the black granite industry: (x) for MMDA, Rs. 12.41 crores, for improvement of slums in Madras, Madurai, Coimbatore and Tiruchirapalli a provision of Rs. 6.35 crores is made: (xi) Handloom and khadi are provided with Rs. 4 crores plus Rs. 1.5 crores to be available from the Union sector: (xii) Health and Education. Additional doctors are to be appointed in 100 primary health centres, 100 panchayat unions will be covered by medical teams and 7 new government dispensaries will be opened in Ramanathapuram, Pudukottai, Tiruchi and North Arcot districts: for education Rs. 180.9 crores is provided including Rs. 4 crores for starting +2 to be started in 400 schools and in opening 748 new non-formal education centres: (xiii) Rural Water Supply, Housing, and Welfare: Rs. 7.9 crores is provided in the budget which along with Rs. 4–5 crores for the Union sector will provide water to 3,126 habitations covering 15 lakh persons, for rural housing Rs. 3 crores is provided and for harijan welfare Rs. 25 crores. The Budget is a sound fiscal document in that it has kept the deficit down despite the heavy additional expenditures and is good and strong on the agricultural side. Its major weakness is the very small provision made for medium industries which means that the State which was the third most industrialised in the country will now slip beneath even our neigbours Andhra Pradesh and Karnataka. This is not a budget problem. What is needed is a coherent and accelerated industrial policy for the State. The mobilisation of additional resources from the rich in the rural sector also should be stepped up, dropping the proposal to increase the sales tax on industrial raw materials like cement. The basic problem lies of course in the inelastic revenue resources of the State in relation to its major developmental responsibilities.

Weather and Prices: February continued cool and dry with an occasional shower. The State government ordered in February remission of land revenue, water cess, local cess, additional assessment, additional water cess, commercial crop assessment payable for 1976–77 (fasli 1387) where the crop outturn has been estimated to be 25 per cent and below in the areas affected by cyclone and flood in October / November 1977. Also collection in the areas of land revenue, water cess, local cess as well as local cess surcharge on the arrears thereof due to panchayat unions are postponed to the next year (fasli 1388). This postponement also applies to collection of arrears and current instalments of *takkavi* loans. Prices in February have remained stable with pulses and edible oils remaining at high levels as in January and December. The scheme of supplying vegetables at fair prices through co-operative stores was extended (see last issue p. 128). Under the scheme vegetables are procured in Ooty, Kodaikanal and other places and

distributed in other urban centres like Madras, with a depressing effect in prices.

Power: The power situation in the State during February continued normal. The government reiterated its statement last month that there would be no power cut this summer in the State. There will be an increase in the tariff of power supplied to industries and other non-agricultural users (as will be seen in the provision of the Union budget). There is also the poor financial status of the Electricity Board. With adequate supply, the emphasis in the State is shifting to the increase of generation for rural electrification and distribution. Neyveli and Tuticorin would each be adding 630 MW to the grid while Kalpakkam will be adding another 400 MW. The Union government has taken as noted in the last issue (p 129), expeditious action for the large Neyveli power station. The Neyveli project will involve an outlay of Rs. 213.98 crores and will have 3 generators of 210 MW each, the first of which will go on stream by 1981 and the third by 1983. BHEL will design the boilers for the project. Neyveli will be considered a regional station and its power will be fed into the 220 KV grid of the Tamil Nadu State Electricity Board and will be shared with other neighbouring States if necessary. The cost of power from this Station is likely to be 20 paise per unit.

For the country as a whole, the power position was satisfactory in some State and was poor in others. In Maharashtra the power cut continued, so too in Karnataka and West Bengal. In Uttar Pradesh a large number of forced outages of the thermal units resulted in power restrictions on industry. Similarly the cement industry in Bihar reports that it has been subject to power supply reduction, involving a production loss of 5 lakh tonnes in the last 6 months. The exchange of power between the Southern States including Maharashtra functioned well. In December 1977 Maharashtra exported 38 million units to karnataka and Kerala 175 MU to Tamil Nadu, which in its turn fed Karnataka with 79 MU. In other states, such as Orissa, Madhya Pradesh, Himachal Pradesh, Punjab, Haryana, the power situation was normal. Rajasthan had forced shortages due to the shut down of the Rajasthan atomic station and Jammu and Kashmir had some restrictions during peak hours. In Assam there was some shortage and so control measures have been introduced. The Union government reports that the new hydel and thermal units commissioned in 1977–78 upto February added 1,000 MW and a further 1,200 MW would be added by the end of March 1978. It has appealed to all Chief Ministers of the States to cooperate in implementing the various schemes as recommended by the conference of Chief Ministers on power development. In early February the Union government cleared 3 major power projects — Ramagundam (2,100 MW), Badarpur third stage (210 MW) and Neyveli (630 MW)—which will generate 2,940 MW at a cost of Rs. 1,000 crores. In the first stage they will add 1,900 MW to the total installed capacity of the country of 22,000 MW. The Union ministry also reports that it has initiated immediate action to set up the sanctioned large power stations, to develop the coal supply they need, and to place the equipment and machinery order with BHEL which, has been alerted for this purpose. This is part of the five year

plan to add 20,000 MW, on which the Power Engineers Federation has raised queries, pointing out that with the existing infrastructure only 12,000–14,000 MW could be attained. To attain targets such as those, it suggests that State Electricity Boards should be made autonomous and decision making powers decentralised within each Board. Another programme, namely, the renovation work in 31 units with an aggregate capacity of 3,000 MW which by modifying and renovating equipment and recommissioning long outage units would have made available 1,160 MW has had to be slowed down. Till February only 5 units were covered with an aggregate capacity of 490 MW, because it has not been possible to shut down the other plants to carry out the renovation work. They are in continuous demand and at this rate this work will not be completed till after the next monsoon in December 1978. Also the Central Electricity Authority (CEA) reports that it has set up 4 Institutes at Delhi, Durgapur, Nagpur and Neyveli for training staff in operation and maintenance. In 1978 they are running 12 short term courses. Further under BHEL a spares bank has been set up for the stocking of spares for US and USSR imported units. Finally CEA has set up an operations monitoring unit to watch the performance of thermal and hydro electric power stations on a day to day basis and on the basis of a daily generation report, assistance is given to the station needing it for improved performance. With the country's large stakes in power and energy generation (the annual import bill on crude is over Rs. 1,500 crores), the joint BHEL and BARC MHD project is of crucial importance. By 1981 a pilot MHD topped steam turbine plant will be set up in Tiruchi. BHEL will deal with the engineering and technological aspects and BARC with the Plasma physics aspects. The project will use coal gas to fuel the MHD generator by mixing coal gas with hot air and then burnt in a combustion. The first BHEL pilot plant will have a thermal input of 5 MW and by certain simple additions will be stepped upto 15 MW, when the engineering and materials problems will be the concentration of study and net output efficiency. From here the passage to 500 MW. 250 MW MHD and 250 steam turbine will be easy, ending with the 3 stage plants study, plants with one MHD, one gas turbine and one steam turbine stage. Thie should indicate the solution to the problem of selection of materials for high temperature use and efficient and economic DC–AC investment.

Water: As suggested in the last issue (p 131), further discussions in bringing Krishna waters to Madras await election results and the formation of the new government in Andhra Pradesh. In mid February the government announced the abolition of the expert committee appointed in January 1976 on the desirability and feasibility of extending the supply of the Parambikulam–Aliyar project water beyond the original ayacut of 250 lakh acres. Now the government has decided that the supply of water from the project to another 1.15 lakh acres in Pollachi, Udumalpet, Palladam and Dharapuram taluks will be available. Further under the Madras city programme for improved water supply distribution, 3 lakh people in Kodambakkam, Ashok Nagar, Vadapalani and Saligramam will have protected water from July at a cost of Rs. 80 lakhs along with a Rs. 55 lakh scheme for laying trunk mains and sub–mains to a length of 16 KM in South

Madras under the Integrated City Development Programme (ICDP) aided by the Union and State governments on a half grant—half loan basis.

Housing: The State government announced in February a massive housing programme to accommodate its officers. Spread over 10 years, and starting in Tiruchendur, Pollachi, Udumalpet and Coimbatore, the government which was now paying heavily in rents (in Pollachi alone Rs. 25,000 a month is paid in rents), will amortise these amounts and with the help of HUDCO build houses for its employees. HUDCO is now financing 6,000 houses per annum in the country and the State governments scheme will expand this programme. Also the Union government announced in February new guidelines to be followed by the States to remove the rigours in implementing the Union Urban Land Ceiling Act under which the hardships experienced by individuals and organisations will be mitigated. Though the Act does not apply to this State, the Union government has advised this State to adopt it which will ensure uniformity between States in grant of exemption on the basis of environmental conditions or lands for industrial and commercial or agricultural use etc.

Communication: The Union Railway Budget provides, as noted later Rs. 2 crores for the new broad guage line from Tirunelveli to Trivandrum via Nagercoil and the branch line from Nagercoil to be completed by April 1980. Further the electrification on the Madras–Trivallur section will be completed by March next year for which the budget has provided Rs. 1.96 crores. The Madras–Gudur section will be operated by electric trains from 1979–80 for which Rs. 4.30 crores is provided in the budget. A new International Air Cargo Complex was inaugurated in Meenambakkam on February over an area of 11,925 sq. metres. Its centralised location of all activities connected with documentation, examination and processing of cargo, a mini customs house and the presence of regulatary agencies like the Assistant Drug Controller, plant quarantine, Cotton Export Promotion Council, Textile Export Promotion Council Textile Committee, State Bank, Bharat Electronics import stock, Air Cargo Agents Association, Leather Export Promotion Council and the Council for Finished Leather being located in the complex are an important and convenient feature. Thus Madras airport will cater for the export trade from the Southern states in leather, cotton manufacturers and garments salt, essential oils, mica, machinery, tools, appliances, machine parts and telecommunication apparatus.

Panels and Welfare: The State government has established non-official committees at the municipality, panchayat union and panchayat levels to help the commissioner or special officer of the municipality on developmental matters, including supervision and advise on these matters. The 12 member committee at the Panchayat Union level and the 7 member committee at the Panchayat level will perform similar functions and include the BDO and RDO in the committee and the village munsiff and those with good social service records. Also in February the State government announced that it

will bear the full risk cover of Rs. 10,000 for its employees under the Family Benefit Fund schemes. In addition to the benefit of Rs. 10,000 in the case of death while in service, the Rs. 10,000 will cover all it employees, teachers in aided colleges and village officers, fully replacing the Rs. 5,000 risk cover provided by LIC.

National:

1978–79 Union Budget: The Union Budget for 1978–79 introduced in the Lok Sabha on February 28 begins with presentation of the revised budget for 1977-78 where against the anticipated deficit of Rs. 84 crores the estimated revised deficit is Rs. 975 crores. The revised revenue receipts are larger by Rs. 230 crores and expenditures by Rs. 260 crores reducing the revenue surplus by Rs. 20 crores, while capital receipts are reduced by about Rs. 400 crores and expenditures increased by Rs. 500 crores. The increased deficit is due to (a) the foreign exchange resources not being drawn by Rs. 800 crores as the budget forecast, (b) Rs. 414 crore being given as additional assistance to the States where there has been improvident expenditures by out going governments plus the flood and cyclone relief to Andhra Pradesh, Tamil Nadu and other States. The budget proposed for 1978–79 is characterised by (i) revenue receipts of Rs. 10,461 crores plus Rs. 321 crores to be raise as additional tax and other revenues: the revenue expenditures are Rs. 10,899 crores, giving a deficit of Rs. 438 crores against which the additional revenue of Rs. 321 crores should be set off. The capital receipts are Rs. 6,560 crores plus Rs. 25 crores to be raised through budget proposals and capital expenditures of Rs. 7,518 crores, giving a deficit of Rs. 958 crores against which the additional capital receipts of Rs. 25 crores should be set off. There is thus an overall uncovered net deficit of Rs. 1,050 crores, which in the present state of the economy should be welcomed, with the possibility of its being reduced by drawing down about that sum from the growing foreign exchange reserve: (ii) the final outlay on the 1978-79 annual plans of the Union and the State is Rs. 11,649 crores, against Rs. 9,960 crores for 1977–78, which is a 17 per cent increase. Within this sum, 4,520 crores are for the Union Plan (Rs. 4,939 crores in 1977–78) and Rs. 5,985 crores for the States (Rs. 5,021 crores in 1977–78). For the first time the State Plan outlays at 19 per cent growth are higher than the Union plan growth by 15 per cent and as a stress on developmental functions which are with the States and on greater decentralisation in planning, this should be welcomed: (iii) the breakdown of the Plan outlay shows the priorities to agriculture and power: on agriculture and rural development, the outlay will be Rs. 1,754 crores (up by Rs. 490 crores from the previous year) including a near doubling to Rs. 82 crores on command areas development, a two and half time increase to Rs. 115 crores for SFDA, a 50 per cent increase to Rs. 76 crores in DPDA, a trebling on desert development to Rs. 20 crores, and a first allotment of Rs. 20 crores to block development for achieving full employment in rural areas. Operation Flood II for massive dairy development is provided for and fishery development outlay doubled to Rs. 61 crores. In rural roads there is a 50 per cent increase to Rs. 115 crores and a similar increase in rural water supply to Rs. 105 crores plus a special provision of Rs. 60 crores: (iv) SC and ST and tribal programmes with a 50 per

cent increase are alloted Rs. 538 crores: (v) the outlay on major and medium irrigation projects will be Rs. 1,160 crores and for minor irrigation Rs. 235 crores to create an additional irrigation potential of 3 million hectares: (vi) to commision 3,500 MW and so raise the total generating power capacity to 29,000 MW, Rs. 244 crores in the Union Plan and Rs. 1,953 crores in the State Plans are Provided. These cover the super thermal projects at Korba and Ramagundam, as well as Badarpur stage III and Neyveli plants: (vii) Rs. 630 crores for the oil sector and Rs. 563 crores for the steel sector covering Bhilai, Bokaro, Rourkela and Salem are provided: (viii) on family welfare and health Rs. 393 crores (Rs. 284 crores in 1977-78), a 23 per cent increase in science and technology to Rs. 220 crores Rs. 51 crores to ICAR and Rs. 23 crores to INSAT are provided: (ix) Rs. 2,945 crores on defence against last year's Rs. 2,752 crores and non-plan expenditure of Rs. 5,908 crorers are provided: (c) on the income side the budget proposed a massive mobilisation of Rs. 549.50 crores, including Rs. 524.50 crores from additional taxes, of which Rs. 499 crores are from excise and customs duties. The States' share of the additional taxes is Rs. 95.50 crores and with the loss on the tax on the interest of banks of Rs. 108 crores, the Union government will have Rs. 346 crores net additional income, including Rs. 25 crores from higher compulsory deposit of income tax assessees. The major additional direct tax proposals are: (a) the rates of deposits under compulsory deposit are raised, for income from Rs. 15,000 to Rs. 25,000 from 4 to 4.5 per cent, for Rs. 25,001–Rs. 35,000 from 10 to 11 per cent, for Rs. 35,001–Rs. 70,000 from 10 to 12.5 per cent and for over Rs. 70,000 from 12 to 15 per cent. (b) the 7 per cent tax on interest received by banks on their loans abolished from 1 February 1978 and as a consequence RBI notified the banks that (i) existing two types of S.B. accounts are merged carrying a uniform $4\frac{1}{2}$ per cent interest, (ii) fixed deposits of 61 months and over will have 9 per cent instead of 10 per cent interest, those for 15 days to 45 day $2\frac{1}{2}$ per cent interest instead of 3 per cent interest, for over 3 years and upto 5 years $7\frac{1}{2}$ per cent interest, instead of 8 per cent interest, for 46 to 90 days 3 per cent interest instead of $3\frac{1}{2}$ per cent, (iii) lending rates to be reduced to 15 per cent from $16\frac{1}{2}$ per cent in the case of banks with demand and time liability of over Rs. 50 crores, from $17\frac{1}{2}$ to 15 per cent for banks with Rs. 25 to 50 crores liabilities and a new ceiling rate of 16 per cent for those with less than Rs 25 crores. The current 12% per cent for upto 3 year term loans will continue and for above 3 years 14 per cent instead of 16 per cent, (c) a 50 per cent income tax deduction upto Rs. 10,000 for those investing in equity shares in new companies, (d) liberalised concessions ranging from Rs. 5,000 instead of the previous Rs. 4, 000 for long term saving through LIC, Provident Fund and other accounts, (e) new industrial companies given 50 per cent tax deduction for investment in equity shares, (f) fixed deposits with banks after February 28, 1978 not to qualify for capital gains tax, (g) to promote middle class and low income housing, tax deduction increased from Rs. 1,200 to Rs. 2,400 annual rents and increase of rate of depreciation from 20 to 49 per cent, (h) Indian citizens employed abroad can now stay in India for 89 days without attracting tax liability, (i) tax deduction at source for horse race winnings above Rs. 2,500, (j) pub-

licity expenses beyond ¼ per cent of the turnover disallowed by 10 per cent, when beyond ½ per cent the disallowance will be 12½ per cent and 15 per cent when beyond that, (k) exemption limit of estate duty raised from Rs. 50,000 to Rs. 1 lakh, (l) a two paise levy per KW of power to yield Rs. 145 crores (with rebate for agricultural use), (m) central excise duty on coal from Rs. 5 to Rs. 10 per tonne yielding Rs. 58 crores, (n) excise duty on several items raised from 2 to 5 per cent and total exemption to all pesticides, drugs and medicines, and newspapers, (o) a special duty of one twentieth on basic excise, (p) relief in duty for 24,000 small scale units covering 69 items, (q) agricultural power driven pumpsets are exempted from excise, duty on small refrigerators and films reduced, (r) import duty on polyester yarn increased from 120 per cent to 200 per cent yielding Rs. 6.4 crores (s) customs duty on imported capital equipment reduced from 40 to 25 per cent, involving loss of Rs. 9 crores revenue: (d) the budget proposes the sale of gold from government stocks to end smuggling and the export of gold jewellery to be allowed by importing gold or sale of government gold stock at international prices. This is conceived also as an anti-inflation measure: (e) with regard to replacing sales tax and octroi by Central taxes, in view of the State government's opposition, the problem of sales tax is left over and the ending of octroi by States with compensation to them of Rs. 250 crores to be negotiated: (f) postal tariff is to increase with exemption for the common man in rural areas, the exact increases to be announced later as a means of reducing the annual deficit of Rs. 23 crores of the postal department. There are positive elements in the budget as presented. First the fiscal instrument is being used to revive industrial investment and activity through reducing the customs duty on imported machinery, through tax deduction for investment in equities and new industrial activities, through reduction in the penal interest rates charges by banks on loans, and through the fiscal stimulus given to housing construction. Second there is the fillip given to saving through the concessions for long term savings in life insurance, provident fund and extending the time stay of Indians working abroad, though the problem now is to ensure that what has been saved is invested. At present 2 per cent of the saved GNP is being invested abroad. Third the abolition of octroi when accomplished and if sales tax is rationalised would promote inter-State trade and revive commerce. Fourth the small manufacturer and the agriculturalist are given various incentives to step up production and productivity. Finally the gold sales and gold jewellery export could be a means of holding down inflation. The negative elements in the budget are first the general special increase in excise duty will have an inflationary effect as will the duty on power. Second the duty on coal without increasing the price of coal will increase the annual deficit of the industry. Third while the increase in the allocation to agriculture, irrigation and rural development are positive factors to stimulate the primary industry and meet some of the minimum needs of the common man, there is no evidence of a stepping up in manufacturing and industrial investment, without which the stagnation of the economy cannot be countered. In particular the bold decision to leave Rs. 1,050 crores as uncovered deficit unless matched by a planned policy of importing machinery, equipment, spares and components, involving a

drawing down of our foreign exchange reserves will not lead to industrial revival and growth. Above all the employment policy in the new budget is not clear. There is need for such a policy to be effective in order to increase the purchasing power of the people—which in the end is a necessary condition for the revival of demand and for general growth. But at this point, the issues raised go beyond the budgetary, fiscal instrument and framework which the Union budget is. The budget needs to be backed up by an investment policy, employment policy, a policy to further combat destitution and inequality and a policy of generation of rupee resources to support an enlarged import programme and it is to these that the government must now turn its attention.

Railway Budget: The Railway budget presented to the Lok Sabha for 1978-79 is for the second year running a surplus budget. For 1977–78 the surplus is estimated to increase two and a half times over what was budgetted, mainly because the traffic receipts were under estimated at Rs. 2,110.24 crores which are revised to Rs. 2,131.61 crores and expenditure overestimated at Rs.1,648.74 crores against the revised estimate of Rs. 1,611.06. This has pushed up net railway reserve from Rs. 257.62 crores to Rs. 316.39 crores and the surplus from Rs. 32.50 crores to Rs. 89.32 crores. For 1978–79 the budget presents traffic receipts at Rs. 2,219.86 crores and expenditures at Rs. 1,700.90 crores, Depreciation Fund at Rs. 145 crores, Pension at Rs. 50 crores and Miscellaneous expenditure at Rs. 25.71 crores. The net revenue is Rs. 298.25 crores and after crediting Rs. 232.82 crores, there is a budgetted surplus of Rs. 65.43 crores. The main features of the budget are: (a) no increase in passenger fares or freight: (b) the charges for sleeper accommodation for second class passenger fares are reduced: (c) hill concessions are restored and travel concessions to teachers and post-graduate students liberalised: (d) of the 2,152 crores allocated by the Planning Commission for V Plan for railways, Rs. 1,551 crores will have been spent in the first four years: (e) goods traffic has increased by 30 per cent and passenger traffic by 28 per cent for this year 1977–78. The Fifth Plan target of 250 million tonnes of freight traffic has been very nearly achieved during the year ending March 1978 at 218 million tonnes: (f) a committee to study the railway capital structure is planned in relation to its indebtedness to the General Revenue, which in spite of the surplus generated in the past 2 years and the one expected for 1978–79, will reduce the indebtedness from Rs. 368 86 crores in March 1976 only to Rs. 345.37 crores in March 1979: (g) twentyeight new railway lines and restoration schemes are on hand including for this State the Trivandrum–Nagercoil section of the Trivandrum–Tirunelveli–Kanyakumari line, a new railway line from Apta to Roha which will ultimately link Maharashtra directly with Tamil Nadu. The policy of converting saturated metre and narrow guage to broad guage is to continue through 13 conversion and final location surveys in 7 projects: (h) the allotment for the metropolitan rail transport project for the year upto 1978–79 is Rs. 50 crores, out of which Rs. 45 crores are being spent on the 16.5 KM underground line in Calcutta. which will cost Rs. 250 crores and be completed by 1986. In Delhi and Madras, studies are on hand to make optimum use of rail and road transport systems. The budget is a good one and with its improved operating ratio and increased surplus without any

increase in passenger fares or freight rates, is a positive factor for the economy and its move forward. The points which need attention are the need to create additional capacity to meet further increased demand from thermal plants, coal, iron ore, fertiliser and crude, (already there are reports of delay in movement of coal and even foodgrains see Vol VII p 693 and Vol VIII pp 10 and 11) and the need to reduce the growing number of railway accidents.

Economic Survey: The Economic survey for 1977–78 presented to the Lok Sabha presents on the whole a positive picture of the economy, which is somewhat open to question. On the positive side it forecasts that: (a) foodgrains production for the year will be 121 million tonnes, composed of kharif production estimated at 71–73 million tonnes compared to 66.6 million tonnes in 1976–77, and rabi production due to favourable weather expected to be around 50 million tonnes. This would be 10 million tonnes more than the 1976–77 output. Incidentally the President's address to Lok Sabha 4 days before the presentation of the survey, forecast a total foodgrain production of 118 million tonnes. This kind of varying estimates by the government should be avoidable. On commercial crops, cotton, oil seeds and sugarcane output will be higher than the previous year, with jute being lower and the pressure on pulses and oil seeds continuing due to supply being very much lower than demand. (b) As a result of the good agricultural performance, the survey forecasts that the rate of GNP will rise by 5 per cent against the 1.6 per cent increase in 1976–77. (c) Another positive element is that prices have been stable during the year, the money supply increase being reduced from 12.4 per cent during April-January 1976-77 to 8.9 per cent for those 10 months in 1977–78, with net foreign assets in the banking sector, bank credit to government and tax credit to the commercial sector contributing to the increased money supply. While, bank credit to government increased somewhat sharply, credit to the commercial sector was only 56 per cent of the previous year, due mainly to the small increase in food procurement. funds and the continued RBI controls (d) Again exports increased during the year at 9 per cent despite slack international trading conditions and the ban on exports of cement, oil cakes, spices, tea, vegetables etc. (e) Foreign exchange reserves continue to increase, due to the continued inflow of invisibles at the rate of Rs. 2,000 crores per annum. Foreign aid receipts are estimated at Rs. 1,585 crores for the year and repayments at Rs. 841 crores. The net inflow of aid will be Rs. 743 crores against Rs. 844 crores in 1976–77 and Rs. 1, 154 crores in 1975–76. Fresh aid commitments in the first 9 months of the 1977-78 will be Rs. 1,275 crores and the proportion of imports financed by net aid will be less than 15 per cent against the 17 and 22 per cent of the 2 previous years. On the negative side the survey refers to: (1) the serious slackening in industrial growth which is estimated for 1977–78 at 5-6 per cent compared to 10 per cent in 1976–77 and is attributed to (i) the slackening of growth in certain major sectors like textiles, coal, steel, (ii) power shortages, (iii) labour unrest, capacity constraints, (iv) lack of demand for certain industrial products and (v) the fact that there has been no pick up in industrial investment. The growth rate in the public sector units was only 4 per cent in April-December 1977 compared

to 11 per cent in April–December 1976: (2) the problems of the sick units continue and during the year only Rs. 8 crores have been disbursed under the soft loan scheme to rehabilitate them against the Rs. 132 crores sanctioned: (3) even the good seven per cent rise in agricultural production must be set against the fact that the agricultural sector is still dependent on the monsoons, that we have had an unusual 4 years of good monsoons and hence is subject to continuous fluctuations over which our food reserves could disappear, in addition to lack of growth in products like pulses and oil seeds: (4) on foreign exchange reserves, our inability to use them as an investment resource is resulting in the paradoxical situation of a capital scarce country investing these resources abroad: (5) while prices are, for the present stable, the inflationary threat is serious because of the liquidity in the system and any bad agricultural year will send prices soaring again: (6) the savings aggregate seems to be declining. While the growth rate of deposits with banks has declined from 21.2 per cent in the first 10 months of 1976–77 to 19.4 per cent in the same period in 1977–78, what is even more disturbing is that time deposits which are an important source of savings have declined even more sharply from 25.9 per cent to 18.5 per cent in the period referred to above: (7) the financial position of both the Centre and States has deteriorated: the State governments gave away Rs. 450 crores in tax concessions (see Vol VII p 493), natural calamities have involved the Union government spending Rs. 500 crores extra and the increase on subsidies on agricultural inputs such as water, fertilisers, food, more DA, repayment of second instalment of the compulsory deposits, restoration of minimum bonus, and additional cash assistance to exports led to the supplementary grant voted by Lok Sabha in December of Rs. 689 crores. Part of this increase is offset by increased market borrowings (Rs. 183 crores) and the higher railway surplus referred to but tax receipts have not improved: and (8) the wholesale price stability hides the sharp increase in some essential commodities, like edible oils and pulses. Overall the economy faces serious problems—its agriculture is not investment oriented, its investment climate very slack, demand stagnation is serious, power shortage and labour unrest are growing, industrial constraints and the growth of foreign exchange reserves are becoming a liability. Above all, the problem is to allow investment to grow and ensure that the existing 2 per cent gap between savings and investment is closed.

VI Plan and the Poverty Sector: The Sixth Plan is being finalised in February and will be presented to the National Development Council on March 18 and 19, the Lok Sabha Consultative Committee for the Planning Ministry was informed in February. The aggregate size of the Plan is likely to be 30–40 per cent higher than the Fifth Plan, with 2/3 in the public sector and the rate of growth a function of the savings capacity of the economy and its investment needs at around $4\frac{1}{2}$ to $4\frac{3}{4}$ per cent. The plan's objectives will be removal of unemployment and underemployment in 10 years, provision of basic services like drinking water, primary education and health care to the lowest income group over the 10 year period (this is the removal of destitution objective), and a significant reduction in the current disparities of income and wealth. These objectives will be linked with the maximum feasible

growth rate (4½-4¾ per cent) and progress towards the goal of self-reliance. The rolling plan concept will become effective after 1978–79 allowing for timely and periodic corrections on the investment plan. Special attention will be given to resource mobilisation strengthening the administrative machinery to deliver fully a larger plan and the settlement of inter-State water disputes. In February a study was released showing that those with monthly incomes of less than Rs. 100/- had 20 per cent contributed to their income—in rationed foodgrains, cloth, primary education against the contribution of 5–7 per cent from such government expenditure to those earning Rs.1,000 and above. This is not surprising because the poor have no choice except to purchase these government subsidised goods, whereas the rich buy better quality equivalents in the open market. The study also states that the benefit from government expenditure is 24 per cent for the bottom 40 per cent, compared to 35 per cent for the top 20 per cent. It therefore recommends selective action by government to attain its redistributive objective. It identifies the areas which benefit the bottom 40 per cent, in view of the fact that the share of capital outlays in total expenditure tends to increase as districts improve economically, and along with progress in development. The study was conducted in 3 districts, Thanjavur, an agriculturally progressive district, Kanpur an industrial district and Gaya, a stagnant district. There are of course differences in size and pattern of government outlays as between districts, depending on the level of development and its industrial or agricultural character. The study starts with a certain bias and its generalisations need to be tested on a wider sample.

Prices and Anti-Inflation : The index number of wholesale prices which in the week and month ending January 28 stood at 182.4 points, continued its falling trend for the month of January at 0.8 per cent and from April to January registered a small rise of 0.2 per cent. The major contributors to the declining trend were cereals whose prices for the month fell by 1.3 per cent, pulses even more sharply by 5.8 per cent, oil seeds by 4.7 per cent, sugar by 6.7 per cent, edible oils by 3.4 per cent. On the other hand cement prices rose by 5.1 per cent, jute by 3.8 per cent, cotton textiles by 1 per cent and there were small rises in drugs and medicines, iron and steel, non-electrical machinery and transport equipment. The Union government is granting another instalment of DA from January 1, 1978 as the index has crossed 320 points. In a full year, this would cost Rs. 50 cores. For January-March it will cost Rs. 12.5 crores. To fight inflation, the Union government proposes to expand massively the public distribution network both in terms of the population covered and the number of essential commodities to be sold through such outlets. In addition to cereals and sugar, kerosene, cloth, vegetables, oils and vanaspathi will be brought in, starting with selected pulses and fuel—soft coke and kerosene—and then moving on to other items such as toilet and washing soaps, salt, matches, tea, exercise books and common drugs. The relevant ministries will have to monitor the production, availability and retail prices and decide on when the good in question should be brought into the distribution network. The number of retail outlets will be expanded so that one outlet serves 2,000 persons. A further element is the formation of a chain of regional distribution centres which will intervene whenever

any essential commodity is in short supply in an area, which will counter the wholesaler's indifference to the far off retailer and will reduce the number of wholesale transactions and middlemen, with benefit to the price. The major thrust of the scheme is to extend the public distribution network which is largely concentrated in urban areas to include rural areas where the bulk of the poor live. The government has also worked out the cost of the scheme and finds that spread over a five year period, the annual outlay by the government on the scheme would be Rs. 15 crores. This is a financially feasible scheme which can ensure an equitable delivery system. In mid February, the government notified tea as an essential commodity under the Essential Commodity Act as a first step to make it available under the public distribution network and in the meanwhile prevent the tea indusrry unilaterally increasing its price—particularly the packaged brands of tea.

Industries and Public Sector Performances: The study group headed by the Additional Secretary, Ministry of Industiral Development in its report submitted to the Union government in early February has recommended raising the exemption limit for industrial licensing from Rs. 1 crore to Rs. 3 crore and streamlining capital goods imports and foreign collaboration procedures. Also the Rs. 5 crores overall limit of investment and the raw materials and components imports limits should be deleted, it is recommended. In order to promote accelerated industrial development (which as noted earlier is declining and stagnant), it recommends reducing the number of clearances and delegating clearances authority to district industries centres. Similarly states are advised to set up at their headquarters a bureau of industrial approvals to give entrepreneurs all the needed approvals at one place. As a kind of follow up, the Union government also set up in mid February a committee headed by Mr. V. Dagli to evolve and review the system of controls on prices, production, distribution of licences and imports, including examining the extent to which they have been an effective instrument for national planning and have acted as guideposts of the national economy and on this basis recommend their continuance, modification or deletion. Another measure which will help industrialisation is the report of the Puri Committee handed in to the government in early February recommending the relaxation of the minimum margins asked for the banks in granting loans to small industrialists. In place of the current high and variable margins demanded, banks should advance loans for viable small industries formulation by technically qualified and experienced entrepreneurs. For small units needing Rs. 25,000 or less, there should be no margins and normally margins should not exceed 20 to 25 per cent for loans of Rs. 25,000 to Rs. 2,00,000. On government schemes like those for educated unemployed. there should be no margin and the committee suggests simplifying application forms along with grant of interest rates concessions for units in backward areas. Towards the end of February, the Union ministry of industry issued guidelines for amalgamation of sick units, provided for in the last budget (see Vol VII p 434). Under the guidelines a sick industrial unit is permitted to amalgamate itself with either a large industrial house registered under MRTP or a company having foreign majority holdings. The amalgamating company will be entitled to relaxation from the Income Tax Act

relating to carry forward and set off of losses and depreciation allowance. Amalgamations are permitted if the amalgamated company in its turn should possess special knowledge in the sick units' goods or the industry of the amalgamating company should be suffering from widespread sickness or the amalgamation is in public interest because of the product priority or the economies of scale involved. The Annual Report of the Union government's industrial and commercial undertakings for 1976–77 presented to the Lok Sabha in late February highlights the continued expansion of the production potential, greater resource generation, better utilisation of capacity and general price stability for basic industrial outputs. On capital account, the public sector units rely heavily on budget support to the extent of Rs. 45.20 crores—which will be the deficit on capital account. Steel, fisheries and chemicals are so dependent. There was growth both in the productive capacity of existing units and in setting up new units in crude, steel, coal and basic chemicals. During the year, prices were frozen so that the sector contributed to price stability. For the 135 public enterprises net profit before tax rose by Rs. 129.11 crores to Rs. 476.17 crores, public investment reached Rs. 11,097 crores on April 1,1977, at which date 141 enterprises were under study. The turnover rose from Rs. 5,299 crores in 1971-72 to Rs. 14,542 crores and the return on capital employment went up from 5.1 per cent to 9.7 per cent during this period. 15.7 lakh persons were employed in the public sector and Rs. 2.248 crores were earned as foreign exchange. The Union government also reports that production in the 8 public sector defence units will touch Rs. 425 crores for the year 1977-78 against Rs. 399 crores during 1976–77. All units are reported to have earned profits, including Praga Tools and the Garden Reach Workshops which had been incurring losses.

National Production Front:

Steel: The public sector steel plants report record sales in January at 4.12 lakh tonnes (3.50 lakh tonnes in January 1977). In 1977 the public sector plants produced 4.9 million tonnes (4.6 million tonnes in 1976), TISCO produced 1.59 million tonnes (1.54 million tonnes in 1976) but IISCO's production declined to 5.23 lakh tonnes (5.29 lakh tonnes in 1976). With 91 per cent capacity use in 1977, 7 million tonnes of saleable steel was produced by the major producers (6.7 million tonnes in 1976). Bokaro whose third blast furnace was commissioned at the end of February completing the 1.7 MT stage of construction of the plant, produced in 1977, 19.11 lakh tonnes of gross coke (13.85 lakh tonnes in 1976), 20.34 lakh tonnes of sinter (18.24 lakh tonnes in 1976), 19.34 lakh tonnes of ingot steel (7.89 lakh tonnes in 1976) 8.89 lakh tonnes of saleable steel (compared to 6.35 lakh tonnes in 1976). In regard to alloy steels, the Alloy Steel Producers' Association reports that against an installed capacity of 5.5 lakh tonnes, the production in 1976–77 was 2.90 lakh tonnes, the shortfall being due to power shortage, demand stagnation, lack of orders etc. About 40,000 tonnes of special steels are being imported and this is justified as the only means of meeting all the diversified requirements of end users in the multiplicity of specifications required. This kind of import is the rule in all countries. There are gaps in the industry and to take stock of the supply and demand for special steels and make concrete proposals for filling the

gaps a working group of representatives of alloy and special steels industry and the users is being set up. Parallelly the Union steel ministry is reviewing the entire spectrum of the steel industry covering the integrated steel plants, the mini steel plants and the rerolling industry in order to bring about a rationalisation in the product mix. A start in this direction has been made in shifting the manufacture of the lighter angle sections for power fabrication from the integrated steel plants to the rerolling sector. Also the ministry computes that the demand for bars and rods in 1978–79 will be about 3 million tonnes, of which 1.8 million tonnes would be the rerollers' share would further increase as rural housing and infrastructural facilities increase in the coming year.

Crude : Crude production during January from both onshore and offshore fields was 10.11 million tonnes, contributed by the 3 public sector undertakings, ONGC, AOC and OIL India. ONGC produced 7.44 lakh tonnes of which 2.82 lakh tonnes was from Bombay High. Cumulative production for the first 10 months, April 1977 to January 1978, was 8.8 million tonnes, compared to 7.31 million tonnes during the corresponding period in the previous year—a 20.4 per cent increase. The major increase was from Bombay High which went up from 2.75 lakh tonnes to 1.54 million tonnes during the periods in question. The estimated production in 1977–78 is 10.81 million tonnes, the onshore Gujarat and Assam Oil fields of ONGC contributing 5.62 million tonnes and the offshore wells contributing 2 million tonnes. OIL India fields in the eastern region will produce 3.13 million tonnes (half a million tonnes more than in 1976-77), and AOC a constant 60,000 tonnes from its depleting small oil field. ONGC proposes increasing its output from the present 1.48 million tonnes in the eastern region to 5 million tonnes by 1983–84 to make up for Oil India's reduction from its present 3.1 million tonnes to 2.8 million tonnes (to ensure continued supplies over a longer period) and meet the demand of the Bongaigaon refinery. The ONGC increase will call for an additional capital outlay of Rs. 12 crores for existing oil fields. Also further exploration in the Galeki area is under way with a high power Roumanian rig drilling upto 3,500 metres. By December 31, 1977, 306 wells had been drilled (297 in Assam, 2 in Meghalaya and 3 in Nagaland, 3 in West Bengal and 1 in Tripura). Gas production from the Anan field is about 3 lakh cubic metres per day, of which 20 to 30,000 cubic metres are consumed by neighbouring tea gardens. Lack of adequate transport facilities and refining capacity are acting as constraints in ONGCs plans to increase crude production in the eastern region. In this connection there is also need to improve the maintenance of the 10 refineries in the country through a team work approach by production and maintenance engineers in the refineries and standardisation of equipment. ONGC has charter hired another offshore drilling rig which operating in water depths of 600 feet can drill upto 20,000 feet will be employed as the fifth rig in one of the other offshore areas. It will soon start drilling in Kerala coast, where the first exploratory well will be spudded in April. Also exploratory drilling will be undertaken in the Tamil Nadu–Godavari coast and in the Andamans and Nicobar islands offshore area. On onshore, a fresh survey for renewed exploration of oil and natural gas is to be undertaken in the Jaisalmer region in Western Rajasthan by ONGC.

In early February, India and the Soviet Union signed a contract for the supply of 1.5 million tonnes of Soviet crude oil to India during 1978 at a value of Rs. 115 crores. (see Vol VIII No. 2 p. 75). This is part of the agreement to supply 4.5 million tonnes over a 3 year period. In 1977 the Soviet Union supplied 1.4 million tonnes of petroleum products and in 1978 will be supplying 1.6 million tonnes. Iran will continue its crude oil supply to India in 1978 on soft terms. The negotiations for the takeover of OIL continued in February, the problems of AOC's heavy income tax and excise duty arrears being the moot point separating the company which wants Rs. 40 crores and the government which is not prepared to pay more than Rs. 13 to 14 crores net as compensation. Meanwhile the ministry and the Planning Commission have provided Rs. 38 crores to implement various projects during 1978 by OIL such as the Mahanadi delta exploration (Rs. 3 crores), Dumduma-Niagra area exploration (Rs. 5 crores) etc. The government has also decided to merge Caltex with HP to ensure economies of scale and co-ordinate marketing and refining operations of the companies. It has also decided as a fresh fertiliser feed stock policy, that where gas is available it should be used as feed stock for the production of fertilisers and also increase the use of coal as fertiliser feed stock where possible.

Coal: Coal production in 1977-78 is estimated at over 100 million tonnes. As at first 10 months, April-January, the production was 80.5 million tonnes: in January the production was 93.23 lakh tonnes and the average daily rate is 3.71 lakh tonnes as against 3.31 lakh tonnes in December 1976. The despatches between April and December were 729.15 lakh tonnes. In addition to the existing 13 washeries, 6 new washeries are to be set up with 73 per cent capacity use. In this connection, the department of coal and the steel ministry have been directed to discuss together means of ensuring proper quality of coking coal from the washeries for the steel plants. There is need for the 2 departments to agree upon the feasibility of working the washeries to the optimum capacity and reducing the ash content of the coal for the steel plants. For 1978-79 the investment in coal will be Rs. 230 crores (in 1977-78 Rs. 192 crores) in order to provide a basis for increasing production in future years.

Iron-ore and Minerals: The Geological Survey of India announced in February the location of a reserve of 4.60 million tonnes of iron-ore deposits with 55 per cent grade in Jaipur and Udaipur districts in Rajasthan. The government also reports that due to the change in the ore concentrate to be supplied to Iran and the delay in the finalisation of the sale contract and financial agreement with it, the Kudremukh iron-ore project which was to have been completed by 1979 and will now be delayed by two years with rather serious escalation of costs. The Indian Bureau of Mines reports that the total value of mineral production in November 1977 was Rs. 96.3 crores (Rs. 104 crores in November 1976). Iron ore production was Rs. 7.2 crores, copper ore Rs. 1.97 crores, manganese ore Rs. 1.17 crores, lead and zinc concentrates Rs. 1.03 crores, gold, chromite and bauxite 1.15 crores.

Shipyard and Sugar: The expansion of the Hindustan Shipyard at Vishakhapatnam and Cochin is being finalised as a

means of meeting the growing demand for merchant shipping in the country. In addition to the expansion, project reports for two new shipyards have been commissioned. The current crisis over tonnage and low freights streams from the fact that world shipyards can produce 40 million GRT per annum against an annual demand of 13 million GRT which will persist for some time. There is a similar contradictory situation in this country, with inadquate yards facility at 1.45 lakh dwt, with the order books however getting depleted. Also the Indian yards have a low productivity profile. There is need for action to improve productivity, lowering of prices and for the increased placement of orders. In February sugar prices fell in the open market to Rs. 350 per quintal, the mills released stocks at Rs. 225 per quintal, at which they claim a loss of Rs. 130 crores. In Bombay the government action in cutting back the excise duty, liberally releasing sugar supply, stepping up of sugar exports and selling through the open market by STC brought the price down to 301/330 per quintal. Taking all this into consideration the Union government announced on February 28 the following package of concessions to the sugar industries to tide over the present crisis and at the same time ensure that the cane growers continue to get present prices: (a) the ex factory price of sugar is raised from Rs. 168 to Rs. 187.50 per quintal: (b) the price of levy sugar is raised from Rs. 2.15 per kg. to Rs. 2.30 per kg. (involving a government subsidy of 5 paise per kg): (c) excise rebate is given to encourage factories to continue crushing beyond April 30 to aid cane growers: (d) credit limits to factories are raised to enable them to carry larger stocks: (e) non-levy sugar is not to be priced above present levels: and (f) 6.5 lakh tonnes of sugar will be exported in 1977-78 as per India's quota of the International Sugar Agreement. There is inflationary impact of this decision and the common man will be paying more for this sugar. The non-levy price should be increased instead.

Agricultural Production: On the basis of February rains and the low temperatures the Union government forecasts a bumper wheat rabi havest to exceed the 1977 good yield of 29 million tonnes. Along with good weather, fertilisers and HYV seeds are on the increase along with improved farming techniques. In fact, if the extensive damage to the crop in Tamil Nadu and Andhra Pradesh had not taken place, the 1977-78 yield may have exceeded the 1975-76 gross output of 121.03 million tonnes, it is suggested. Kharif paddy has yielded well, with Punjab and Haryana leading in yield rates Punjab has a productivity of 2,583 kg. per hectare and Haryana 2,468 kg. per hectare—more than double the national productivity level. The major reason for this is increase in the area under HYV. Of the total area of 6.74 lakhs hectares under rice cultivation in Punjab, the area under HYV is 5.79 lakh hectares (89 per cent). In Haryana 3.31 lakh hectares are under rice cultivation, 1.90 lakh hectares (60 per cent) under HYV. Reports from states indicate encouraging prospects for sugarcane and oil seeds. Cotton prospects are also good. Production of pulses will increase in the rabi season, large areas having been brought under cultivation because of favourable weather and high prices. Full support in the form of allocation to states for giving subsidy for certified seeds, rhizobium culture, plant protection measures and union

sponsored demonstrations are boosting pulses output. The Union government has sanctioned Rs. 2.45 crores for this programme. Bihar and Rajasthan have initiated summer cultivation of moong after the harvesting of wheat and as an intercrop in sugarcane and cotton. Andhra pradesh, Karnataka, Tamil Nadu and Kerala ard growing moong, urad, cow peas as catch crop in rice fallows, and Uttar Pradesh is growing it over 3 lakh hectares. The Union government is starting 3 projects for increasing rice productivity in flood prone rainfed, upland and pest endemic areas of Orissa, Bihar and West Bengal. With an outlay of Rs. 20.86 lakhs for each project, a group of villages covering 4,000 hectares is chosen and the project started over 1,000 hectares in the first year, using short duration high yielding varieties like IET-1444, IET-826, CR-12-3241 and Annapurana which are drought/pest resistant and yield 1.5-2 tonnes per hectare. ICAR's plans for the next step in India's wheat revolution is to reach an average yield of 21 quintals per hectare by 1985, which means a production of over 400 million tonnes. This target set by the National Commission of Agriculture (NCA) can be attained, the ICAR points out, if the past trends continue. In 1966 the average yield per hectare was 8.3 quintals : it is now 14.5 quintals. In the North, the ceiling yield can be increased by 10 tonnes per hectare and there is untapped production reservoir which can be used to attain the NCA target. Even a non-traditional state like West Bengal grew in 1975-76 wheat over 1.1 million hectares with an yield of 2,100 kg. per hectare (in punjab it is 2,375 kg. per hectare). For sustaining and stabilising high yields, a disease control programme is also being developed. The Food Corporation of India has developed a phased programme to eliminate CAP storage and substandard private godowns in order to maintain proper quality and preservation of foodgrains during prolonged periods of storage. By 1979, the level of foodgrains stored in CAP storage will come down from 6 million tonnes and 2 million tonnes. At present FCI has covered capacity of 6.3 million tonnes owned and 6.2 million tonnes hired, and 7.5 million tonnes in CAP storage. FCI is readying itself to meet purchase operations during rabi harvest which may be around 49 million tonnes, with 30 million tonnes of wheat. As noted earlier, (Vol. VIII. p 13), every month wheat is being shipped to the Soviet Union as repayment of the 1.5 million tonnes of wheat loan. With a central stock of 17 million tonnes including 4 million tonnes of rice, our foodgrains import have been stopped and foodgrains demand from any State immediately met.

Exports : During the first nine months of the year 1977-78 April to December—Exports earned Rs. 3,952 crores which was an increase of 8.7 per cent over the same period of 1976-77. Imports during this period increased only by 3.98 per cent which apart from the stopping of foodgrains import is a reflection of the economic stagnation of the country and makes the growing foreign exchange reserve a liability in terms of investment. Exports have been averaging Rs. 430 crores during the 9 months, whereas to reach the export target for the year of Rs. 5,500 crores, it should average Rs. 480 crores and for remaining 3 months should average of Rs. 500 crores. This is unlikely even though the December exports hit a high Rs. 480 crores. The trade balance which was Rs. 72·3 crores for the first 8 months (see last

issue p. 143) was Rs. 34 crores during the first 9 months. Exports growth would have been larger if there had not been restrictions on the export of sugar, cement, rice, pulses' fresh vegetables, vegetable oils which had been Rs. 500 crores and fell to Rs. 100 crores. Engineering exports on the other hand did well, rising by 30 per cent in the first 9 months, which means that they may reach the target of Rs. 650 crores for the year, going on to Rs. 780 crores for 1978–79 and Rs. 1,000 crores for 1979–80. At the second Engineering Trade Fair, Rs. 18 crores of enquiries and Rs. 10 crores of overseas orders for engineering goods have been received. Among engineering goods export, the hand tool industry occupied a prominent place. Handloom Tools worth about Rs. 25 crores, which is nearly 70 per cent of the entire production of an estimated Rs. 25 crores are exported to over 50 countries. This important sector faces a problem with labour unrest in Maharashtra which accounts for 50 per cent of engineering exports, along with the fast depleting order books. Fruit products exports are expanding particularly to the Gulf countries along with exports of perfumery compounds estimated at Rs. 8.30 crores during the first 9 months of the financial year. Export of spices is expected to exceed Rs. 100 crores in 1977–78, cardamum exports crossing Rs. 43 crores, the export till the the end of December of 2,050 tonnes earning Rs. 35 crores. In mid February, the government announced a scheme for allocating quotas for exports of textiles made from cotton, wool and manmade fibres to the US and EEC countries. 60 per cent of the quota is allocated during the first six months of 1978 and 40 per cent in the second half of the year. For fabrics and made up articles, 75 per cent of the quota will be allocated on a high price basis. For knitwear, hosiery and readymade garments, 50 per cent of the quota will be allocated on a high price basis. The scheme relates to the export of textiles falling under 106 categories to the US and 14 categories to the EEC countries. Also with the lifting of the ban on the export of cotton yarn of all types and counts as well as tyre cord yarn, cotton yarn exports will flow to EEC, the biggest importer of Indian yarn. In the period January – May 1977 alone exports to EEC totalled 355 tonnes and could have reachcd 550 tonnes if the ban had not been imposed. As regards imports, the Alexander Committee which presented its report to the government at the end of January recommends that there should be a 3 year policy on imports instead of the annual policy announcement and in framing the import policy for raw materials, spare parts and components there should be only 2 categories, those restricted and those banned. Licenses should be issued only for restricted items and not carry further itemwise restrictions in the licenses. License issue should be decentralised to the regional offices of the Chief Controller of Exports and Imports. Gold control rules have been relaxed which will not affect foreign trade so much as permit the manufacture and sale of gold ornaments by goldsmiths. On the other had the RBI weekly statement ending February 4, 1978 shows a decline in India's reserves by Rs. 131 crores, as a result of readjustment of the reserves in rupee terms, reflecting the strengthening of the Rupee in terms of the dollar and other currencies over a period of time. The reserves other than gold and SDRs stood at Rs. 3,841 crores. In the 1977–78

financial year, from April–January, the reserves have recorded a net rise of Rs. 1,321 crores. Also in February, the round of Indo – Soviet talks on the rupee rouble rate ended without agreement but with some narrowing of differences. The issue which has to be settled is the applicability of the agreed rate to past debts and it looks as if this will have to be settled at the political level.

Aid: As noted earlier, external assistance commitments in 1977–78 total $ 1,300 million, including $ 448 million from the World Bank group. The total aid indication given at the Aid India Consortium in July 1977 (see Vol VII p 635) was $ 2.1 billion of which the Bank group was to provided $ 1.1 million. Aid agreements have been concluded with all countries except for a part of the aid pledged by Japan. In February, Japan offered a credit of 9.3 billion Yen (Rs. 25 crores) for the installation of 2 reversible turbines for generation of hydel power under the Nagarjunasagar Project. Canada extended 10 million dollars as a soft loan for the supply of Canadian fertilisers. Sweden has offered $ 25 million in medical aid for purchase of medicines for antimalaria, tuberculosis and leprosy programmes. The World Food Programme will be giving Rs. 23.8 crores food aid for continuing the supplementary nutrition feeding programme concluded in May 1976. Australia also offered $ 1.8 million for the specialisation programme pledged at the CIEC (see Vol VII pp 380 and 444).

International:

Pakistan: Indo–Pakistan trade received a fillip as a result of the visit of the Indian Foreign Minister to Pakistan during which time a general agreement to expand trade between the two countries was established. A team of officials from Pakistan visited India in March to explore the possibilities of expanding the trade between the two countries.

Bangladesh: Bangladesh's trade deficit with India during the second half of 1977 increased to Rs. 30 crores. Bangladesh imported Rs. 35 crores worth of goods, while India imported Rs. 5 crores from that country. Early March will see a review of the trade trends between the 2 countries when this deficit, will come up for examination at a meeting in Delhi. Bangladesh can sell a number of items to offset its deficit, such as naphtha, furnace oil and molasses. India's major exports to Bangladesh are coal (Rs. 27 crores) cement, dyes, chemicals, cotton and cotton yarn and fertilisers.

China: During February a trade delegation from China visited India and identified a wide range of items for possible two way trade between the two countries. Items of interest to China are ore, pig iron, shellac, rubber, steel tubes, steel products, mining equipment, earth moving equipment including heavy duty trucks, onshore oil drilling equipment, agricultural equipment including tractors, machine tools, construction machinery including mobile cranes, transport equipment, dyes and dye intermediates. From China, India is interested in importing non–ferrous metals, tin, silk yarn, newsprint, basic chemicals and drugs.

Vietnam: India and Vietnam finalised in early February the contents of an agreement on trade and economic co–operation, scientific and technical co–operation and agricultural research and on

that basis five specific agreements on trade agriculture, science and technology and cultural exchanges were signed in late February. India has offered Vietnam a commercial credit of Rs. 30 crores for the purchase of railway rolling stock. Later in February, during the visit of the Prime Minister of Vietnam, a wheat loan of 300,000 tonnes was offered by India in addition to the 1,00,000 already promised. India has also agreed to assist Vietnam to set up a rice research institute through which it will intensify its double and triple cropping programme. It will also help to set up a buffalo research centre. A credit agreement provides for a further Rs. 10 crores with which Vietnam will purchase railway equipment and livestock from India. In the trade field, India will export locomotives, coaches and bogies, agricultural machinery, pharmaceutical products, electrical appliances, wires and cables, pig iron, steel and steel products and import from Vietnam rice, vegetable oils and oil seeds.

World Monetary Reform: The International Monetary Fund sold in February 5,24,800 ounces of gold at $ 176.35 per ounce, out of which it raised above $ 70 million for the Trust Fund. Since the auctions started in June 1976, IMF has raised $ 1.1 billion for the Trust Fund. Out of this Fund, SDR 300 million were disbursed to 35 countries by the end of January 1978. In view of India's improved balance of payment position, the Fund has not assisted India. Asian countries which received the special Fund assistance are Pakistan (SDR 40.65 million), Egypt (32.52 million) Phillippines (26.81 million), Bangladesh (21.62 million), Sri Lanka (16.95 million), Burma (10.76 million), Thailand (23.18 million) and Nepal (2.42 million). The loans are repaid in 10 half yearly instalments beginning from the sixth year and the interest is 0.5 per cent. RBI reports that it has added another 2,01,400 ounces of gold valued at SDR 7 million to its official reserve under IMF's second annual sale of gold to its member countries. The Fund completed the second instalment of its restitution programme of gold totalling 5.96 million ounces out of a total of 25 million ounces which it must sell to countries who were members at August 31, 1975 by 1981. After the first restitution India's gold holding increased from Rs. 182.53 crores to Rs. 187.80 crores and this will now increase to Rs. 194 crores. During February the US dollar fell to very low levels, while the price of gold rose by $ 2.15 an ounce to $ 181.60. The steep fall led the Swiss government through the National Bank to intervene in the market on February 24 to combat the 20 per cent rise in the value of the Swiss France in relation to the dollar over the past 4 months. The New York Federal Reserve Bank also joined in the action and as a result the declining trend of the dollar was for the present arrested.

World Economy: OECD reports that in 1977 the industrialised world did not control inflation or achieve a reasonable rate of growth. Economies were characterised by stagnation. In the 24 OECD countries inflation was 8.9 per cent (8.6 per cent in 1976). The highest inflation was in Spain at 26.4 per cent, followed by New Zealand (15 per cent), Sweden (13.6 per cent), Canada (9.5 per cent), Australia (9 per cent) and US (6.8 per cent). The lowest was Switzerland, Germany and Japan with Britain and Italy having lower rates. Exchange rate change moderated inflation

in Belgium, Netherlands and UK, while currency depreciation affected prices performance in Canada, Scandinavia, and South Europe. OECD predicts that in 1978 there will be moderate improvement in price level and a slightly improved growth performance at 4 to 4.5 per cent (against 3 to 3.5 per cent in 1977).

World Agriculture: The World Bank estimates that about 1 billion hectares (2.6 billion acres) of virgin land in the developing countries can be made araiable to meet the world's growing needs for food and fibres. About 4–5 million hectares are being added to the 1.4 billion hectares under cultivation. But the new land is becoming increasingly more marginal and so the cost of using it is becoming extremely high. Clearing virgin land and building physical and social infrastructures require large investments. Hence careful appraisal of costs and benefits must be made on this project. Among the areas that could be brought under cultivation now are the Amazon basin, the Congo basin, the outer islands of Indonesia, the semi arid regions of sub-saharan Africa and Southern Sweden, calling for elimination of human and animal diseases in those areas and new crop research and new farm technologies. There is also need for research on changing weather patterns in the semi-arid areas or possible atmospheric changes that might occur if large areas of tropical or sub-tropical rain forests are destroyed. The project is costly but the cost is unavoidable.

Asian Commonwealth Conference: The heads of governments from the twelve Commonwealth countries in Asia and Pacific met in Sydney from February 13–16 at which concern was expressed at the rising tide of protectionism in the developed countries and an appeal was made for a substantial liberalisation of the international trading system. They streassed the importance of greater access for agricultural products to the major consumer markets and the lowering of the trade barriers in the industrialised countries for the manufactured goods of the region. The conference decided to set up a consultative group to examine ways and means of persuading the 3 major trading blocks—EEC, North America and Japan to break down tariff barriers against the export of these countries. Another consultative group on trade is to be established to facilitate travel within the region to improve communications and reduce the cost of intra-regional transportation of goods, to simplify procedures for intra-regional trade, to reduce non-tariff barriers and to facilitate trade within the region.

International Wheat Symposium: Wheat researchers from all over the World met in a symposium from February 21 to 28 in New Delhi to take stock of the work so far carried out on improving production and productivity of wheat and to recommend the future course of wheat research. One area stressed was the need to evolve disease free HYV strains. Another area was the complexities in doubling food production, from the current 3.3 billion tonnes to 6.6 billion tonnes by 2,015 AD to maintain the present per capita availability of food along with the urgency of restoring fertility to the soil.

* * * * * * * *

II Agricultural Development

Paddy and Agricultural Production:

The kuruvai crop was raised over the normal 4 lakh acres and suffered severe damage from the cyclone and floods. The samba and later harvests will be normal and as noted in vol VIII pp 84-85, the heavy rains and aftermath of the floods are being used by the farmers, assisted by the government department, to produce in accordance with the year's targets. For 1978–79, the targets established are 87 lakh tonnes of cereals and foodgrains, 14.3 lakh tonnes of sugarcane, 15.7 lakh tonnes of oil seeds and 4.2 lakh bales for cotton. The government has decided to extend the irrigation supplies from the Mettur reservoir upto March 10 to enable the ryots affected by floods and cyclone to go in for an additional crop. Also it has instructed the Tamil Nadu Civil Supplies Corporation to open as many purchase centres as possible in the districts to receive samba paddy that is bought directly from the farmers. The samba crop is the major crop and is grown over 42 lakh acres. In the current season not only are more areas under paddy because of the availability of water, the yield trend even in Ramanathapuram and Madurai—the normally dry districts—is good so that 65 to 70 lakh tonnes of paddy are expected from the samba harvest. In Thanjavur district where normally the area under samba paddy is 6.50 lakh acres, this year it is 7.52 lakh acres to which 3.90 lakh acres of thaladi paddy should be added, Ramanathapuram which last year had to be written off has brought 6.82 lakh acres under paddy. In Madurai in place of the traditional 3.91 lakh acres, 4.70 lakh acres are under paddy and as noted earlier in both districts the yield is a high 2 tonnes per acre. Similar conditions prevail in North and South Arcot and Chingleput districts. On the Marketing and price side, a bag of 57 kilos is being sold for Rs. 55–57, well above the government price, but the Civil Supplies Corporation which was 55 centres in Thanjavur district alone is purchasing medium and coarse varities at Rs. 51.30 and Rs. 54.15 respectively as against the previous price of Rs. 43.89 and Rs. 46.17 respectively. The government plans to procure 2½ lakh tonnes of samba paddy to feed the public distribution system in the State.

Status of Agriculture Holdings and Yields:

A recent survey by the National Flood Commission and Tamil Nadu Agricultural University shows holdings in Tamil Nadu to be small. 75 per cent of farmers own less than 1 hectare of wholly irrigated land, 97 per of perenially irrigated holdings are 4 hectares or less and 82 per cent of partly irrigated holdings are similarly 4 hectares or less. In the case of rice, 51 per cent of operational holdings are 2 hectares or less, in the case of Jowar, it is 37 per cent, for oil seeds 36 per cent, for sugarcane 34 per cent and for cotton 24 per cent. Tamil Nadu's average operational holding is 1.45 hectares against the national average of 3.30 hectares. On the other hand, the state stands third in the country on irrigation supply which covers 47.7 per cent of its total cropped area (3.67 million hectares out of 7.6 million hectares). As the State has exploited

all its utilisable water potential, further irrigation expansion calls for some inter-basin transfer of surplus monsoon flow from West flowing Kerala rivers through left over-cum-storage-cum diversion schemes. The State's average yield of major crops is higher than the all India average: rice 2,057 kg. per hectare against the national average of 1,151 kg., jowar 893 kg. per hectare against 544 kg., groundnut 1,050 kg. per hectare against 142 kg., and sugarcane 9,449 kg. per hectare against 5,244 kg. But against other countries it is low: in rice Japan averages 5,838 kg. per hectare and in groundnut US averages 2,793 kg. per hectare. Hence the need for more intensified research efforts is obvious. There is also the need for transferring to the farmers the very good experimental and demonstration farm results.

Tractorisation:

Though the production and sales of tractors at the all India level reached a new peak in 1977 at 35,676 units of production and 38,817 units of sales, in Tamil Nadu there was a sharp fall in 1977 in demand and sales due probably to the drought conditions in parts of the State and fall in the price for agricultural produce received by the farmers. In this context the study on tractorisation in Tamil Nadu by the Institute of Techno-Economic Studies released in February is of particular relevance. Its major conclusion is that tractorisation at the present stage of agricultural development in Tamil Nadu is beneficial and involves no significant displacement of labour. The main reason is that transplanting, harvesting operations are labour intensive and are not subject to tractorisation. Tractors in this State are used for ploughing, land preparation, and transport of inputs and output. Hence displacement of labour as a result of tractorisation ranges from 9 to 20 per cent against which must be set off the additional employment created by tractor use through increased production from the additional area cropped, the greater intensity of cropping, and the higher productivity. The State has 7,500 tractors, a tenth of country's total. The study which was based on a sample survey of 7 districts which have the largest number of tractors, brings out also other advantages of tractorisation, namely speed, accuracy, efficiency and profitability. The aspect of labour substitution remains controversial and has acquired significance in view of the vast dimension of rural unemployment and the problem of migrant labour which is at its peak during the agricultural season in districts with the largest number of tractors. The cost factor is important as it places a tractor beyond the reach of even the medium farmer. It can be hired from the government but here too, the charges are high. In view of the findings of the study and to raise agricultural productivity, there is a good case for lowering the rates of hire and prices of tractors.

Agricultural Credit:

The RBI supplement to its All India Debt and Investment Survey 1971-72 reports that despite progress in the agricultural co-operative credit movement in the State by 1965-75, the majority of primary agricultural credit societies are not viable, calling for a special effort by the government and co-operative leadership in the State to revitalise the societies. In this 15 year period, there was a five fold increase in the total credit

disbursed by the societies per 100 hectares of cropped area from Rs. 3,604 to Rs. 16,170 (the all India average being Rs. 1,378 to Rs. 6,265). In 1974–75, 47 per cent of short and medium term loans were to small and marginal farmers and 44 per cent of long term credit by primary land development banks. At the same time, the total owned funds by primary agricultural credit societies increased during the period, 1960–61 to 1974–75, from Rs. 6.4 crores to Rs. 36.4 crores. This means that the average owned funds per society worked out to Rs 72,000 in 1974–75 against an all India average Rs. 26,000. Their deposits rose from Rs. 1.09 crores in 1960–61 to Rs. 7.43 crores in 1973–74, the average per society being Rs. 15,000 against Rs. 7,000 for the country. The total loans and advances of primary societies increased from Rs. 24.36 crores in 1960–61 to Rs. 87.68 crores in 1974-75 the average loan per society being Rs. 1.72 lakh against the all India average of Rs. 57.000. The overdue position at 29.8 per cent on June 30, 1975 was not satisfactory. The societies need to broaden their functions in the coming years and increase their area of operation and lendable resources in order to provide the farmer a package of services, of which credit would be one part, much like Farmers Service Societies.

Research Results:

The results achieved in wheat research and the tasks awaiting the next stage were referred to earlier. The tapping of the untapped reserves of foodgrains and vegetables also depends on research results with regard to soil treatment, namely soil structure, soil organic matter and soil tests and crop response and these lessons being followed by the cultivators. Thus for example research in the State has shown that zinc deficiency in the soil can be corrected by introducing zinc sulphate. Dipping paddy seedling roots in zinc oxide used at 4 per cent concentration improved yields in zinc deficient soils by 18.6 per cent. In the case of red chalk soil which by hardening quickly, hampers seedling emergence and root growth, use of groundnut shell and and rice husk or soil inversion can increase maize and groundnut yield by 30 to 50 per cent. Again the use of legumes like cluster beans in heavy soils which do not allow air and water movement provides adequate ventilation for the crop being grown. Similarly chiselling of sandy warm soils increased the yield of dry crops and sub soiling can increase sugar cane yields by 30 per cent in black soil areas. Use of small quantities of farmyard manure or neem cake can counter toxicity and increase yields of legume crops. Soil research also indicated means of dealing with one spreading underground pest, the white grub which eats into roots of the plants, the larvae attacking the young plant and the adult grub attacking the plant above ground, resulting in crop loss ranging from 30 to 70 per cent. This pest affects bajra, jowar, maize, wheat, chili, vegetables and sugarcane. Research shows that deep ploughing of the land soon after the rains will expose the grubs which can be killed. They can also be destroyed by egg laying and crop trapping. In this connection, white grub tolerant crops like safflower might be tried in endemic areas. Finally chemical spraying can be used to destroy the pest when it settles on host trees like mango, guava etc. The All India Co-ordinated Project for Research on New Cropping Patterns and water use in select command areas has focussed attention on the

importance of safflower which now has a number of new HYV strains which are also rich in oil content. The oil seeds usually grown on saline soils, when grown in irrigated lands (irrigated lightly) with sub soils and deep ploughing produce heavy yields. New varieties which are responsive to fertilisers are A-300, S7-13-13, RST-31, JL-1, JL-2, JL-3 and 314650. The yield is 20 to 25 quintals under irrigated and 15 quintals as a rainfed crop.

Sugarcane :

Due to the extended cultivation of sugarcane this season in the State, glut conditions prevail in the wholesale jaggery market which is centered in Vellore, with a rather steep fall in the price of jaggery which will reach back to sugarcane farmers. The major reason for the fall in prices is due to the fall in demand for jaggery by Maharashtra, Gujarat, Madhya Pradesh, Uttar Pradesh and Andhra Pradesh, who are also experiencing glut conditions. Even the permission to export jaggery has not helped the trade and growers. The only State which is absorbing considerable amounts is Kerala where the price ranges from Rs. 7-10 per kg. for the black variety and Rs. 12 per kg. for the brown variety. Stocks with producers exceed Rs. 50 lakhs and the strike in the Ambur co-operative sugar mill has added to cane supplies available for jaggery production. In this situation there is the possibility that farmers who find that paddy prices have been raised by government against falling cane prices may switch on to paddy for the navarai season. To prevent this, as a result of a rise in levy sugar prices, jaggery prices rose at the end of February by Rs. 4 per quintal.

Dairy Farming and Poultry Keeping:

With an animal population of 23 million, the Operation Flood programme which has terminated aimed at a massive development of dairy resources for the State, including shifting the milch animals from the city to rural areas and launching an intensive effort for increasing milk yields through cattle breeding, better animal health care and improved supply of feed and fodder in the rural areas. The State's poultry population is 13 million. Here there is great export potential, particularly to West Asian countries. For instance, Kuwait's annual import of eggs is 144 million of which India's share is only 4 lakhs, Dubai egg imports are 18 million, with India exporting to it only 1 lakh eggs. This requires development of quality poultry in the State, which also is an important source of subsidiary income to the farmer and a means of reducing rural unemployment.

Tea :

The 1977 tea production estimate is still not firm. In the last issue it was placed at 590 million kg. The official report for the period January to November 1977 estimates tea production at 541.3 kg. If the December production (at which time the North East crop is rather low) is 22 million kg. the total 1977 production would be 563.4 million kg. Even this is an increase of 50 million kg. over the 1976 production. Other producing countries also registerd increases—Bangladesh from 31.3 million kg. to 35.3 million kg., Sri Lanka from 179.2 million kgs, to 192.5 million kg, and Kenya from 55.3 million kg. to 78 million kg. The government has established tea production targets for the

Sixth Plan involving annual production increase of 25 to 30 million kg., developing 8,000 hectares annually—4,000 hectares through extension and 4,000 hectares through replanting, replacement planting and pruning, entailing in investment of Rs. 45–50 crores a year. The Tea Board has proposed setting up a Tea Development Fund through depositing in a recognised bank 50 per cent of the net profit of each garden, which will be treated as deductible expense under the income Tax Act and the garden will in turn be allowed to draw up to 20 per cent of the deposit to utilise the amount for development.

* * * * * * * *

III Industrial Development

Neyveli:

Orders for equipment and machinery for the second mine cut of the Neyveli Lignite Corporation are being finalised. Approved by the Union Cabinet at a cost of Rs. 14.47 crores, the 630 MW thermal power plant fed by the lignite from the second mine has also been approved as noted earlier at a cost of Rs. 213.98 crores. The Union energy ministry is taking steps for the speedy execution of the project, including negotiating the credit for the foreign exchange component of the project estimated at Rs. 100 crores. The bulk of the foreign exchange cost will be borne by a West German loan channelled through the West German firm, KFW, which has long been associated with Neyveli. For expanding the existing mine from 4.5 million tonnes annual production to 6 million tonnes, West German aid of Rs. 22.62 crores is available. Cabinet approval for the project has involved a lot of work by the minister and even so the approval is conditional on any major change in its cost estimates having to be re-endorsed by the Cabinet. There is a feeling that the costs of the second mine cut and the thermal plant have been underestimated or at least have not been updated. Cost escalation will not be in matters under the control of the ministry like the township or land development but on imported equipment and this is unavoidable. In any case now the project should move forward expeditiously and avoid any time delay which might send the foreign exchange costs up further.

Bank Loans against Gold:

The RBI Bulletin for October 1977 contains an interesting integrated analysis of the bank loans against gold ornaments—the banks are commercial banks and co-operative credit societies. The survey points out that lending against pledge of gold ornaments whether by the unorganised sector of pawnbrokers and moneylenders or by the organised sector of commercial and co-operative banks

presupposes. (a) the widespread possession of gold ornaments, having a prime position in the asset preference of individuals and households: and (b) social values and customs should permit the negotiability of the assest in its use as a security for a loan. These two socio-economic conditions are found mainly in the South and that is why the number of offices reporting gold loans in the 4 Southern States and Pondicherry amount to 67.5 per cent of the all India total and the Southern offices lend 94.8 per cent of the all India amount of gold loans. Within the South, Tamil Nadu has the largest number of offices making gold loans-1,399 (19.4 per cent of all India offices), the second largest number of gold loans 816 (28.7 per cent), being surpassed in this only by Kerala, but standing first in the amount of gold loans which amount to Rs. 88.95 crores or 30.0 per cent of all India loans. The detailed 10 statements in which the States' position is analysed confirm this position of Tamil Nadu being in the lead in the matter of gold loans-its being more being popular among semi urban than among rural people, its being mainly prevalent among the scheduled banks—two thirds being the public sector banks and about 70-80 per cent being used for agriculture or other productive purposes. The size of one average gold loan is Rs. 830.

Lucas-TVS :

The good record of Lucas-TVS which has specialised in fabricating auto electrical components led to its winning the Assocham award in 1976. Ancillarisation involves subcontracting of operation by the large unit, in this case Lucas-TVS and the supply by it of finished components, raw materials and special purpose machines and equipment to the ancillaries. Lucas-TVS subcontracts have increased from 3,300 in 1970 to 15,300 in 1977, in addition to supplying them with components and raw materials. With the help of small and cottage units, Lucas-TVS had developed raw materials, displacing imports in this regard, as in the case of manufacture of waxed and fungicide cotton tapes by cotton units in Salem. Similarly special milling machines like an impact press, dutch plate tapping machine, midget milling machine, commutator broaching machine are some of the items developed by the firm as import substitutes.

Leather :

The declining export trend in leather noted in the last two issues of the *Bulletin* (see Vol VIII pp 91-92) continued in regard to the export figures for the first 9 months of 1977-78, April to January. Total exports during the period were Rs. 185.67 crores, which was Rs. 35 crores lower than the Rs. 220.42 crores earned in the same period in 1976-77. This aggregate decline of 16 per cent was due to a reduction of exports of 70 per cent in goat hair, 31 per cent in tanned hides and skins, 11 per cent for finished leather and 2 per cent for wet blue chrome. Footwear components however rose by 262 per cent, industrial leather manufacturer by 143 per cent and leather goods by 25 per cent. The decline of 48 per cent in leather footwear (which is contrary to the trend of decline in semi-finished and increase in exports of finished leather items) is due to the fact that the Indian footwear manufacturers are not keeping in touch with the rapid changes in footwear fashion which they should do to make their goods acceptable to European and North American consumers.

* * * * * * * *

IV Education, Science and Health

Unrest in Educational Institutions:

In February 6 cases of students unrest and 3 cases of agitations by the teaching staff are reported. The student unrest includes a strike by medical college house surgeons in one centre, police actions in the forms of lathi charges, bursting tear gas shells, and arrests in 3 cases, and attack by matriculation examinees on the invigilators and damage to school and university property. The agitation of the teachers in one State centred around the V Plan salary scales and involved notice with regard to boycott of examinations, which is serious as this is the final examination for many students who will be going out to enter various avenues of work and employment.

Educational Reform:

The Committee set up by the Union minister of education for review of the curriculum including the vocationalisation aspects of higher secondary school finalised its report and presented it to the minister of education on February 28. The major contribution of the committee was to clarify that in the vocationalisation stream, there should be no opening of manufacturing and engineering sections in the plus 2 schools because of the heavy unemployment of ITI completers and polytechnicians and that the vocational courses should be in agriculture and related occupations as well as in office management and para medical vocations. These vocations have been spelt out in detail. The report also recommends that those who take up the general education course should spend 15 per cent of the working week in socially useful productive work and those who opt for vocational subjects should be given a general foundation course, the details of which have been worked out. Parallelly the ninth annual conference of the Boards of Secondary Education was held in mid February at which the Ishwarbhai Committee report was discussed and endorsed. The concept of socially useful productive work was accepted and given the status of a full fledged subject and counts for purposes of certification work done in practical subjects like some sciences, agriculture and even work done by student at home and sale proceeds from such work should be paid to students as incentive and for motivation purposes. At the secondary stage, a student should be examined in not more than 7 subjects against the present 14, plus 2 through internal assessment. The three language formula is endorsed but its start and ending is left to each State Board. Text-books should be reduced in number and NCERT, it recommended, should issue instructional materials rather than text books material which can be adapted by each Board to its circumstances, continuous internal assessment and building of question banks are recommended, together with reducing teaching hours in lower classes. Moral education is recommended in the school curriculum as part of language instruction. The Union government announced in February that it has under study the abolition of capitation fee charges by certain institutions at the time of admission of students. At the State level, the policy of allowing different types of schools to develop their own syllabus and not conform to a rigidly uniform one is emphasised by the

minister of education. This approach was emphasised when inaugurating the Board of Matriculation Schools under which 52 matriculation schools with a total student strength of 37,000 and 1,023 women and 262 men teachers are grouped. These English medium institutions will have the freedom to innovate with the curriculum except in the last 2 years—which will be set by the Board.

Adult Education :

The State is preparing itself to launch a massive adult literacy programme to cover 65 lakh adult illiterates. It will have over 50,000 literacy centres at its full functioning with government, voluntary agencies and universities being completely involved in the preparatory work. In February the department of non-formal education and the University department of adult education organised a seminar to prepare their staffs for the programme. In this connection the use of AIR as a powerful tool of adult literacy and non-formal education were emphasised and the role of the AIR station, Tiruchy which has organised a small non-formal education programme at the Tiruchy station was referred to. Its feed back system makes the programme more meaningful and purposeful. The State government also announced in February a scheme for the grant of Rs. 1 lakh to each of five quality films every year in order to promote qualities of patriotism, emphasise the evils of liquor, bring out the dignity of labour, promote social reform, economic justice, removal of untouchability and the caste system through the film media.

Technical Education :

One of the important developments in February was the report of the working group on technical educational presented to the All India Council of Technical Education. One of its important findings is that the present annual admission capacity of 3,000 at the post-graduate, 25,000 at the first degree level and 50,000 at the diploma level is adequate to meet the technical manpower needs for the next 10 years. Thus recommending against any increase in the intake, it recommends the shift system and new courses to be based on established and well defined manpower needs. It also recommends multi point entry in the system to enable a craftsman to develop as a technician or engineer, and that selected polytechnics should act as focal points to promote transfer of technology to the rural community, labelling such polytechnics as community colleges. In order to make up for the lack of industrial experience in teachers of technical institutions, it has prescribed one year's industrial experience for lecturers and 2 years for senior staff and that appointments to senior positions like professors and heads of institutes should be for five years-renewable. Short term courses in educational technology for teachers and the creation of adjunct professorship to entertain willing and capable persons from industry to teach in colleges, and similarly residency in industries for college teachers. Other recommendations are admission on the basis of entrance test, organisation of remedial courses to reduce dropouts, flexible programmes of continuing education, setting up a national evaluation and accreditation agency to ensure quality of courses and institutions, and separation of technical and general education for purposes of financial allocation. On management education, it is recommended that such education should be restricted to provide managerial manpower for small and medium size industry and for the transport, power, health, education

and agricultural sectors. An overall recommendation is the creation of a single national agency to ensure a balanced integrated approach to development of technical education from the level of craftsmen to that of technologists. Parallelly in agricultural education, the Union minister of agriculture called upon agricultural graduates to explore ways of employing themselves outside of government, and for this recommended that agricultural education programmes be made more relevant to the needs of agricultural development, which means giving a rural orientation to all agricultural education, including home science. In the State, a recommendation has been made for instituting a degree course in printing technology to meet the new demands which adult education and literacy programmes will throw up and improvement the technical competence of the industry to produce more books at cheaper cost. At a seminar on the transfer of technology in Madras, it was pointed out that the power of adaptation and diffusion of our innovations needs to be developed as well co-ordination of science and its application in technology among institutes of higher education, rather than the one way process of transfer of technology from universities to industries. Also in February the State government increased the stipends of interns, house surgeons and post-graduate students in medical colleges and hospitals plus an incentive payment for those who serve in rural areas. Udaipur Agricultural University announced in February that it proposes to start a 5 year degree course in dairy technology. The first leg of the proposed course will be of $2\frac{1}{2}$ year duration which will enable the trainees to obtain a diploma in dairy technology. This is part of a state plan which includes expediting of dairy and chilling plants in desert districts of the State.

Science :

Technology transfers must be planned in three stages—local design, development and research infrastructure, transfer mechanisms and the role of large industry through transfer centres, provision of research and consultancy services and training—it was agreed at an Asian symposium in February in New Delhi. At a 3 day Indo-US workshop on environmental pollution, it was decided that continuing research and development programmes between India and the US should concentrate on air and water pollution monitoring control instrumentation for such monitoring, treatment of toxic and hazardous effluents from phosphate fertiliser industry, coke oven effluents and basic organic chemical industries. It also recommended a techno-administrative management cell within the Department of Science and Technology to ensure effective co-ordination and execution of the co-operative programmes. Under a study organised by ICRISAT, Hyderabad, to identify constraints of a physical, biological and socio economic nature to increase food production and development as well as to obtain guidelines for future research in 6 villages in semi arid tropical areas, it was found that small farmers have a higher proportion of inter-crop production than large farmers. Also the proportion of inter-cropping was greater in regions with less assured rainfall and a more heterogenous resource base than in more well endowed regions. The studies showed that technologies which enable more monsoon cropping could favour small farms. More labour per gross cultivated hectare was used in small farms than in larger units, but female labour was less and its wage rates 40 to 60 per cent lower than those of males. Small and large farmers did not differ much in their risk attitudes. Thus research on inter-cropping, it is concluded, will profit small farmers and

regions with poor natural resources proportionately more than well endowed areas and large farmers.

Health :

The 3 day joint meeting of the Central Councils of health and family welfare referred to in the last issue (p. 164), concluded with a decision by State governments to implement the sterilisation programme without any element of compulsion, but with set targets which are to be called *'Operational objectives.'* The Union minister felt strongly that the revival of targets is essential if the modified goal of reducing the birth rate to 30 per thousand by 1983 (instead of the original 1979) is to be achieved. For 1978-79 the target is 3.5 millions to 4 millions. It was also decided that in bringing to bear the political will on this programme, the small family norm should be an integral activity and responsibility of all wings of governments–Union, States and local, involving all voluntary bodies, together a package of maternity, child care and nutrition services to improve acceptance of the small family norm. For this, the health component of the minimum needs programme should involve upgrading 1 out of 4 PHCs into a 30 bed hospital and increasing the number of sub centres. Imaginative incentive schemes for individuals and communities should be devised to encourage the small family norm acceptance. Stress on health education at school and university level should be promoted using the 1979 International year of the child for promoting community education in the need for healthy child rearing and wise parenthood practices and other measures for child health. One of the priorities for the country urged by WHO is a renewed programme to bring down the incidence of malaria to such a low level that it will not be a health hazard. With existing technologies including general control of mosquitoes, this is feasible given the will and decision to undertake the programme.

* * * * * * * *

V Employment

CSO's first economic census taken in October/December 1977 shows that there are 2.45 million non-agricultural establishments with a *usual* employment of 25.18 million people, of whom 22.30 million are hired workers. Nearly 40 per cent of the establishments are in rural areas and account for 40 per cent of hired employment. About 85 per cent of the establishments operate away from the premises in which the owner employer actually resides. A total of 11.5 per cent operate from resident households and 3.5 per cent operate without any premises. When the detailed tabulation of the results is completed, CSO will release

more information on the census which providing information on the structure and nature of activities of employment in a non-agricultural area is of importance in planning for this area. The November/ December 1977 Technical Manpower Bulletin of CSIR provides information on Scheduled Caste and Scheduled Tribe scientists registered in scientists and technologists register in 1976 which shows a total 177 such persons (8 Ph.Ds., 95 PGs and 74 graduates) with 82 belonging to the engineers group and 65 to the scientists group (only 6 are in the social sciences). Within the engineering group, mechanical engineering has the largest number (31), followed by civil (19), among science, chemistry (22) and in medicine 19. Of the engineers, 1/3 are employed in the public sector and only 7 per cent in the private sector, among medical scientists, 50 per cent are in the public sector and 25 per cent in teaching. The distribution of subjects employment follows the registration pattern referred to above. The state government has decided to drop the distinction between graduates and diploma holders in engineering in giving contracts relating to the PWD and high-ways departments in order to make the concession scheme for unemployed engineers meaningful. Both are to be treated alike in giving contracts not exceeding Rs. 50,000 preferentially to those two groups-degree and diploma engineers—and who would be exempted from producing solvency certificates and earnest deposit money. This will help the 7,283 diploma engineers and 3,000 graduate engineers who are unemployed. The concessions announced in February will hold for a period of five years. The scheme would it is hoped ensure quality work.

* * * * * * * *

VI Other Items

Plus 2 Committee:

The National Review Committee on Higher Secondary Education and its vocationalisation held 3 meetings in February and finalised its report. Entitled 'Learning to Do' the report was presented to the Union minister on February 28 who will be presenting it to the Lok Sabha on March 10. As noted earlier, the major recommendations are (a) to base learning at this stage also on work, (b) to make this stage comprise a general education spectrum and vocationalised education spectrum, (c) to introduce socially useful productive work for all who choose the general education spectrum, (d) to make all who take vocationalised courses take a general foundation course and (e) to prepare carefully the further implementation of the project and locate the maximum number of higher secondary schools in rural areas.

Working Group of NAEP:

The working group of the National Adult Educational Programme met twice in February to agree upon the scope and nature and manner of the participation of voluntary agencies in the programme and the financial aid that they would receive from the Union government. At the second meeting, the format for the development of the functional literacy projects, their financial parametres and the levels of literacy learning that they will involve were agreed upon.

NCC and Indo-China Friendship :

The Tamil Nadu NCC corps won for the 7th time the All India banner for smartness, discipline and efficiency as well as several individuals award for the men and women cadets. There were two functions to felicitate the corps on this achievement, one by the Chief Minister and the other by Vice-Chancellor. Also in mid February the Tamil Nadu Unit of Indo-China People's Friendship Association was launched with a programme for the study of the Chinese experience in land reform, industrialisation, educational reform and population control. It is hoped that documentation from China will be available for this purpose.

Adult Education Seminar and Binational Indo-US Workshops:

A 5 day seminar was organised by the Directorate of Non-formal Education and the University Department of Adult and Continuing Education in February in which the University and voluntary agency specialists participated in preparing the government officers to launch the adult literacy programme in the State. The emphasis was in producing local learning material by as many groups as possible to make the programme functional. As noted earlier also in mid February the biennial Indo-US workshop on control of pollution was held in Madras. Its proposed programme of joint research has been referred to earlier in the science sector.

AIR and TV Autonomy Committee:

The committee on autonomy for AIR and TV met 3 times in February and finalised its report on February 24th for presentation to the minister of information and broadcasting. The Report recommends the setting up of a National Broadcasting Trust for the two services, with a full time Chairman and 3 full time members plus 9 others to be responsible for the policy and programme of the Trust. It will operate through an Executive Board composed of the Comptroller general of the services and the heads of the various departments, zonal committees and boards down to the stations. Programming is decentralized and major emphasis is given to radio over television. The report which runs into over 400 pages should be the subject of a national debate and lead to legislative action and operations by January/March 1979.

IAEA:

The Indian Adult Education Association had the annual meeting of its Council in February at which the Association's participation in the National Adult Education Programme was the major subject of discussion. It was agreed that the Association should act as the facilitating agency for its member organisations but not as the disbursing agency, as that would involve setting up a large infrastructure by the Association. At the

end of February, there was a meeting of the Executive Committee of the Association which reviewed the 2 reports from member associations on their preparatory activities, decided to prepare 2 literacy projects in Bihar and operate them itself, and agreed upon the date and speakers for the 1978 annual conference.

UNU and ICSSR:

Under the auspices of the ICSSR, a regional meeting of the United Nations University was held at the end of February in New Delhi at which its programmes on World Hunger, Poverty and concepts of Development and environmental protection were explained, discussed and supported with local actions proposed for each country. The Research Advisory Committee of ICSSR also met at the end of February at which some thirty research projects were approved and the final reports of 12 completed projects were reviewed.

College Days:

February was the month for celebration of college days and college exhibitions. NGM college, Pollachi emphasised its successful participation in the semester programme and its desire to extend it to other undergraduate specialities. CGR college, Udumalpet, in its college day celebration referred to its good academic record and described its preparation to switchover to the semester pattern. Santhalinga Adigalar college, Coimbatore organise an inter-collegiate oratorical competition on *Valluvar* which brought out very clearly the manner in which students think and speak originally and creatively when using the mother tongue. Ramakrishna Vidyalaya at Periyanaickanpalayam laid emphasis on its work in 8 villages which it has made part of its curricular programme. Kongunadu college, Coimbatore, put on a display of village art and folk culture by villagers and its sericulture programme which was impressive. CBM college, Coimbatore which has just moved to its new campus showed a high degree of technical competance in its work and pleaded for two further post graduate affiliations. Nirmala college, Coimbatore, used the college day to lay the foundation stone for its auditorium and to announce its decision to adopt the semester system. Nehru Memorial college, Puthunampatti held a demonstration on its two rural ancillary programmes—Dairy development and animal husbandry and rural banking which was impressive and which is to be supported by the UGC. St. Joseph's college, Tiruchirapalli on its college day demonstrated that it has recovered from the devastation caused by the floods and is preparing for its autonomous status. DB Jain college celebrated its college day in the month and laid emphasis on the employment preparation diplomas that it is running successfully. From the central flood relief grant, the State government has made available Rs. 41 lakh to the five colleges, during February on the recommendation of the university.

University Events:

During February, there were meetings of the standing committee of the Academic Council which decided on and arranged its agenda, a meeting of the college affiliating grant in aid committee to examine the financial implications of the affiliations decided by the Syndicate, and the first meeting of the committee on the transfer of the 4 departments of the AC college of Technology to the new university of Science and Technology

(which recorded its exchange of views) and the second meeting of the advisory committee or the University's participation in the National Adult Education Programme. In February there was a meeting of the UGC Adult Education Committee in New Delhi which reviewed and approved the University's programme Adult literacy and granted a sum of Rs. 2.6 lakhs for its start (Rs. 1 lakh for preparation work by the colleges and departments, Rs. 1 lakh for running training courses for college co-ordinators and Rs. 60,000 for setting up a unit in the University to co-ordinate and supervise the programme.

March Development Seminar:

The paper for the March Development Seminar, *'The Challenge of Unemployment'* by Fr A. Devasia, together with a summary of the discussion of the paper at the seminar held on 30th March under the Chairmanship of R. Ramanujam appears as the first article.

Second Article:

A paper, *'Some Notes on Environmental Control'* appears as the second article.

The Challenge of Unemployment

By
Rev. A. DEVASIA, S. J.
Madras

1. Today there is an acute awareness of the gravity of the unemployment situation in India. Successive Five Year Plans have witnessed steady increase in the number of the unemployed and those below the poverty line. 22 million people unemployed constitute a colossal national waste. Past Governments are blamed for their many sins of commission and omission. New plan techniques are replacing old ones. New objectives, policies and strategies are proposed to solve problems which have defied solution for three decades. The Janata Government has promised full employment and sizable reduction in the magnitude of poverty within a period of 10 years by massive investments and developmental efforts in agriculture, the rural sector and the small scale add tiny industries sectors. While high hopes are raised, many question the competence of the Government to achieve these results without structural and institutional changes in the economy.

2. This paper has three parts. Part I contains some data on unemployment in India in general and in Tamil Nadu in particular. Part II examines some of the causes for the aggravation of unemployment during the last two decades or so. In Part III an attempt is made to analyse various strategies for reducing unemployment, with their complexities and constraints.

I

Uuemployment Magnitudes

3. The quantification of the magnitude of unemploymant in India has always been a difficult task. According to the Bhagawati Committee Report [1] the number of unemployed (including the heavily underemployed, working less than 14 hours per week) was 18.7 million in 1971, of which 16.1 million were in the rural sector, and 2.6 million in the urban sector. In the rural sector 10.4 per cent and in the urban sector 8.1 per cent of the labour force were unemployed. In his presidential address at the Labour Economics Conference in December 1977, Dr. D. T. Lakdawala [2] said that in

1. Report of the Committee of Experts on Unemployment, Govt. of India, 1973.
2. D. T. Lakdawala: Growth, Unemployment and Poverty.

1972–'73, 19.34 million persons were unemployed. In the rural sector 7.83 per cent of the labour force of 199.5 million and in the urban sector 8.85 per cent of the labour force of 4.3 million were unemployed. He added: "The number of persons below the poverty line is estimated at between 42.7 to 59.5 per cent of the population. It is thus clear that grave as the problem of unemployment is, only by providing work to all able and willing to work at the prevalent wage rates no big inroads can be made into the problem of poverty, and that full employment cannot directly add a large percentage to national income". One of the conclusions of Dr. Lakdawala was that "though unemployment and underemployment are grave problems, poverty is a more serious problem and mere achievement of full employment at the current wage rate may not take us far towards reduction of poverty".

4. The distinction between outright unemployment and underemployment is certainly important and their disaggregation is necessary for remedial action. Various criteria, such as time criterion, remuneration criterion and productivity criterion have been suggested [3] to help judgement on a wide spectrum of underemployment. These criteria, admirable in themselves, are often difficult to apply to the heterogenous complex of the underemployed that we have in our country. Some have held that the extent of underemployed may be as one third of the labour force in India. [4]

5. Mr George Fernandez, Minister for Industries, addressing a conference of technologists in New Delhi on February 7, 1978, stated that there were already 40 million unemployed in India and that 100 million new jobs would have to be created in the next 10 years to implement the Government's full employment policy. According to the latest announcement of the Planning Commission the backlog of unemployment today is 22 million. In the coming years the number of new entrants into the labour market will be 5 million per year. Therefore 70 million new jobs have to be created to provide full employment in a period of 10 years.

6. The Dantwalla Committee [5] had already warned that the quantitative estimates of labour force, unemployment and employment were subject to serious limitations in the socio-economic conditions prevailing in India and that precise assessment of these variables was impossible. There may be uncertainty about the exact magnitudes of unemployment and underemployment in the urban and rural sectors or in different States. But today there is general consensus that the unemployment situation has been deteriorating from year to year. The time has come to deal with unemployment and poverty on a war footing, using every possible means at the command of the Government and the nation.

7. At the end of 1976, the number of the unemployed registered on the Employment Exchanges had exceeded 100 lakhs, of which 50 per cent were educated job

3. Dr. Raj Krishna; Unemployment in India. Economic and Political Weekly: March 3, 1973.

4. Dr. M. S. Adiseshiah: Mid-Year Review of the Economy. Bulletin of the Madras Institute of Development Studies, November 1977, p. 681.

5. Report of the Committee of Experts on Unemployment Estimates, 1970.

seekers. There has been a steady increase in the number of job seekers from the highly educated groups as indicated below [6]

NUMBER OF JOB SEEKERS ON THE LIVE REGISTERS OF EMPLOYMENT EXCHANGES

S. No.	Category	Year		
		1965	1970	1976
1.	Postgraduates–Science	2,407	7,570	20,604
2.	Postgraduates–Agriculture	—	542	792
3.	Graduate Engineers and Technicians	3,426	16,215	16,549
4.	Graduates–Medicine	491	2,431	7,007
5.	Graduates–Veterinary Science	—	355	384

8. According to the State Planning Commission, the number of unemployed in Tamil Nadu was around 52 lakhs in 1973–'74. This figure is cited by Dr. B. Krishna Rao in his Paper on Employment Perspectives [7]. The number of job seekers on the live registers of the Employment Exchanges in the State rose from 2.76 lakhs in 1968–'69 to 8.84 lakhs in 1976–'77. Viswanatha Murthi and Narasimhan [8] have reported that 38 lakhs of workers were under-employed in Tamil Nadu in 1971. According to Dr. Bright Singh's projection[9] for the State, the annual increment to the stock of graduates (including Master's degree holders, but excluding professional graduates) would go up from 21,688 in 1977–78 to 47,082 in 1983–84. If the present trends in the Plan outlay in the State and in the absorption of graduates remain unaltered, then by 1983-84 the number of unemployed graduates in Tamil Nadu would be 1,84,900–an intolerable situation which calls for radical preventive action.

II

An Intractable Problem

9. The unemployment situation in India has deteriorated steadily from 1950, when only 4 million people were unemployed, to the present day with its massive unemployed population of over 22 millions. The reasons for this deterioration are many. Centralised economic planning itself has been considered by some as the cause of economic

6. Economic Times. 13th December, 1976.
7. Bulletin of the MIDS, January 1978.
8. J. Viswanatha Murthi and C.L. Narasimhan: Rural Employment in Tamil Nadu.
9. Southern Economic Review—July 1977.

stagnation and increasing unemployment. There are many today who argue that the type of planning we adopted especially from 1956, the so-called Mahalanobis model, with its emphasis on heavy industries which have great capacity for capital absorption, was bound to decelerate employment generation. Our planners considered growth as the highest goal of planning and employment creation and social justices as the natural outcome of growth. In an era of development economics and the cult of GNP magnitudes, it was not surprising that they overlooked the fact that capital investment and economic growth, *per se*, did not lead to proportionate increase in employment or improvement in the standard of living of the poorer sections in society. Although the objectives of employment generation and poverty eradication were never absent from the plan documents, nevertheless these never assumed the degree of importance that was given to growth. Agriculture with its great potential for employment was not given the priority it deserved in terms of plan outlay. Land reform efforts were scuttled by powerful farm lobbies, except in W. Bengal and Kerala. The small scale industries sector, in spite of its great scope for employment creation did not receive adequate encouragement, although the plan documents always made public declaration of promoting it by preferential treatment.

10. All these factors did in some measure contribute to the aggravation of the employment situation. However, the most potent single cause of unemployment deterioration has been the addition of five million new entrants into the labour force every year. No democratic country in the world had even to face such a tremendous problem of massive influx of men and women into the labour market seeking jobs. I wonder what the U. S. A. or West Germany or Japan would have done if they had to face such a gigantic problem. It is true, China did have a similar problem and solved it in its own way.

11. There have been loud complaints in recent years that the previous Government pampered the heavy and large industries and their growth aggravated the unemployment problem. These complaints do not have much validity. Although heavy industries are not generators of massive employment, nevertheless they are the sinews of economic growth in any country. Both agriculture and the wide variety of industries, large, medium or small, depend upon the heavy and basic industries for development and modernisation. We are now reaping the benefits of the large investments we made in the heavy and capital goods industries two decades ago which may enable us today to launch major programmes for reducing unemployment and eradicating poverty. Moreover, if today India is ranked tenth among the developed countries, it is in large measure due to the development of a wide variety of heavy and basic industries and the absorption of modern industrial technology. It is relevant to mention here that "in all major areas of heavy industry, China has outstripped India in the last two decades."[10] The development of heavy industries in no way retarded agricultural development or the development of other industrial sectors in China; in fact, the former supported and promoted the latter. China was able to combine heavy

10. Economic and Political Weekly: June 7, 1977. p7.

industries and labour-intensive technology. China's 10 year national development plan which commenced in 1976 lays great stress on the promotion of heavy and basic industries. The Chinese have planned to establish 10 iron and steel complexes and raise their steel output from 30 million tonnes in 1976 to 60 million tonnes and build or complete 120 large scale industrial projects by 1985.

12. In the 1960s and 1970s, the Governments both at the Centre and in the States, launched several rural development programmes. Is it possible to quantify the employment generation effect of these programmes? The Governments started with Community Development Programme and Extension Services and subsequently added others like intensive Agriculture District Programme, Intensive Agriculture Area Programme, Drought Prone Areas Programme, Small Farmers Development Agency, Tribal Development Programme, Crash Programme for Rural Development, Integrated Rural Development Programme, Pilot Intensive Rural Development Project, etc. No one would deny that these contributed in some small measure to the generation of employment and the rural sector, but the extent of their contribution was only marginal and altogether inadequate to arrest the deteriotation in the employment situation and exacerbation of rural inequalities.

13. The Government of India appointed a Review Committee (Dantwalla Committee) to study and report on the working of the Pilot Intensive Rural Employment Project. According to the Review Committee's Report submitted in October 1977, special employment agencies like the PIREP are unable to cope with the major problem of unemployment. Unemployment can be solved only if the entire plan strategy is made employment-oriented.

14. The Tamil Nadu Govenment introduced some special schemes to help the educated unemployed in the State. Among these schemes are special Apprenticeship Training Programme, Special Apprentice Scheme for Engineers, Youth Service Corps, Apprentice Teachers Scheme and Half-a-Million Jobs Programme. About their efficacy Dr. T. S. Venkataswamy has the following observation: "The multiplicity of the new Programmes has not made any serious dent on the problem of educated unemployment."[11] It is a long saga of failure and non-acheivement.

III

New Strategies

15. The Government of India has given top priority to the twin objectives of full employment and poverty eradication. One of the oft-repeated declarations of the Government is that the problem of unemployment will be solved in a period of 10 years. The five year plan techniques is being refashioned by the introduction of the rolling plan technique to make planning a more effective instrument for employment generation and poverty elimination.

16. Poverty and unemployment are closely inter-related problems. The creation of adequate employment opportunities will lead to a sizable reduction in the magnitude of poverty. However, full

11. Bulletin of MIDS. November 1976. p. 613.

employment, *per se*, will not eradicate poverty. There is need to promote productivity in all areas of activity and restructure wages, especially at the the lower levels. Although this paper deals directly with the problem of unemployment, it is good to remember the close link between unemployment and poverty.

17. The objectives of the Government are admirable and unquestionable. The gravity of the unemployment situation, the widening cleavage between the rich and the poor and the increasing number of those below the poverty line call for a major shift in the plan objectives. But how is the Government going to translate its aims and objectives into concrete realities? What are its new policies and strategies for action?

Big Push in Agriculture

18. The main thrust of the Government's employment policy will be the development of the two major sectors of the economy which have the highest potential for employment generation, namely, agriculture and the small scale industries sector. We shall examine in some detail the possibilities of accelerating the development of these two sectors, the strategies and modalities which may be adopted for this purpose and the constraints that are likely to arise in the process of policy implementation.

19. The Sixth Five Year Plan which commences on April 1, 1978, proposes a massive investment outlay of Rs. 116,000 crores (as compared with Rs. 56,000 crores in the Fifth Five Year Plan). Of this the share of the public sector is Rs. 69,000 crores-Rs. 26,000 crores for the Central Government sector and Rs. 43,000 crores for the State Government's sector. In the Plan high priority is given to agriculture, rural development and irrigation. Over 40 per cent of the total public sector outlay is ear-marked for agriculture and allied services. I shall skip the controversy about the clubbing of certain items of outlay with investment in agriculture. The primacy of agriculture and rural development is accepted. The investment in agriculture and allied areas in the Sixth Plan will be double the investment in the Fifth Plan. Thus the first essential requisite for a major break through in agriculture, namely adequate finance, is assured by the Government.

Irrigation

20. One of the major strategies for the promotion of agriculture and rural sector is a massive programme of irrigation development, for which an outlay of Rs. 9,650 crores is earmarked in the Plan. Irrigation has no doubt immense potential for employment generation, increasing agricultural productivity, output and national income and rasing the standard of living of the rural masses. Recent studies have shown[12] that in the case of wheat, rice, bajra, maize, jower and other crops, the yield per hectare in irrigated areas is about twice that of the yield in unirrigated areas. A major programme for the construction of new irrigation work, large, medium and small, the expeditious completion of the on-going projects, the modernisation of projects which are working unsatisfactorily and the maintenance and running of the many irrigation works all over the country will increase employment opportunities on a massive scale. The Tamil Nadu Government recently stated that it had decided

12. D. T. Lakdawala: Growth, Employment and Poverty.

to modernize 500 irrigation tanks in the State which would provide employment for over 50,000 persons. Further, labour intensity per hectare is much higher on irrigated than on unirrigated land. Irrigation also promotes double or triple cropping, involving labour-absorption.

21. According to the National Commission on Agriculture[13] 110 millon hectares of land can be brought under irrigation, using all ground water and surface water resources. By 1970-71, 38.5 million hectares of land were already brought under irrigation. Probably by the end of 1977, 16.5 million hectares of land were added to the irrigation area, leaving a balance of 55 million hectares for further irrigation extension. If a massive effort is made to bring at least 50 per cent of this balance under irrigation within a decade or so, we would have achieved a major break through in our war against unemployment and poverty. We may add here that the irrigation potential of a country is not something fixed for all times. New engineering technology for water conservation and diversion, new devices for water management and inter-State cooperation such as we envisage for the sharing of Cauvery water among Karnataka, Tamil Nadu and Kerala, or for bringing Krishna water to Madras will no doubt increase the extent of land which can be brought under irrigation and create new avenues for manpower utilisation.

22. The full utilization of the latent irrigation potential of the country within a decade will be the most powerful instrument for solving the problems of unemployment and poverty. Here is a stupendous challenge for the Government at the Centre and in the States. Will they meet this challenge with all the financial, technical, administrative and organizational resources necessary for the execution of this great task? Has the Janata Government the competence to translate into reality its promise that it would bring seventeen million hectares of land under irrigation within the next five years? No one knows the answers to these questions.

23. Not all the States in India are equally endowed with high potentialities for irrigation development. According to the National Commission on Agriculture, in 1970-'71, U.P. and Bihar had the highest unexploited irrigation potential, namely 15.6 million hectares and 10 4 million hectares of land respectively. In the case of the Southern States, the irrigation potential of Tamil Nadu, Andhra Pradesh, Karnataka, and Kerala was 4 million, 12.2 million, 5.9 million and 2.6 million hectares respectively. In 1970-'71, the unexploited irrigation potential available in the South was 0.6 million hectares for Tamil Nadu, 6 million hectares for Andhra Pradesh, 4.5 million hectares for Karnataka and 2 million hectares for Kerala. The scope of expanding irrigation in Tamil Nadu is unfortunately very limited, but the other 3 States in the South have still great scope for irrigation expansion and inter-State cooperation will extend irrigation potentialities in Tamil Nadu too.

Farm Technology

24. Irrigation is only a part of the modern farm technology which is applicable to Indian conditions. Besides regulated and adequate water supply, the new technology implies the extensive use of the high yielding varieties of

13. Report of the National Commission on Agriculture, Government of India.

seeds, increased application of fertilisers, plant protection by the use of pesticides and the adoption of multiple cropping wherever possible. An extensive use of the new technology will undoubtedly increase the demand for labour and generate employment on a large scale. The labour input per hectare in India is considerably lower than that in Japan and China. According to Dr. K.N. Raj [14] in the 1950s, labour intensity was 100 man-days per acre per year in the irrigated areas of West Bengal, whereas Japan was using 600 man-days per acre per year. In 1976, China was using 1,000 man-days per acre per years. There is no doubt that with the adoption of the new farm technology and with suitable regulation of mechanisation there is great scope for increased labour intensity on our farms and increased employment.

25. The new farm technology operates efficiently both on large farms and on small farms. Dr. D. T. Lakdawalla observed recently [15] that the new technology was neutral to size. The new technology seems even more efficient and productive on smaller farms than on larger farms.

26. The Central Budget for 1978-'79 makes provision for an outlay of Rs. 4,963 crores on rural development and small scale industries which is about 43 per cent of the total Budget of Rs. 11,649 crores. This, we hope, is an indication of a definite shift in emphasis towards investment in the rural sector in the coming years. Let us also assume that about 40 per cent of the total public sector outlay of Rs. 69,300 crores in the Sixth Plan will be available for the development of agriculture and allied sectors.

Major Constraints

27. Will the provision of these bold and substantial budgetary and plan allocations and the pumping of thousands of crores of rupees into the rural sector guarantee a proportionate increase in employment and incomes of the rural masses? It is very doubtful whether these objectives can be attained under the exploitative institutional and organisational framework which exists in the rural society today. Experience shows that in the past the advantages of increased and concessional credit and other agricultural inputs were cornered by the minority of rich farmers who resorted to less labour-intensive techniques of production in the name of productive efficiency. The Green Revolution, wherever it took place, benefitted the affluent farmers and increased the number of landless labourers. The continuance of the feudal agrarian system, the incompleteness and ineffectiveness of land reforms in most States, the ignorance and illiteracy of the rural masses, the absence of effective rural labour organisation, the lethargy of the Government bureaucracy etc., will continue to be formidable obstacles to the implementation of any policy for rural development, employment generation and poverty eradication. The creation of a literate labour force by massive adult education programmes, the liberation of the tenant classes by effective legislation and the provision of suitable organisation and implementation machinery so notoriously absent in the rural sector are some of the measures which should precede or at least accompany any major attempt for rural development.

14. Dr. K. N. Raj: Indian Express: 9th February 1977.

15. Dr. Lakdawalla: Growth, Employment and poverty.

Small Scale Industries

28. The present Government has rightly laid great stress on the development of the small scale and cottage industries sector. The offical declaration has almost become a slogan: what can be produced by the tiny sector shall not be produced by the small scale sector, and what can be produced by the small scale sector shall not be produced by the large scale sector. The number of items reserved for production in the small scale sector is increased from 180 to 504. This may be increased further. There will be special legislation to protect the small scale and cottage industries.

29. The Khadi and Village Industries Commission has been asked to work out plans for the development of the 22 village industries now within its purview. These industries provided employment to 21 lakh persons in 1976–'77[16]. Ancillary industries will be helped by larger industries both in the public and private sector by the provision of expertise in technology and management. The link between them will be strengthened. The Government will promote clusters of small scale industries around small towns, bigger villages and block headquarters. In fact, the administrative block has been selected as the unit of planning and the centre of developmental strategy, as the Dantawala Committee recently recommended. The aim will be the maximum utilization of local resources both human and material. Data regarding unemployment underemployment in the block will be part of the resource inventory which will be prepared for every block.

30. There is also a massive programme for dairy development. Operation Flood II — for which the Central Budget has allocated Rs. 500 crores for 1978–'79. The employment potential of this programme is estimated at 4 million persons.

31. One of the highlights of the decentralised industrial development policy will be the establishment of District Industrial Centres. Mr. George Fernandez has announced that by May 1978, 180 such centres will be established and by the end of the year all the 465 district headquarters will have their Industrial Centres. These Centres will provide all the necessary assistance to small scale and tiny industries in the district. They will help entrepreneurs in planning and executing their projects, assist them in obtaining necessary inputs including credit and undertake feasibility studies.

32. No one would question the desirability of developing small scale and tiny industries sector, or their potential for increasing the utilization of labour now unemployed or underemployed. The proposal to extend the area of their operation and to exempt them from numerous regulatory controls to which they are subject now is no doubt most welcome. However, we cannot forget their performance history. No one knows exactly the number of small scale units in India today. Some estimate their number to be over 4 lakhs, but it is assumed that 50 per cent of them are dormant, or moribund, or never existed. In Tamil Nadu the number of registered small scale units rose from 3,000 in 1961 to 26,000 in 1972, although we do not know what percentage of them are viable units today. Will the establishment of District Industrial Centres and the reservation of a few hundred products impart new vitality to

16. Eastern Economist: November 18, 1977. p. 998.

them and revive them from their inertia? The Government seems to be assigning an unduly great role to the District Industrial Centres without reckoning the hurdles on the way. It is not clear how these Centres will fill the entrepreneurial, organisational and technical gaps in the rural industrial sector. How will their services differ from those provided by Industrial Estates today? There is a great danger that independent small units will continue to languish for lack of adequate inputs or demand or marketing facilities and only those ancillary, captive or subsidiary units of larger undertakings will benefit in the new situation. The conditions necessary for a massive development of the small scale sector, education, entrepreneurship, technology-infrastructure—have yet to be provided.

Road Construction and Transport

33. Road development, road transport and the production and maintenance of commercial vehicles hold great promise for economic development and employment of labour, both skilled and unskilled. Roads are also the channels of civilization and the means of national integration. The scope for the development of roads and road transport is undoubtedly enormous in the less developed States of the North, but even in the more developed States like Tamil Nadu where there is a fairly developed network of roads, there is abundant scope for further extension and modernisation of roads and road transport as is evident to any traveller in districts like North Arcot, South Arcot, or Ramanathapuram. An expenditure of Rs. 1 crore on road construction is said to provide jobs for 400 persons.

34. Studies made by the National Council of Applied Economic Research and other bodies have highlighted the tremendous scope for employment which road construction and transport industries have. Some have come to the conclusion that within a period of five years, 30 million persons can be provided jobs in this highly labour-intensive area[17]. The extension of the national highways, the inter-State arterial roads, the State highways and the network of roads which link the thousands of villages with towns and cities are desirable even apart from their employment generation potential. In 1975 the Government of India started the national permit system to promote road transport with the issue of 5,300 national permits, which was raised to 8,050 permits in 1976.

35. The number of commercial vehicles on the Indian roads has to be increased considerably in the coming years. The employment created by the automobile industry directly and indirectly by the many industries linked with it is indeed enormous. The automobile industry has many backward and forward linkages. A large number of manufacturing, distributive and service industries such as tyres, tubes, electrical equipments, wheels, furnishings, fittings, body building, petroleum refining and distribution, hotels and restraurants, repair works, storages, garages, etc., are linked with the automobile industry. Recently it was reported that the T.V.S.-Lucas Company had succeeded in promoting 90 ancillary industries in different centres. There is no doubt that a large and well-planned road construction and transport programme resolutely implemented will

17. C. S. Nair: Indian Express. October 19, 1977.

increase employment and national income on a large scale.

Employment Guarantee Scheme

36. In 1972, the Maharastra Government introduced an Employment Guarantee Scheme. This was passed by the Legislature in 1977 and is awaiting Presidential assent. The scheme has been in operation from 1972 except for a break in 1974. If 50 or more persons volunteered for work on a new project and if the work was labour-intensive and productive, the scheme was approved. The scheme was meant mainly for the employment of un-skilled workers. The work was to be continuous for about a month. Minor irrigation, soil conservation, land development and road construction were the main works undertaken. Workers were paid Rs. 3/- per day which was higher than the wages prevailing in the rural sector.

37. Between 1972 and 1977, the total expenditure incurred on the E.G.S. of Maharashtra was Rs. 100 crores, most of which was spent on irrigation development. The projects were implemented by the Government directly and not by contractors. Although there was no adequate prior planning of projects for implementation, the Scheme is considered a moderate success and other States seem to be willing to imitate it.

38. West Bengal has introduced 'food for work' programme Recently, both West Bengal and Kerala have introduced Unemployment Benefit Schemes. In the West Bengal Scheme which is expected to benefit 1.5 lakh persons, the Government will pay Rs. 50/- per month to the unemployed who have to be available for work 2 days a week. In the Kerala Scheme, which is expected to benefit 2.4 lakh persons, the Government will pay Rs. 400/. per year to unemployed youth who have to be available for social welfare and adult education work 2 months per year. The Planning Commission has expressed itself against these innovations.

Recent Developments

39. The Chief Minister of Tamill Nadu stated in January 1978 that the Government was drawing up a plan to provide employment for 4 lakhs of people in 4 years; that the Government would provide all facilities-financial, technical and infrastructural—to enterprising entrepreneurs to take up self-employment projects; and that the Government would encourage all projects with low capital and high labour intensity. At the beginning of March 1978, the Government constituted a Study Group of experts under the chairmanship of Dr. Y. Nayudamma to examine the scope for creating employment in the rural and household industrial sectors. The Study Group will also advise the Government in regard to modernisation of rural industries, study their financial, marketing and other problems and formulate specific proposals for speedy implementation. We hope that the work of this Study Group will help in a big way to increase productive employment and raise the efficiency of the rural and household industries in the State.

40. The Central Minister for Works and Housing stated in Madras in February 1978 that to meet the needs of India's growing population at least 5 million houses would have to be built every year

and that the Housing and Urban Development Corporation would extend all possible help to the State Governments, for this purpose. Construction industry has no doubt high potential for employment. By the middle of 1979, Salem Steel may be employing over 10,000 workers.

41. Recently the Central Government constituted a Panel on Employment Exchanges under Mr. P. C. Mathew, former Labour Secretary, Government of India. The Panel will study the working of the 588 Employment Exchanges in the country and make recommendations to improve their efficiency as links between the unemployed and potential employers. All this shows that today there is an unprecedented awareness of the gravity of the unemployment situation.

Role of Business

42. In recent months, there have been proposals to involve industry and business in the development of the rural sector[18]. Dr. Lakdawala has welcomed these proposals and invited them to lend their support to programmes of rural development. Addressing a meeting of the Bombay Management Association, he said: "with their great sense of organisation, with better grasp of techniques, their experience in management and coordination, their tact and their financial resources, they can give a new turn to the programme of rural development." The Federation of the Indian Chambers of Commerce and Industry has set up a Rural Development Department to assist industrialists and businessmen in their efforts to support the rural sector. The Government has offered tax relief to industry and business for expenditure on certain types of rural programmes such as construction and maintenance of drinking water projects, building of drainage facilities and roads, running dispensaries, supply of fertilisers and pesticides and provision of machinery and equipment. Some industrialists have already adopted villages for improvement.

43. All would welcome the creation of an area of fruitful collaboration between the rural and the business sectors. Industry and business certainly have initiative, finance and technical and organisational skills which are lacking in the rural sector. However, one does not yet see the modalities of transferring modern management techniques from industry and business to the heterogeneous complex of India's rural economy. If these can be utilized for the development of agriculture and allied sectors, certainly it would be a great achievement. There are, no doubt, sceptics who question the motivation of businessmen and industrialists in venturing into the rural arena and their ability to help small farmers, tenants and workers so long subject to exploitation by landlords and middlemen.

Conclusion

44. What conclusions can we draw from the foregoing analysis? The nation has not moved forward on the economic and employment front since the restoration of freedom a year ago. The contours of the new Government's employment and antipoverty policy are fairly clear on a conceptual level, but they are dim, indefinite and unconvincing in terms of strategies for action. The great hopes and wave of optimism raised a year ago are receding, giving place to

cynicism and disillusionment. The Government seems to lack cohesion and ability to pull together for radical economic action which is called for in the grave situation existing today.

45. And yet there are immense possibilities for a frontal attack on unemployment and poverty. Among these possibilities are a massive developmental effort in agriculture, expansion of irrigation, extensive use of modern farm technology, promotion of small scale and ancillary industries, construction of roads and bridges, extension of the service industries especially road transport, rural electrification and employment guarantee schemes. However, these strategies and programmes will succeed only if the illiterate rural masses are provided with education, the agricultural tenants and labourers are liberated from their masters, the lethargic and inefficient administrative machinery is revamped and streamlined for effective action and the organisational gap in the agricultural and small scale industries sectors is adequately filled. This is an arduous and challenging task for the Government and the nation and the only means of solving the problem of unemployment and poverty in India.

* * * * * * * *

Summary of Discussion

In the discussion of the paper at the seminar held in the seminar room of the Institute on Thursday, 30th March 1978, under the Chairmanship of Prof. R. Ramanujam, Professor of Economics, Vaishnava College, Madras, the Chairman commented on the excellence of the paper and observed that the paper covered the three basic elements of the problem of employment—a historical review, present policies and bottlenecks. The strategies involved were the development of appropriate technology, extension services to transfer the results from laboratories to the field and optimum use of energy. The increased output achieved would naturally create problems of adequate price to the farmer. Further, development of the small scale sector and its integration into the economy call for special efforts. The author presenting the paper stated that the three main aspects of the problem discussed in the paper were the magnitude of unemployment in the country, causes of unemployment and the policies and the strategies of the government for dealing with the situation. Regarding the quantification of unemployment, the exact numerical dimensions available vary considerably as there is no single concept or definition of employment. The problem is rendered more complex by conditions of underemployment prevailing in the unorganised and agricultural sector. The range of variations is evident from the statistical estimates of 19.3 million according to Dr. Lakdawala, 22

million according to the Central Planning Commission and 40 million as per the Ministry of Industries. The problem is further complicated by the addition of 5 to 6 million every year to the labour force which is a unique phenomenon in any country. A sombre feature is the large number of educated unemployed in the country.

As for Tamil Nadu, the State Planning Commission's estimate of total unemployed was 52 lakhs for 1971. The Employment Exchange registers showed a rise from 2.76 lakhs in 1968–69 to 8.84 lakhs in 1976–77. An MIDS study estimates underemployment in Tamil Nadu in 1971 as 38 lakhs. Projections computed at present rates show that unemployment of the educated will be 1,84,900 by 1983. The perceptible deterioration in employment over the decades from 1950 is attributable to various causes. First, the Five Year Plans emphasised planning for growth and were not employment oriented. Second, importance was given to the development of Heavy Industries, which although providing the sinews of economic growth were not employment intensive. Third, agriculture with its massive potential for employment was not accorded priority in terms of outlay. Fourth, despite an impressive extend of land reforms legislation on the State and Central Statute Books, its implementation was not effective except in Bengal and Kerala. Fifth, Community Development Programmes have also not made any significant contribution. The State apprenticeship, youth and other programmes have not made any dent in unemployment. Another lacuna is an insufficient appreciation of the role of the small sector in creating jobs. Turning from causes to remedial measures for unemployment, the author stated that present government policy as enunciated was principally the removal of destitution and unemployment in ten years as there is a close relation between unemployment and poverty. There is a growing realisation among policy makers that the main thrust should be the development of agriculture and small scale industries. A beginning has been made by the allotment of 40 per cent of the Sixth Plan outlay to the rural sector. Within agriculture, irrigation not only enhances output but has great scope for employment, since labour requirements are higher on irrigated land. In this context, it was stated that the Tamil Nadu Government has announced the renovation of 500 tanks. In the country as a whole there are 55 million hectares of land to be brought under irrigation. Even if 50 per cent of this could be irrigated it will be a notable achievement, although it must be remembered that all States do not have the potential for such extension. This must be supplemented with a package of practices consisting of the use of HYV, pesticides, fertilisers etc. Moreover, the significant part played by education, entrepreneurship, appropriate technology and infrastructure are to be borne in mind. However, it is seen that the green revolution in the country as it took place over the last few years has benefited only the larger farmers. Road development is another programme which would provide immediate employment. In this connection the Maharashtra Employment Guarantee Scheme, was mentioned as a programme which was moderately successful. In conclusion it must be said that the nation has not moved forward perceptibly in employment development. The government policy appears clear on the conceptual aspect, but the strategies are not yet clearly defined. To make substantial progress the modalities of filling in gaps

in organisation, technology and entrepreneurship in rural development have to be worked out. This is a challenging task.

In the discussion that followed, it was pointed out that an effective strategy stems from a balanced approach to employment, production and growth. For this purpose a macro-economic model could be drawn up on the basis of resources, the skills required and skills available for optimum employment and production. The controls and restrictions upon industry were described as constraints on industrial development, reducing potential for employment. Agriculture should be treated as on a par with industry, the problem of the small farmer and the small businessman being treated on a systems analytical approach. As Tamil Nadu has not much surplus land, an enterprising suggestion was made to encourage migration and habitation of the uninhabited islands of the Indian Ocean which were Union government territories. The historical fact is that agricultural revolution has preceded industrial revolution in most countries. In Japan, however, there was a concurrent development. Turning to the Russian experience, Czarist Russia was a grain exporting country, while after the revolution the country has yet to solve some agricultural problems. It is possible to develop agriculture without an industrial backup. A point to be remembered in any employment strategy is that people must not be provided with employment but gainful employment with certain levels of production. Real wage level increase can be achieved only by a rise in per capita productivity. An opinion was expressed that the statistics concerned do not seem to be dependable. The approach for total development seemed to be to arrive at some technology for the development of the village as such which would imply a comprehensive study of the village economy for designing an effective strategy. It was also pointed out that a thorough understanding of the labour market and other variables such as inter-district and inter-State migration is necessary as employment is in the ultimate analysis a function of the labour market. Commenting on the volume of investment required it was stated that in an Electricity Board study it was estimated that Rs. one crore spent on rural electrification created employment for 800 to 1000 people and Rs. one crore spent on roads provided employment for 400 people. On this basis, the investment required for providing employment for our 30 million unemployed on similar lines could be visualised. The Chinese example was cited in this connection as a country of high population which had solved these problems. The question of restructuring the education system to meet employability requirements deserves immediate consideration. Unlike U.S.A., a major aspect to be reckoned with is the population pressure.

The development of large scale industries is needful for economic growth and development. Industrial and agricultural growth have to go together and on this basis, planning efforts have to be made along the entire front.

ENVIRONMENTAL POLLUTION*

Mankind faces an unprecedented challenge due to the ecological crisis, a threat caused by the pollution of air, water and land, a situation for which man himself is largely responsible. It is true that the major pollutant in India is poverty: the pollutant in the US on the other hand is the production structure. Despite this major difference, there are overlapping points in the two societies. The US has pockets of poverty. India faces hazards of environmental pollutions. The oxygen in the air we breathe is not limitless and unless the recycling process goes on satisfactorily and pollution is checked effectively, the future of mankind is bleak.

Today there is despair that the environment is deteriorating. The air is becoming foul and the waters are no longer clean. In the self-substaining ecosystems nature maintains its own balance. If the balance is upset at one point, the stresses show at other points, causing chain reactions in the system. The stresses are greater today than in the past due to the tremendous technological advances and exploding population.

The earth we live on has been compared to a spaceship in its endless journey round the sun. Our earth has a 12 mile vertical zone called the 'biosphere' out of which some five miles are above and the remaining below sea level. But over 90% of the world's life is contained in a two mile thick belt, one mile on either side of the land level. There are recycling processes in the earth's atmosphere. For example, the carbon dioxide that we breathe out and the carbon dioxide that is already in the atmosphere is absorbed by the plants during the process called photosynthesis. But there is a limit to this recycling process. If the carbon dioxide, for example, far exceeds the quantity required for maintaining the balance in the atmosphere, pollution results. By burning fuels, we are putting more carbon dioxide into the atmosphere than the plants are able to absorb. An increased amount of carbon dioxide could raise the earth's temperature by what is known as 'greenhouse effect.' In fact this has already been observed to affect the climate.

All living organisms in the ecosystem live in a precarious balance. Their population is limited by the predator-prey chain and the environment including the general climate, sunlight, rain and soil conditions. Man by constantly

*Inaugural address by Dr. Malcolm S. Adiseshiah at the Indo-US workshop on Environmental Pollution – February 13, 1978.

polluting the environment, may affect these limiting factors and upset the balance disastrously. Climatic changes may cause major shifts in plant and animal communities. Man may strengthen any of the limiting factors such as soil conditions with chemicals which in turn will increase the population of the species which can adjust to the new situation, but in which its predators cannot survive. By introducing toxic chemicals which will be passed on to man through the food chain or by destroying any of the species, we are only creating trouble for ourselves. An assessment of the full influence of these factors on the ecosystem is therefore worth investigation.

In this unceasing effort for better living, man uses large volumes of agricultural and industrial materials most of which end up as waste products in the oceans. The oceans cover two thirds of the earth's surface and this invasion is not without its harmful effects on plants and animals. The wastes discharged into the sea return sometimes to man in deadly forms; sometimes they create a cumulative effect which proves injurious to marine life and strains the capacity of sea plants for photosynthesis. If oceans are the final repositories of the world's waste materials, rivers are their carriers.

Pollution is everybody's business, everyone creates it, everyone is affected by it and everyone must join in clearing it up. The traditional Indian belief that flowing water is always good can be suicidal in these days when our rivers are being polluted far beyond their natural "self-purifying" capacities. Mark Twain once said in his inimitable style "Water taken in moderation will not hurt". He would have hesitated a thousand times before recommending even moderate quantities if he had only seen some of our river waters today which are so grossly polluted that no self-respecting fish even would care to be found in them. Thus the ecological imbalances caused by air and water pollution may lead to many problems. It can alter the climate, affect the natural carbon, nitrogen and food cycles and affect the ecosystem giving rise to many adverse effects.

I will now take up air and water pollution individually and discuss their impact on the human society.

Air Pollution and its effects

Air pollution, which is commonly thought to be a result of the industrial revolution, actually preceeded man himself. Nature has long contaminated the air with sand and dust storms, with forest fires and volcanic eruptions that threw tons of particles and gases into the atmosphere. Nature even produces its equivalent of smog. The magnitude of the problem of air pollution has, however, increased immensely with industrialisation. The pollutants let out by various industries have surpassed nature's contribution a thousand-fold. The belching smokestacks that long symbolised prosperity have now become a source of irritation. The foul air that had come to be accepted as an inevitable part of the city living has suddenly become intolerable. Air pollution has thus become a world wide problem of great magnitude.

In most parts of the world, stack gases from industrial plants are still the major sources of air pollution. The principle industries letting out stack gases include

chemical factories, smelting plants, paper mills, cement works, coke ovens and power plants. Other important sources of air pollution are the vehicles which use fossil fuel in one form or the other.

The most obvious component of polluted air is the smoke which usually consists of tiny particles of carbon, ash, oil, grease and microscopic particles of metal and metal oxides. Some of these particles are small enough to remain suspended in the atmosphere until they are removed by rain or wind. Though the particulates, as they are called, are highly visible and often the first target of antipollution officials, they constitute only about 10% of the pollution level in air in industrialised countries. Rest of the air pollutants consist of largely invisible but potentially deadly gases.

The colourless and odourless carbon monoxide, most of it issuing from the exhaust pipes of automobiles, trucks, and buses constitutes about 50% of the pollutants of air in developed countries. Even in India carbon monoxide pollution is becoming equally important particularly in big cities like Bombay and Calcutta. For example the number of motor vehicles registered in greater Bombay during 1966 was about 88,000 while there were about 1.1 million motor vehicles registered throughout India. These vehicles contribute about one third of the carbon monoxide pollution in India.

The second most plentiful gas pollutants are oxides of sulphur produced by combustion of coal and oil containing large percentage of sulphur. A recently established European network of laboratories testing atmospheric conditions has observed that since 1960 sulphur oxide levels have steadily increased in Europe due to lack of adequate pollution control measures. A good deal of the sulphur dioxide comes back to the earth's surface with rainfall, sometimes in regions far away from the source of pollution.

Air pollutants next in importance are hydrocarbons, most of them emanating unburned or as partially burned gaseous compounds from automobile fuel systems. Combustion also produces large quantities of carbon dioxide, nitrogen oxides and other gases. As if these products of combustion are not unpleasant or dangerous enough by themselves; they make for complicated chemical changes in the atmosphere that make them more troublesome. In the presence of sunlight, the hydrocarbons and nitrogen oxides react to produce the sort of brownish and irritating photochemical smog that blankets Los Angles, U.S.A. for most of the year. Other air pollutants of importance are Ozone, Peroxy acylinitrate and lead. Though air conditioners can effectively filter pollutant particles out of the air, the troublesome gases contaminants pass through unhindered. Thus city dwellers who feel that they have found escape from air pollution are misled and air conditioned offices and houses are really mistaken.

From the economic point of view the most serious effect of air pollution is on materials. Metals are corroded, buildings become discoloured and eroded. Textiles, leather and paper become brittle and discoloured. Rubber cracks and losses its elasticity. Steel corrodes from two to four times as fast in urban and industrial regions as in rural areas where much less sulphur bearing coal and oil are burned. Heavy fall-out of pollution particles deposits layers of grime on automobiles, clothing, buildings and windows. It is estimated that material loss due to air

pollution amounts to 65 dollars per person per year in United States alone. Vegetation too suffers from polluted air. Sulphur oxides cause leave to dry out and bleach to a light tan or ivory colour. Conifers are particularly sensitive to polluted air. Scientists have proved that Ozone and peroxyacyl nitrate present in Los Angeles smog have caused serious decline in citrus and salad crops in that area.

Air pollutants have a damaging effect on human beings also. How lethal air pollution can become, was dramatically demonstrated by the London smog of 1952, as a result of which some 4,000 people died. Extreme air pollution again darkened London in 1956, killing 1,000 and in 1962, claiming more than 300 lives. It was shown that there is correlation between a high incidence of lung cancer and urbanisation, probably due to air pollution, although the relation is not a simple one because among other things, differences in smoking habits have to be considered. Carbon monoxide even at a level of 100 parts per million is known to give rise to injury of the central nervous system. Sulphur dioxide and trioxide either in gaseous or in the form of sulphuric acid mist, can irritate the skin, eyes and upper respiratory tract. Extreme exposure to oxides of sulphur such as might occur in an industrial accident, can do irreparable damage to lungs. Some of the hydrocarbons identified in automobile exhausts have been found to cause cancer in laboratory animals. Ozone and peroxyacyl nitrate are known to cause irritation of eyes, coughing and chest soreness as experienced by many Los Angeles residents on smoggy days.

Water Pollution

Using rivers as natural sewers, man introduces large amounts of waste products, including toxic chemicals from factories affecting the ecological balance in them. The resulting damage can be enormous.

Every activity of man involves some use of water. Water is of course absolutely essential not only to human life but to all life. Indeed it is a part of life itself, since the protoplasm of most of the living cells conains about 80% water and any substantial reduction in this percentage is disastrous. Most of the biochemical reactions that occur in the metabolism and growth of living cells involve water and all of them take place in water. Water has has often been referred to as the 'Universal solvent'. Yet, man's assessment of the value of water is very low until he finds himself without it, as rightly mentioned by Lord Byron and Don Juan'. "Till taught by pain man really knows not what good waters' worth".

As we look back over the recent past of only 10 to 15 years, an extremely brief period in our country's history, we cannot help but admit that a sizeable water pollution problem today exists where almost none existed only 15 years. ago. And how did this unfortunate development come to pass? It would not be out of place to ask ourselves: Did our public health engineers fail the people? or did our law-makers fail the people, or did our industries let us down, or is our whole decision-making process so slow that by the time we take a decision, events overtake us and we live from crisis to crisis?

The demands upon India's rivers by irrigation are already great and as more and more water is abstracted from our rivers to meet the needs of irrigation and water supply for towns and industries, the residual flows are not enough to dilute the increasing quantities of wastes that are being discharged into the same rivers. Estuarine conditions are also worsening everywhere. Unfortunately, as we multiply, water does not. Our water resources are being strained and the greatest demands are being made on our skills for water management.

The Bombay area is an important 'problem area' in our country. More than 100 sizeable industries are located between Bombay and Kalyan alone, whereas hundred more are located within Greater Bombay itself. Discharge of untreated wastes is the rule and not the exception. The industries in the extensively sewered areas of Bombay, discharge mostly untreated wastes into the sewers, whilst the others discharge into the sea or creeks or into water courses which eventually enter creeks and the bay. The last stretch of the Kalu river, for example, near Kalyan is so much polluted that its pH has been recorded as low as 1.2 to 2.4 denoting sheer acid conditions.

The Calcutta–Asansol–Durgapur area is another region which is one of the most important industrial regions of India where mighty little waste treatment is practised. On the Hoogly River alone there are nearly 159 industries of which 78 are jute mills, 12 textile mills, 7 tanneries, 5 formidable pulp and paper mills, 4 large distilleries and 53 miscellaneous industries which discharge untreated wastes in the Hoogly. It is an estuarine river and many bathing ghats are located on both banks throughout this industrial area.

Kanpur with its population of over 1.5 million inhabitants, has 45 tanneries, 10 textile mills, 3 woolen mills, 2 jute mills and a number of chemical and pharmaceutical industries which discharge a pollution load into the river equivalent to that from a population of another 1.5 million people. From the pollution point of view, therefore, it is two Kanpurs living in one place.

While we talk of industrial pollution we must not forget the other side of the coin, namely, muncipal discharges of untreated town sewages. There are instances where the latter are causing more severe problems than industrial wastes. Shaw once said that "When we kill a tiger it is called sport; but when a tiger kills us it is called beastly and ferocious". This is sometimes so applicable to us when we chide an industry for its waste discharge but turn a blind eye to our muncipal problems. The degree of waste treatment that is given most of our major cities is not such as will enable discharge in to rivers without affecting water usage down stream by fish or other industries or cities.

India ranks ninth among the fishing nations of the world, and a part of its fish catch is exported. Nearly 38% of its total fish is derived from fresh water. India's rapidly growing population will require more food in the form of fish and it is logical that its fish producing areas be expanded rather than reduced or ruined by water pollution.

Unfortunately, reports come with unfailing regularity of fish kills by

industrial effluents from various parts of India. In Bombay, the Kalu river near Kalyan, once the spawning ground for the favourite Hilsa fish, is no more so. Trombay has suffered likewise and all around Bombay fishermen narrate instances of reduced fish catch. The Challyer River near Calicut, the river at Brajrajnagar, the Hoogly at Calcutta, the Mahi River near Baroda, and the mighty Ganga have all been scenes of tragedies at one time or another in the very recent past.

As surely as night follows day we will receive increasing reports of fish kills from everywhere in India in the years to come. Posterity will not forgive us for having allowed food in the form of fish to be killed when everywhere around the city the necessity has been for growing more food. The increasing use of a wide variety of pesticides will make our work more difficult. Toxicity to fish will be only one part of the problem. The long term effects on human beings will be another, and perhaps the more difficult part of the problem to solve.

Pollution and changing climate

There are strong indications that pollution is changing the climate. Data shows that the earth's annual mean surface temperature rose by 0.4°C during 1880 to 1940 and fell by 0.2°c during the last 25 years. According to Prof. Macdonald, a Geophysicist, pollution can give rise to (i) increase in carbon dioxide content of the atmosphere (ii) increase in the amount of aerosols in air, (iii) changing the percentage of the incoming solar radiation reflected back by the earth and (iv) altering the rate of transfer of thermal energy and momentum between the ocean and the atmosphere. Since plant and animal communities in a particular climatic region depend on specific weather conditions, especially during some critical reproductive periods, any change in rainfall and temperature may cause higher population or heavy mortality among plants and animals and thus upset the ecological balance. It is, therefore, necessary to make an all out effort to reduce pollution of the environment to make living on this plant a pleasant affair.

PUBLICATIONS OF
MADRAS INSTITUTE OF DEVELOPMENT STUDIES

Publishers
Sangam Publishers, 11 Sunkurama Chetty Street, Madras 600 001

I. Books Published

		Price
1.	Alladi Vagiswari: Income Earning Trends and Social Status of the Harijan Community in Tamil Nadu, 1972	Rs. 10.00
2.	R. K. Sampath and Jayalakshmi Ganesan: Economics of Dry Farming in Tamil Nadu, 1972	Rs. 15.00
3.	Rajammal P. Devadas: Nutrition in Tamil Nadu, 1972	Rs. 15.00
4.	Malcolm S. Adiseshiah (Ed.): Techniques of Perspective Planning 1972 *	Rs. 15.00
5.	C. T. Kurien (Ed.): A Guide to Research in Economics, 1973	Rs. 30.00
6.	G. Venkataramani: Land Reform in Tamil Nadu, 1973	Rs. 15.00
7.	Malcolm S. Adiseshiah (Ed.): Plan Implementation: Problems and Prospects of the Fifth Plan, 1973*	Rs. 9.40
8.	M. Ramamurthy: Poverty and Supply of Wage Goods in Tamil Nadu, 1974	Rs. 20.00
9.	K. G. Rama: Women's Welfare in Tamil Nadu, 1974	Rs. 10.00
10.	G. Venkataramani: Minor Irrigation in Tamil Nadu, 1974	Rs. 20.00
11.	C. Selvaraj: Small Fishermen in Tamil Nadu, 1975	Rs. 10.00
12.	J. Viswanathamurthi and C. L. Narasimhan: Rural Employment in Tamil Nadu, 1976	Rs. 24.00
13.	R. Ethiraj: Plantations in Tamil Nadu, 1976	Rs. 10.00
14.	V. Rengarajan: Rural Housing in Tamil Nadu, 1976	Rs. 27.00
15.	S. Ramanathan: Tribal Welfare in Salem District, Role of Government and Voluntary Agencies, 1977	Rs. 30.00
16.	T. C. Mohan and C. L. Narasimhan: Status of Unemployed ITI Craftsmen in Tamil Nadu, 1977	Rs. 20.00
17.	S. Ramanathan: Tribal Welfare in Kalrayan Hills. (Mimeographed)	
18.	Malcolm S. Adiseshiah (Ed.): Backdrop to the Learning Society.	
19.	V. Rengarajan: Link Roads in Tamil Nadu.	

II. In the Press

20. Alexander Joshua: Rural Primary Education and Adult Literacy in Tamil Nadu.
21. Barbara Harriss: Paddy and Rice Marketing in Northern Tamil Nadu.
22. N. Rajagopala Rao and V. Lakshmana Rao: Introduction to Mathematics and Statistics.
23. M. Srinivasan: Possibilities of Crop Rotation in Thanjavur District.

III. Future Publications

24. M. Srinivasan: Economics of Sugarcane Cultivation in Tamil Nadu.
25. V. J. Ravishankar: and K. A. Zachariah
Educational Profile of Jobs in Tamil Nadu.

* MIDS–ITES publication printed by the Government Press, Madras.

Regd. No. M. 8831

MADRAS INSTITUTE OF DEVELOPMENT STUDIES (M I D S)

The Institute founded and run by Dr. Malcolm S. Adiseshiah is a registered trust.

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

The activities of the Institute are:

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

—Documentation and library service in development programmes;

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

—Publication of papers and research results of the Institute.

Printed by Aslami Printers, Arunachalapuram, Adyar, Madras-600 020.
Editor: Dr. Malcolm S. Adiseshiah.