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RENEWAL OF SUBSCRIPTION FOR 1977

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The 1977 subscription for the Bulletin falls due on January 1st, 1977. Due to increased cost of paper and printing, it has become necessary to suspend the free list, except on an exchange basis. All readers are accordingly requested to subscribe for the Bulletin.

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EDITORIAL—SOME HIGHLIGHTS

I. General Economic Scene

State :

Fiscal: As forecast in Vol VI p 438, the State government announced in early February reduction in the Sales Tax on certain consumer durables—on cars from 12 to 7 per cent, tyres from 13 to 10 per cent, T. V. and radio sets from 15 to 10 per cent and light diesel vehicles from 15 to 10 per cent. In making these reductions, the government has tried to reconcile the need to ensure adequate tax revenue with the importance of stopping the migration of the trades and production units in question to neighbouring States which have lower sales tax rates. This has probably been achieved. There are two residual questions still to be faced. First there should also be consideration given to the desirability of using the fiscal instruments to counter recessionary trends in particular sub-sectors and motivating increased production and turnover in areas contributing essential goods consumption. The second larger question is whether the time has not come for the present competitive system in the levy of sales tax as between States, which is injurious to industry, trade, the consuming public as well as the governments, should not be replaced by a

uniform sales tax for all States to be determined by the National Development Council and collected centrally by the Union government and distributed to the States in accordance with their individual contributions. The savings in collection charges, the avoidance of various tax evasion devices and the benefits to trade, industry and the consuming public from a uniform system of sales taxation for the whole country is such, that the Jha Committee should give serious consideration to the proposal in the examination of the indirect tax system that it is now undertaking. Such uniformisation of the rate and centralisation of collection has no relation to the principle of decentralised governance of the country.

Drought: October saw the prolonged period of drought in the State lifted in most parts, with the onset of a very heavy North East monsoon, which started exactly on time on October 15. The Northern and coastal parts of Tamil Nadu had 4 days of incessant rains, resulting in 344 mm in Madras, Sri Perumbadur 140 mm, Madurantakam 100 mm, Kanchipuram 60 mm, Nilgiris 50 mm. South Arcot, Thanjavur, Tirunelveli, Coimbatore and Madurai also received heavy rains.

filling the tanks and recharging the wells. Prior to the onset of the monsoon, reports showed the drought relief programme progressing well—the target of 6,430 bore-wells was achieved by the end of September, the employment oriented programmes involving repair of tanks, road works, soil conservation and afforestation brought upto point to benefit from the heavy North East monsoons, employing 11.9 lakh persons, loans from the banks and co-operatives to farmers in drought hit areas have been increased to enable them to purchase inputs—seeds, fertilisers, and pesticides—for the monsoon sowing, and repayment of loans postponed for this year. As noted in the last 2 issues (pp 488 and 567) the work of reclaiming the sand cast fields in the Sivagiri taluk was completed in October for fields to be used for farming and garden lands. Next in order of priority is the cleaning of 150 sand filled wells.

South Rice Zone and Prices: A Combination of decisions and developments also led to a fall in rice prices in the State during October. On October 8, the Union government announced the formation from October 6 of the South Rice Zone (see last issue p 569) comprising Tamil Nadu, Andhra Pradesh, Karnataka and Pondicherry. Within the Zone there are no restrictions on the movement of rice, while other kharif cereals will move freely within the whole country. The State government followed up this decision by removing all restrictions on movement of paddy and rice within the State as from October 15, except in regard to some border areas. Also from that date, the system of procurement by levy on producers was replaced by a trader's levy, under which all wholesalers including millers will be giving 40 per cent of the paddy or rice stocks purchased by them. It will be a

single point levy, collected in the taluks where the traders purchase their stocks, except in the notified border areas—the 15 km belt along Kerala, the Kanyakumari district, Uthampalayam taluk of Madurai, Pollachi taluk in Coimbatore and Gudalur in the Nilgiri districts. While the movement of rice is free within a Zone, the movement of paddy from the three specified areas Andhra Pradesh and Yanam as Area I, Tamil Nadu, Pondicherry and Karaikal as Area II and Karnataka as Area III will be on a government permit. Within Tamil Nadu, of the 379 inter-district border checkposts, only 89 are retained to ensure that traders have paid their levy. The aim of setting up the Zone is, according to the notification, to ensure an equitable distribution of paddy. Within a week of the formation of South Zone, 200 wagons carrying 5,200 tonnes of rice and 100 lorries carrying 10 tonnes from Andhra Pradesh and rice from the district were moving into Madras city. With the buffer stock of 4 lakh tonnes of rice in the State and the even larger stocks available in Andhra Pradesh and available to move freely into the State, rice prices in the State began declining in October. The heavy early monsoon which enabled the start of sowing operations strengthened the trend. CSO statistics had already recorded a decline of food prices from 294 in January to 270 in March and April, cloth price also declined from 324 in March to 314 in April, the consumer price level falling from 286 in January to 272 in March and April. The prices in the interior were lower at 279 in Madurai and 286 in Tiruchy compared to 297 in Madras in January 1976.

Power: The power position in State during October continued, with the overall cut of 25 per cent. Neyveli was performing very well, supplying to the

State Electricity Board upto the end of September 1,369 million units against a target of 1,105 million units. This was a record for the plan, its total generation upto September being 2,230 million units.. Due to the comfortable storage position of its reservoirs, Kerala increased its power supply to Tamil Nadu from 2 million units to 3 million units per day from October 23. The Regional meeting of the Southern Electricity Boards met in Trivandrum on October 28, reviewed the power availability in the region, frequency regulation position and boltage position and agreed upon the equitable distribution of surplus power among the Southern States. The State Electricity Board has developed a Rs. 70 crores master plan for extending transmission and distribution lines in the State. During 1976-77, 501 km of 230 kv/110 kv levies at a cost of Rs. 15 crores will be executed and in 1977-79 1,106 km lines will be commissioned at a cost of Rs. 35 crores. With the rapid increase in rural load demands due to the growth of rural industries and the connections given to 70,569 pump-sets, the overloading of the feeders are causing heavy line losses and low voltage in certain points. Hence 18 sub-stations are being established in the next 3 years as well as high tension capacitors. Periodic inspections are organised by the Board to prevent theft and misuse of power connections.

For the country as a whole, October saw a continuation of the power situation reported in the last issue (see p. 569), with Karnataka enforcing the 40 per cent cut referred to last month, and Maharashtra government announcing the increase of its cut from 10 to 30 per cent to 20 to 40 per cent from November 1. In both cases, industrialisation is far outrunning the power supply position, present and future,

of the two States. In early October, the 100 mw second unit of the lower sileru hydro-electric project was commissioned in Andhra Pradesh. The third and fourth units have been ordered from BHEL and when commissioned will produce 400 mw at a cost of Rs. 95 crores. The Union ministry reports that power generation by thermal, hydel and nuclear plants in the country amounted to 7,051 million units in September, 690 million units more than in September 1975, with thermal units generating 3,700 million units, hydel units 3,157 million units and nuclear stations 194 million units. The power position in the Eastern region was satisfactory, in the North, normal and good in Andhra Pradesh and Kerala in the South. The total outlay in the first 3 years of the current Plan has been Rs. 3,513.05 crores, comprising Rs. 3,210.78 crores by the States and Rs. 392.27 crores by the Union government. For the remaining 2 years of the Plan, the outlay has been increased to Rs. 3,780.85 crores, Rs. 3,347.90 crores by the States and Rs. 432.95 crores by the Union government. While in the Fourth Plan, an additional 4,280 mw generating capacity was added, in the first 2 years of the current Plan, 3,524 mw was added and this year 2,238 mw will be added. For the Fifth Plan, generating capacity will be increased by 12,500 mw and 6,000 mw under construction. In mid October, the Union government promulgated an ordinance under the 1949 Electricity (Supply) Act to enlarge the functions of the Central Electricity Authority (CEA) (see Vol V p 452). With a view to executing the Union government's decision to restructure the power industry, CEA is now vested with the authority to review and approve any power project involving an outlay of Rs one crore and more, without which the project cannot be undertaken. The

ordinance provides for the setting up of companies only for generating power, to be launched by State governments. By separating generation from transmission and distribution, the State Electricity Boards will be helped to increase their levels of specialisation. CEA will also act as technical consultant to State governments on power operation and maintenance and co-ordinated control. With regard to rural electrification, the Final Fifth Plan document reduces the outlay from Rs. 1,098.24 crores to Rs. 685.20 crores and surveys from Rs. 133.68 crores to Rs. 97.30 crores, but even so, it is pointed out, that outlays on rural electrification in the last 2 Plan years will be higher than in the first 3 years. During the Plan, 12 lakh pump-sets will be energised against the 6 lakhs in the first 3 years and 81,000 addition villages electrified during the five years. The Consultative Committee of the Lok Sabha has set up a sub-committee to review the REC programmes and examine the adequacy of the allotted finances. 3 States—Gujarat, Maharashtra and Punjab—have floated rural debentures of Rs. 4 crores to finance their power scheme and Kerala and Karnataka have similar plans ready. This is a good source for financing REC programmes.

Cauvery: In mid October the Karnataka government released a further 5 tmc ft. of Cauvery water to save the standing crops in the Thanjavur delta, providing some relief to the Thanjavur farmers. Also in accordance with the Cauvery agreement reported in Vol VI pp 490-491, the Union government set up in October a 5 man committee headed by Mr. Saldhana, Member, Central Water Commission, with the chief engineers of Tamil Nadu and Karnataka, Adviser, Irrigation, Kerala and Director CWC as member secretary in order to study and recommend the manner of sharing the Cauvery waters in the lean

years among the 3 riparian States and to work out quantities of surplus waters presently available. The terms of reference of the Committee protect the existing ayacuts and enable the committee to assess the needs of existing areas under irrigation and the new areas to be brought under irrigation, taking into consideration the availability of water from rainfall within the respective command areas. The first meeting of the Committee was on October 30 in Delhi but in the absence of the Kerala representative whose government wants further clarification on the terms of reference of the Committee, which means that Kerala wants a larger share, the meeting was adjourned. The work of the existing committee will be a strictly technical one and should lead to an equitable and fair sharing of the Cauvery waters among the 3 States.

Urban Development: The Union government announced in October that the World Bank will be sending a team to negotiate the aid that would be made available from the Bank to the Rs. 45.9 crores Madras urban area development project (see Vol VI p 367). MMDA's master plan was reviewed in October to deal with the problems of unplanned city growth, the deterioration of the central business area, the growing slums and the transport bottlenecks and emphasis was placed for immediate action on (a) water supply and drainage, (b) road development including rail road co-ordination and (c) area development. MMDA has so far spent Rs. 4 crores and has an allotment of Rs. 5.3 crores for this year. The present city area is 50 sq. meters and under MMDA, the urbanisable area will be 220 sq. meters. Some industries creating pollution are to be shifted outside the metropolitan limits. The Veeranam project

report (see Vol VI p 192) has been received by the government, which in light of the recommendations, has decided to review the project and reactivate the pipe manufacturing plant so that it may produce 20,000 additional pipes, over the 10,000 already produced. Also Rs. 3.6 crores are provided this year for slum clearance and Rs. 9.5 crores for urban water supply schemes for the whole State. The city will also soon have in a 4.5 acre site in Korukkupet a mechanical compost plant taking in 435 tonnes of refuse per day, which is about 1/3 of the city's daily garbage collection. The Rs. 70.64 lakh plant employs 300 persons and converts garbage into compost in 11 days against the 120 days normally needed.

Transport : In view of the increasing air traffic—domestic and international—through the Madras Airport, the Union government announced in October that the present air terminal will be used exclusively for international traffic and a separate domestic terminal is to be constructed at the Southern end of the runway beyond the Meenambakkam village. The site for this additional terminal is currently being acquired. Also arrangements are being made to further mechanise baggage clearance at the airport and speed up the procedures involved. This will also assist domestic and international cargo despatch and clearance and expand the State's trade potential. The State government set up in October a five man Committee headed by Mr. C. R. Pattabiraman to review the structure and performance of the seven road corporations and five ancillary engineering corporations. The committee has also been asked to recommend ways of regulating the operation of private sector vehicles until such time as total nationalisation of passenger transport

takes place. It has also been asked to take into account the projection of passenger transport requirements till 1985 and recommend the place of growth that would be required and the measures necessary for achieving it in a phased manner.

Regional Rural Bank : The first regional rural bank is to be opened in the State, sponsored by the Indian Overseas Bank, and covering the area of the Ramanathapuram and Tirunelveli districts. The bank will become operational by the end of November and will have 10 to 15 branches in the area covered by it by the end of the year. It will take over the credit needs of some primary co-operative and will meet the needs of small farmers, landless labourers and rural artisans.

National :

Fifth Plan : The Final and Approved Fifth Plan document summarised in the last issue (pp 571 and 572) reiterate the two major objectives of the Draft Fifth Plan—removal of poverty and attainment of self-reliance—through emphasis on agriculture including irrigation, energy, what it terms critical industrial intermediates, and the creation of additional employment opportunities, particularly in the rural sector. While the plan decisions are probably a sound continuation of existing policies, the attainment of the two objectives or even moving towards them in an effective manner seems doubtful. The document states that it has maintained the Fifth Plan priorities, determined outlays for ongoing projects on the basis of present and future demand, past performance and cost escalation, and provides for new starts in areas where the investment will bring in an adequate

return. These are all sound economic criteria but not particularly helpful in attaining the twin objectives of the Plan. As noted in the last issue, the net foreign aid has been increased from Rs. 2,400 crores to Rs. 5,400 crores. There is a lengthy, somewhat unconvincing section on employment generation, referring to the spillover rural unemployment in urban areas, the higher outlay in the cottage industry sector, and agro industries and the use of fiscal, credit and production support policies as a means of increasing employment, so that the increments of labour force can be absorbed in the Fifth Plan period and the unemployed backlog tackled in the Sixth Plan. Equally sound on paper with no project or programme framework is the long term employment strategy suggested in term of stopping up rates of public investment, refining agricultural planning strategies and regeneration of employment in the unregistered sector and use of labour intensive technologies. The Plan envisages an annual growth of 4.37 per cent (against the Draft Plan's 5.5 per cent), with the growth of the agricultural sector at 3.94 per cent. It assumes the average rate of domestic saving to rise from 14.4 per cent of GNP in 1973-74 (which is not the rate according to RBI and CSO estimates) to 15.9 in 1978-79, with marginal savings estimated at 26 per cent. During the remaining 2 years of the plan, the Union and State governments will have to raise an additional Rs. 16,000 crores by additional taxation and rising public sector product prices. The Union government and its enterprises will have to raise Rs. 900 crores and the States Rs. 70 crores. The measures so far adopted by the Union and State governments will raise Rs. 13,000 crores, about double the Draft Plan target of Rs. 6,800 crores. Now the additional Rs. 1,600 crores will have to be raised by the Union government

increasing indirect taxes and the profits of public sector undertaking and the States by raising their power and irrigation rates. Also as noted in the last issue, deficit finance will be increased by taking a credit of Rs. 600 crores from the RBI (really a borrowing against our increased foreign exchange resources), making the total deficit finance of the Fifth Plan Rs. 1,354 crores against the Draft Plan's target of Rs. 1,000 crores. The Fifth Plan outlay for the 20 point programme is computed at Rs. 10,364 crores. The outlay for the last 2 years will be Rs. 722.06 crores by the Union and Rs. 5,334.67 crores by the States. Tamil Nadu's outlay will be Rs. 260.39 crores. Market borrowings in the Plan are placed at Rs. 5,879 crores. The Union government reports that in the first four months of the current year, revenue collections have increased by 16.2 per cent compared to the comparable period of last year. Both direct and indirect tax collections increased by Rs. 312.11 crores to Rs. 2,236.90 crores, with a much steeper increase in direct tax collections at 30 per cent compared to the same period last year. The Union government also floated its second two Central loans in October for Rs. 275 crores. A new feature introduced into its borrowing programme is the exemption of interest from the loans from income tax upto a limit of Rs. 3,000 per year and wealth tax up to Rs. 1.50 lakhs.

Prices and Anti-Inflation : The wholesale price index for September remained more or less stationary at 311.4 for the week ending October 2, compared to the price index for August reported in the last issue at 311.3 for the week ending August 28. Food articles declined in the last week by 0.3 per cent, the largest drop being in groundnut oil (1.4 per cent), bajra (0.6 per cent) and rice (0.4 per

cent). Liquor and tobacco prices were up by 1.3 per cent, while industrial raw material prices dropped by 3.3 per cent, particularly groundnuts. All other prices remained stable or declined marginally. The Economic Times' general retail price index for greater Bombay for September corroborates this wholesale price analysis. The Bombay index records a marginal rise of 0.4 per cent for September, food items falling by 0.4 per cent, edible oil lower by one per cent and clothing, chemicals etc. by similar margins. Condiments and prices of vegetables and sugar registered increases. Both the National and Bombay price indexes show an increase of 7.8 per cent during the period April-September 1976, where in that period in 1975 there was 1.5 per cent price decline. This means that inflationary forces still need to be watched. Some of the actions taken in September continue the anti-inflationary drive. First as noted in the last issue, the Union government decided in October to withdraw the fifth additional dearness allowance, as the 12 month average consumer price index has fallen from 312 to 301.9. The withdrawal should have been from July 1, when the index decline took effect but the government decided not to ask for repayment of what had been paid and so allowed employees to keep the additional allowance from July to September as a Diwali gift. This means that out of the total annual saving of Rs. 55 crores from the withdrawal of the 5th allowance, Rs. 12 crores will not accrue to the government. The RBI reiterated that credit planning and selective credit squeeze in respective sensitive commodities will continue, there will be no lowering of interest rates and the Tandon Committee guidelines on working funds accommodation will be adhered to. RBI reports that the deposits mobilised by nationalised banks for the year ending

June 30, 1976 totalled Rs. 2,155 crores (an increase of Rs. 649 crores over the previous year) being an increase of 20.4 per cent for 1975-76 compared to the increase of 16.6 per cent for 1974-75. A good feature of this increased deposit mobilisation is the increased rate of time deposits mobilisation which is real saving. In July 1975 they constitute 55.4 per cent of all deposits. In July of this year they were 59.7 per cent. Also over the 2 years, 1973 and 1974, the deposit accounts in the banks have increased from 2.97 crores accounts to 4.20 crores accounts. The government also reports a rise in rural deposits, the rising trend being, the average deposit per bank which was Rs. 6.15 lakhs in December 1972 rising to Rs. 7.49 lakhs in June to Rs. 8.37 lakhs in December 1973, Rs. 9.36 lakhs in June 1974, and Rs. 9.82 lakhs in December 1974. During this five year period the aggregate rural deposits near doubled from Rs. 53,969 lakhs to Rs. 83,583 lakhs. RBI directives issued in October on a branch bank expansion for the period 1977-1979 emphasises this trend, in calling for opening branches in unbanked and under-banked rural and semi-urban areas and backward districts, where the bank intends to undertake development financing or which are growth centres or where the State government is planning projects. In areas where regional rural banks are operating, branches must be opened only in consultation with them. RBI had set a target of 5,000 new branches to be opened by the banks in 1975-77 and as at June 1976, 2,900 branches had been opened. In the government's direct action to contain prices, the government has adapted a multi-fibre approach to solve the textile industry's raw materials problem, and the rising trend of cotton prices; it sanctioned in October, imports of sufficient quantities of raw cotton as well as man made

fibres like viscose, polynosic and polyester. This is in addition to the other regulatory measures such as physical control on stocks, adjustment in banking credit, banning of raw cotton exports and increased availability of other fibres to reduce the demand on cotton. On the other side, the government directed the Banks to assist in the rehabilitation of flood victims by granting loans for crops, consumption needs, repair of damage to farm installation, purchase of raw materials and cattle and construction of houses, shops etc. The loans are to be granted on concessional terms and repayments of past loans spread over a longer period. The second supplementary demand for Rs. 143.99 crores presented to the October session of the Lok Sabha was mainly for ONGC and Family Planning programmes. ONGC is provided an additional Rs. 52.30 crores to meet the cost escalations for Bombay High and the chartering of new ships and rigs. On Family Planning, there has been a fivefold increase in sterilisations (6.98 lakhs in the first 6 months of last year and 33.79 lakhs in the first 6 months of this year) at higher compensation rates, and so Rs. 48 crores are provided additionally. Also Rs. 35 crores are provided for fertiliser so that the States may provide this assistance to farmers especially in flood hit areas and Rs. 5 crores to assignees of rehabilitated lands.

Industry: During the period April-September, industrial growth was 13 per cent and for the year as a whole a rate of 11 per cent is envisaged, which is not only double the 5.7 per cent rate of industrial growth registered in 1975-76 and near five times the 2.5 per cent of 1974-75, it is also in line with the Final Fifth Plan document. For the last 3 years of the Plan, it envisages annual

industrial growth rate of 10 per cent so that the Fifth Plan as a whole will register a seven per cent per annum growth. The highest growth rate in the first five months—April to August—was registered by three wheeler automobiles (169 per cent), earth moving equipment (156 per cent), and mining machinery (83 per cent). The RBI study of 1,650 selected medium and large scale public limited companies shows that in 1974-75 the numbers making profits were higher than in the previous year (1,323 compared to last year's 1,301). Dividends were a little lower at Rs. 153 crores compared to the previous year's Rs. 155 crores. Their record of value of production and sales also show a faster growth in 1974-75 and higher rates of fixed assets and capital formation and decline in the rate of bank borrowing. In order to keep the momentum of industrial growth, the government proposes to amend the Industries (Development and Regulation) Act so that it can remove and punish the management of an industrial unit responsible for "sickness" through its own inefficiency or through low capacity utilisation. This trend of monitoring of industrial performance should include identifying and advising units at a stage earlier than when they are classified as "sick".

Public Sector Performance: The Union government reports that the net profits after tax of the public sector units in 1974-75 was Rs. 150 crores and that for 1975-76 is estimated at Rs. 300 crores—providing the units with a firm base of internal resources for further growth. The target set for this year is a return of 10 per cent on the invested capital, primarily through reduction in costs. This drive towards increased cost

consciousness in the public sector units should also be accompanied by a review of the price structure of their products, which in the case of coal and steel need an upward revision. The government also reports an increase in capacity utilisation of the units by 51 per cent during the last 15 months—the traders being BHEL by 32 per cent, HEC by 24 per cent, Bharat Heavy Plates and Vessels by 132 per cent, Hindustan Machine Tools by 42 per cent, Indian Standard and Wagons and Burn by 66 per cent, MAMC by 29 per cent. To further improve their performance, a number of schemes for diversifying their product range, and modernisation programmes are underway, adding balancing facilities at BHEL, HEC, MAMC. Also the performance of the paper industry during the first half of 1976 increased to 4,27,076 tonnes, of which writing and printing paper was around 60 per cent. The installed capacity of the operating paper mills was 11,37,830 tonnes as at July 31, 1976.

National Production Front :

Steel : IISCO's one million capacity is gradually being more fully utilised. In 1972-74 it was 44 per cent, in 1975-76, 60 per cent and is currently running at the rate of 68.5 per cent, and it is expected that by the end of 1977 it will be fully used. In the meanwhile a feasibility report is under preparation to double the capacity of the plant. ASP, Durgapur reports the accumulation of 1,500 tonnes of stainless steel plates and sheets for want of customers, following the import of stainless steel this year. The monthly production of ASP is 500 tonnes of stainless steel and since January orders are running at half their normal level. The average price of Rs. 35,000 per tonne of the ASP product is a little higher than

the price of imported steel. The ASP price can be made competitive by removing the equipment limitation and other production constraints, but there is also need to improve the management. The licensed capacity of the plant is 3,00,000 tonnes but its installed capacity is only 1,00,000 tonnes except for the main unit which has a built in capacity of 3,00,000 tonnes but which has one working on only one shift. The plant should now be equipped to produce to capacity. Its loss in 1975-76 was Rs. 20 crores, and though its growth rate was a high 46 per cent, it is likely to register losses this year also. There is need for reviewing the dual pricing policy under which the railways and other public sector units get its products at a low price, and the order book situation which is half empty. On the steel front as a whole, SAIL reports that internal sales of steel increased by 26 per cent in September compared to September 1975 at 4,10,000 tonnes. In the first six months steel exports increased by 64 per cent at a monthly shipment rate of 2 lakh tonnes, earning Rs. 167 crores so far. The Final Fifth Plan document estimates the 1978-79 demand for finished steel at 7.75 million tonnes and production in that year, as noted earlier, at 8.8 million tonnes. Bokaro's 1.7 million tonnes stage is to be completed by the end of this calendar year and the expansion of Bhilai to 4 million tonnes to be completed by December 1981, with nothing firm about the southern steel plants.

Crude : A major onshore oil strike was made near Jaisalmer, Rajasthan. Started 11 months ago, the well has been drilled to a depth of 3,000 metres, and the rock cuttings are impregnated with oil. This important find is near the Masthura refinery, and will make Rajasthan an oil

State like Gujarat and Assam. With regard to offshore explorations, Texas Pacific Oil Corporation, US, has submitted to the ministry a proposal for offshore explorations of the Godavari basin, extending for 24,000 sq. km. from Madras to Vishakapatnam. The proposal is unique in that after the seismic survey, the company will start exploration before the monsoon next November. ONGC has just located several structures in the onshore area adjoining the Godavari offshore basin around Narasapur for example. The ministry is negotiating the contract with the firm, under which ONGC will be associated with all phase of the work from the beginning, and for an Indian share higher than the 85 per cent found in other foreign firm contracts. Also in October, the government reached agreement with Caltex for its take over, involving paying Rs. 13 crores in five instalments. The take over will be effected by January 1977, with the profits in 1976 accruing to the government. Caltex has agreed to supply on commercial terms 1.25 million tonnes of crude per year from the Gulf for the next 5 years, giving flexibility and diversification in the sources of crude supply to the country. Its Vishakapatnam refinery is a versatile plant, and Rs. 60 lakhs from the Oil Development Fund is being used to make plant modifications for it to process Bombay High crude also. With the Caltex take over, only the small 5,00,000 tonnes Assam Oil Company refinery at Digby remains outside the public sector and its take over also is now under negotiation. On the economising of crude and fuel oil (see Vol VI p 371), last year the use of 4.50 lakh tonnes of fuel oil was replaced by coal, saving Rs. 27 crores in foreign exchange. This year 7.8 lakh tonnes of fuel oil will be substituted by coal, saving an additional

Rs. 48 crores in the country's foreign exchange out flow. Earlier it was noted that in the Fifth Plan document the internal production of crude was expected to grow at an annual 14.68 per cent, so that at the end of the plan period in 1978-79, the domestic production would be 14.18 million tonnes (against the Draft Fifth Plan target of 12 million tonnes). By 1983-84 the production will be 22 million tonnes, and the country's refining capacity will be 31.5 million tonnes. Hence the plan allocation for crude has been increased by Rs. 800 crores to Rs. 2,055.3 crores with the ONGC allocation being increased from Rs. 420 crores to Rs. 1,056.13 crores.

Coal and Minerals: GSI reports that proven reserves of 90 million tonnes of coal exist in the North Eastern States, 38.8 million tonnes being Meghalaya. In the region also cobaltiferous pyrites and chrom-nickel magnetite needed for high strength alloys are also being investigated. In the case of iron-ore, the estimates are at a billion tonnes of the hematite variety and 2.8 billion tonnes of magnetite variety, lignite reserves are estimated at 2 billion tonnes, copper at 333 million tonnes, lead at 120 million tonnes, zinc at 120 million tonnes, nickel at 78 million tonnes, manganese at 98 million tonnes, limestone at 50 billion tonnes, chromite at 17 million tonnes, phosphorite at 78 million tonnes, baryte at 17.4 million tonnes, magnesite at 60 million tonnes, kyanite at 143 million tonnes and clay at 665 million tonnes. The production of iron-ore in 1975 was 41.3 million tonnes and with the Kudrumukh and Donnimalai projects will be an additional 10 million tonnes. In 1975 the total value of minerals produced in the country was Rs. 1,000 crores and 1/3 of it was

exported. In July, minerals production was Rs. 97.1 crores, a 28 per cent increase over July 1975. The July production of coal was 8.2 million tonnes, iron-ore 2.6 million tonnes, and copper 2,14,000 tonnes. The production of wire bar copper was increasing. In August Hindustan Copper's wire bar production at 1,978 tonnes, (an increase of 136 per cent over the August 1975 production) bringing the cumulative April to August production to 7,200 tonnes a 76 per cent increase over that of last year's five months. With regard to zinc, against the internal demand of 1,10,000 tonnes, the indigenous production is 35,000 tonnes and so the government has decided to increase zinc import from 50,000 tonnes to 70,000 tonnes. Efforts should be made to increase internal zinc production at least to the installed capacity of 48,000 tonnes, the Debai smelter expanded to 45,000 tonnes and the Vishakapatnam smelter which is delayed by 6 months should be commissioned by February 1977—so that the indigenous capacity for zinc production can be raised to 95,000 tonnes per annum which is near the country's demand.

Sugar and Textiles : Sugar production in August, the eleventh month of the 1975-76 season, was a low 7,000 tonnes compared to 12,000 tonnes in August 1975 and for the 11 months – September 1975 to August 1976—was 42,33,000 tonnes compared to 47,75,000 tonnes in the 11 months of the last season. Total despatches for the first 11 months in 1975-76 was 33 lakh tonnes for internal consumption and 9.55 lakh tonnes for export (in the last seasons's first 11 months it was 31.93 lakh tonnes and 8.08 lakh tonnes respectively). The closing stocks of sugar on August 31 of this year was 11.92 lakh tonnes compared

to August 1975 closing stocks of 16.02 lakh tonnes. There is urgent need for modernisation of 165 out of the 259 sugar mills in the country. Apart from IDBI's assistance of Rs. 40 crores in modernisation, the sugar mills, particularly in the North, need to plough back their profits into the mills for improved and new equipment. The other action needed in the South is the raising of cane prices. In addition, the Andhra Pradesh government has proposed that the levy price of sugar should be raised from Rs. 142 to Rs. 160 per quintal. On the textile front the government announced 2 decisions in October. First it notified textile mills that printed mulls, printed voiles and tussore of certain description should be included in items of controlled cloth and packed as such. Also for the October to December quarter, mills will have to fulfil 20 per cent of their obligation in dhoties and 15 per cent as sarees, long grey cloth 15 per cent, long cloth 20 per cent and shirting 25 per cent. Also the transfer of controlled production from the mills to the power looms and vice versa was regulated. Second the National Textile Corporation has been granted license for an additional 3.96 lakh spindles to enable it to expand its constituent mills to optimum size—as part of their modernisation programme of Rs. 200 crores (see Vol VI p 373). Besides adding to the plants, the modernisation programme provides for renovation of plant and machinery and balancing equipment. Its production for 1975-76 declined to 767 million metres of cloths (from 900 million metres the previous year), due to the switchover of cloth of heavier construction and the heavy power cuts in Maharashtra and Tamil Nadu, it reports.

Cement and Paper : With the annual output of around 20 million tonnes, and

the almost complete stoppage in construction consequent on the confusion caused in the course of implementing the Urban Land Ceiling Act, the glut in the cement market is leading the government to abolish controls on the production and distribution of cement in the country. This means that the freight pool system and the funds for subsidising the cost of transporting cement will also be disbanded. With the abolition of the control, the firm will save administrative overheads which should be passed on to the consumers. Also a more even spatial distribution of cement plants should develop, closing the gap which the North Eastern Region represents. With regard to paper, production in the first 6 months of 1976 was 4,27,026 tonnes, so that the 1976 target of 8.75 lakh tonnes can and will be attained. With the installed capacity of 11 lakh tonnes as noted earlier this means a 77.3 per cent capacity use. Speciality papers are declining in production from 46,199 tonnes to 10,169 tonnes, while writing and printing paper rose marginally to 2,57,895 tonnes. Nearly 4/5 of installed capacity is in the integrated mills sector, 1/5 in the small paper mills sector. While the large mills are producing to capacity and in some cases exceeding it, the small mills are in serious difficulties. Their capacity production in some cases is low as 14 per cent and never more than 70 per cent. 8 small mills with an aggregate capacity of 10,000 tonnes have closed, and 4 others producing at less than 30 per cent of capacity are about to close. Their problems are slack demand, due to the glut in paper supply, high price of pulp and waste paper, and greater efficiency of the large mills. The small paper mills association has asked for special assistance in the form of a lower 25 per cent excise on the first 5,000 tonnes of production, and the reservation of certain

types for the small sector. A start on the latter has been made by agreement between the small and large mills. On the cost of pulp and waste paper, the DGTD has suggested that there should be switch from cellulosic raw materials, especially bamboo, because of their growing scarcity, to mechanical pulp especially for common varieties of paper. Such a switchover will help the small mills.

Small Sector : The Union government estimates that the gross produce of the five lakh small scale sector units employing 55 lakh workers for the year will be Rs. 7,000 crores, being an eighteen per cent growth rate compared to last year's 13 per cent and a turnover of Rs. 5,000 crores. It also announced in October that capital subsidy will be available to all village and small scale industries wherever they are situated. In order to prevent small units extinguishing village crafts, it is now planned to utilise these crafts by properly equipping them and upgrading their technology. The major problem faced by the small units is difficulty in obtaining industrial raw materials, and when small quantities are made available by the Union government, it has to go through the States' Small Industries Corporation which add their own charges and so raise their costs. There is need for streamlining the procedures for supply of raw materials to the small sector and speed its delivery. This will remove one great handicap they face. The Annual meeting of the Chief executives of the public undertakings in October paid on this occasion particular attention to ancillary units to be developed around the public sector undertaking. Out of their estimated turnover of Rs. 10,000 crores in 1974-75, their total purchase from small and ancillary units was only Rs. 36 crores.

The meeting decided on a 13 point scheme to develop small units as ancillaries. The public sector units under the department of Heavy industry have 400 ancillaries employing 13,000 people and a turnover of Rs. 16 crores. It was decided that (a) all new public sector projects will include areas of ancillary requirements, (b) the question of sales and excise taxes on purchase made by ancillaries should be reviewed, (c) the existing suppliers to public sector units should be given the status of ancillaries to be governed by the Bureau of Public Enterprises guidelines, (d) parent units should constantly review their requirements to see what can be farmed out to ancillaries, using their resulting surplus for diversification, (e) employees of public sector units should be encouraged to set up ancillaries, (f) public sector undertakings should encourage supply from ancillaries against their export commitments, (g) contracts with ancillaries should be for a minimum 3 to 5 years and the pricing should be on cost plus basis, (h) imported and critical indigenous raw material must be made available by parent units to ancillaries to assure quality product and the parent should assist in obtaining funds from banks, and (i) ancillaries should be paid promptly, 95 per cent of the price on delivery and the rest within 30 days. These guidelines are sound. There is need for a single agency to monitor their implementation by the public sector units which are under the administrative control of several Union ministries. Without such a supervising agency, this excellent plan to develop small scale ancillaries will remain a paper plan.

Agricultural Production: The Union government reports that foodgrain procurement from the last kharif and rabi

harvests was over 13 million tonnes— from kharif 6.44 million tonnes, including 6.14 million tonnes of rice and from rabi 6.56 million tonnes of wheat. 12 out of 16 States exceeds their rice targets and 7 out of 9 States exceeded their wheat rabi targets. All indications are that there will be a repeat good agricultural year this year. This year's kharif is estimated at between 70 and 72 million tonnes compared to last year's 74 million tonnes. This means that the 1976-77 foodgrains production could be again 117 million tonnes. Despite a series of floods at the beginning of the sowing season, the cash crops—jute, cotton and groundnut—have done well. The jute output may be 75 to 80 lakh bales, oil seeds could be 10.8 million tonnes against the target on 10.5 million tonnes as except in Karnataka, in other States—Gujarat, Tamil Nadu and Andhra Pradesh—oil seeds are doing well, cotton is estimated at 75 lakh tonnes compared to last year's 68 lakh tonnes, sugarcane which has suffered some flood damage in the North will be close to the target of 150 million tonnes. Procurement prices as recommended by APC and accepted by the government and noted in the last issue (p 578) will be the same as last year's and the amount procured also would be about the same, though the cut in the procurement target from 5.4 million tonnes to 4.4 million tonnes might mean some reduction. The government feels that if the present rate of agricultural production is kept up, actual foodgrains production may exceed the Fifth Plan final document estimates. There the base was taken as 104.7 million tonnes, but last year's 118 million tonnes has changed the base, and this year's good kharif harvest despite droughts, and floods in some parts of the country has led to the fixing of the kharif procurement target of 4.4 million tonnes as noted

earlier. The annual growth rate in gross cropped area for 1961-62 to 1972-73 was 0.54 per cent compound and for the period 1970-71 to 2,000 the growth rate has been established at 0.66 per cent compound per annum by the NCA. The Plan document assumes 0.2 elasticity of gross cropped area to gross irrigated area for the country, and an increase of an annual 4 per cent in gross irrigated area during the Fifth Plan. On this basis, the gross cropped area expands by 0.7 per cent per annum in the Fifth Plan and 0.6 per cent per annum subsequently. Similarly the growth rate in gross cropped area under foodgrains between 1961-62 and 1972-73 is estimated at 0.49 per cent compound per annum and for the Fifth Plan period 0.6 per cent per annum. Diversification towards non-foodgrains, the growth rate of irrigated area, the yield under HYV and HYV for coarse cereals, along with around 45 per cent of foodgrains production being under irrigated area are some of the somewhat conservative Fifth Plan and Planning Commission assumptions suggested. Returning to current production, MP whose output was 12 million tonnes in 1975-76 is further increasing its production this year, despite its irrigated area being only 9 per cent of its cultivated area against the national average of 25 per cent as well as its poor transportation net work and its 33 per cent tribal and harijan population. Through a good extension programme, a sound co-operative structure and 257 marketing societies and a fairly effective land reform programme, it has above the national average in the productivity of rainfed crops, the highest production of pulses in the country at 2.6 million tonnes, and a doubling of HYV areas and fertiliser use in the past decade. These factors can and should be replicated in other States. Two new developments in October are the major campaign for

improved farm management practices in wheat growing areas with particular emphasis on improving agro-economic practices in low yielding rainfed wheat areas, and the programme for irrigated dry crops in the Godavari area. In the case of wheat, a sustained drive is being launched in the rainfed peninsular zone, northern hill zone and western and eastern zones where 40 per cent of dry farming wheat is being raised to popularise drought tolerant varieties and adopting proper plant protecting measures and the promotion of the cultivation of titralls which is a cross between ragi and wheat in moisture deficient areas. A massive training programme is being initiated with the selection and popularisation of varieties of grain suitable to each specific local soil condition and the use of fertilisers linked to careful soil testing and the different types of water application, through the extension services. On the second programme, the Godavari area is divided into 3 zones—a filter point zone where irrigated dry crops like jowar, ginger and pulses like green gram and blackgram are to be grown, and non-filter and saline alkaline zones where groundnut will be grown with fertiliser and rhizobium culture. This will cover about one lakh acres over and above the 1.78 lakh acres where paddy is grown. The Union government is also drafting an Agricultural Productivity Act which indicates the minimum yield from a specific area in a normal year, depending on irrigation water, types of soil and other factors. The minimum yield will be decided not centrally but by local district committees, ensuring participation of people in the decision making process. The Union government has also directed that the States should observe 1976-77 as the land records year, which is to be referral year for the next agricultural census and so calls for updating of land

records. This is to be completed in every village by the end of June 1977. The updating must cover crop patterns, land utilisation, irrigation, sample verification of entries in the land records, inputs, number, size and distribution of holding and size of operational holdings. Retabulation will be between July and September 1977 and all tabulations completed by April 1978. On fertiliser use, a study by IARI finds that nearly 50 per cent of the fertilisers used by farmers in the 1976 kharif season is wasted as the methods of application of this input is unscientific and defective. This is serious as fertilisers are a costly and scarce resource, and the wastage can be eliminated through the application being related to water management and cropping patterns which the study suggests for rabi wheat, moong and maize and a large array of other crops. Thus even as fertiliser production is being expanded, its economic use can increase the total quantity available.

Exports : The trade surplus for the period April-August continued to be positive, being Rs. 40 crores, though declining compared to the April-July surplus of Rs. 87 crores reported in the last issue p 580. Exports in August were Rs. 363 crores, being lower than the Rs. 368.20 crores in August 1975 as well as Rs. 369.78 crores in July of this year. Imports in August were Rs. 369 crores compared to Rs. 398 crores in August 1975. The total exports for April-August were Rs. 1,857 crores and imports Rs. 1,817 crores, giving the surplus of Rs. 40 crores compared to the 1975 April-August deficit of Rs. 481 crores. The good performers were : iron-ore and steel which in April and May amounted to Rs. 41.71 crores (Rs. 37 crores increase) and for the year will be 14.7 million

tonnes, rising to 21 million tonnes next year : cotton apparel in the first two months earned Rs. 46.69 crores (Rs. 35.29 crores increase) with further future improvement in EEC exports with the dropping of EEC restrictions on handlooms and hand woven silk and cotton fabrics ; garment and handloom fabrics during the first 4 months recorded an increased export of 30 per cent : engineering goods which in the first 2 month earned Rs. 83 crores (Rs. 24 crores rise) and for the period April to July being Rs. 152.8 crores and orders till August at Rs. 670 crores, so that the year's target of Rs. 500 crores is likely to be surpassed : steel exports are running at Rs. 300 crores for the year : rubber is to be exported to the extent of 4,000 tonnes : jute exports which declined sharply in the first 2 months to Rs. one crore (Rs. 17 crores decline) may pick up with the renegotiated EEC agreement in October under which the quota for wide jute fabrics has been increased from last year's 10,196 tonnes to 12,129 tonnes and the suspension of the duty on jute yarn and the reduction to 20 per cent in the remaining categories : agricultural items like animal feeds (Rs. 100 crores increase), vegetable oils (Rs. 60 crores increase), marine products (Rs. 30 crores increase), live animals, fruits and vegetables (Rs. 20 crores increase), altogether will earn Rs. 1,602.24 in foreign exchange, according to the Union ministry of exports : cement exports from April to September earned Rs. 11.76 crores and will be nearly Rs. 30 crores for the year. Exports to US in the first six months totalled \$ 376.9 million compared to last year's six months \$ 205 million, while imports from US were \$ 539 million compared to last year's first six months' \$ 621.3 million. From those trends it is estimated that total exports to the US this year will be \$ 700 million (\$ 448

million last year), while imports from the US will be \$1,000 million (\$1,352 million last year), reducing the country's adverse balance from last year's \$904 million to \$300 million. Textile and marine products have expanded while foodgrain imports have declined. The Indo-Polish trade agreement signed in October envisages an annual trade of Rs. 230 crores, covering a wide range of manufactures, engineering products and traditional items. To further increase exports, export credit by RBI and scheduled banks have been increased threefold in the last five years at Rs. 950 crores at March 31, 1976, at interest rates lower than the normal (16-18 against 11.5 per cent for exports). Within the October government decision to allow liberal machinery imports for modernisation of industrial units, export oriented industries which undertake to export more than 20 per cent of their production are exempted from the procedures of indigenous scrutiny including clearance from the capital goods committee in importing machinery. The machinery imports are allowed through allocation of free foreign exchange or licenses against external credits: under the Technical Development Fund a range of export industries are allowed foreign exchange upto \$250,000 and a special facility to import drawing and design for domestic fabrication of machinery and equipment. One consequence is the reduction in the imported component of railway purchases which is less than 10 per cent today. The government also reports an increasing trend in foreign exchange earnings from Indian consultancy services abroad, from an annual Rs. 1.1 crores in 1970-71 to 1974-75 to Rs. 4 crores last year. At the end of September, the Rupee was revalued against sterling by 4.6 per cent, this eighth revaluation raising the rupee's exchange value against the pound by 20

per cent since delinking a year ago. The third round of talks between India and USSR on fixing a new exchange rate between the rupee and the rouble which began on October 11 ended inconclusively as the difference between the two groups were still wide and further time and study is needed to resolve the problem. In the Final Fifth Plan, India's exports are estimated to reach Rs. 21,722 in 1978-79, Rs. 9,142 crores more than the Draft Fifth Plan figure. Equally imports are expected to rise much faster than the Draft Fifth Plan estimate from Rs. 14,000 crores to Rs. 28,524 leaving a trade deficit of Rs. 6,802 crores against the Draft Plan forecast of Rs. 1,520. Invisibles will bring in Rs. 1,371 crores so that the current account deficit will be Rs. 5,431 crores. The export growth rate envisaged in the Final Plan is 8.4 per cent for the current plan period (it was 34 and 18 per cent in the first 2 years and will be declining in the remaining 3 years).

Aid: At the end of October, India and Canada signed two agreements for Canadian aid. One was a grant of \$6 million for the import of rape seed oil. The second was a loan of \$10 million for import of potash fertilisers from Canada. The loan is on soft terms repayable in 50 years, with a 10 year grace period and no interest or service charge. UK announced at the end of October a grant of £3.15 million to provide expert help and equipment for the naphtha steam cracking plant now under construction in Baroda. Also in October the World Bank approved a loan of \$5 million to help the development of transport in the metropolitan region of Bombay. The total cost of the project is \$10.5 million, which is aimed at improving the bus services in greater Bombay and im-

prove planning and traffic management in the metropolitan area.

International

World Monetary Reform and Annual World and IMF Meeting: The annual meeting of the World Bank and IMF in October in Manila made no progress either in the development of a reformed world monetary system or in meeting the economic disequilibrium conditions faced by the developing countries. The group of 24, representing the developing countries, meeting on the eve of the gathering in Manila called attention to the fact that the ratio of international reserves to world imports had gone down since 1970, so that the role of SDRs as a reserve asset has continued to decline, while that of the reserve currencies has been strengthened. Hence a new allocation of SDRs was needed to enhance its role in the international monetary system—the new allocations making up to some extent for the uneven distribution of liquidity which bears most heavily on the non-oil producing developing countries. The IMF Director opening the meeting emphasised the dangers of renewed inflation, expressed optimism with regard to deficits in current balance, helped by the increased flexibility in exchange rates, which however need to be monitored to avoid unfair or competitive devaluations. The World Bank President called for a global compact between rich and poor countries so that absolute poverty can be eradicated by the end of the 20th century, called attention to the most developed countries (US, Japan and Germany) not doing their share in ODA which will not reach 0.7 per cent of the GNP of the developed countries by the end of the second decade, and made a strong plea for the replenishment of IDA and increase in the capital of the

World Bank. The main results of the five day meeting were : (a) the IMF would develop principles and guidelines for exchange rate policies, keep under review the question of international liquidity and possible improvement in compensatory and buffer stock policies ; (b) there was agreement on "substantial replenishment" of IDA ; (c) there was no agreement on recapitalising the World Bank and making it more development oriented ; (d) there was disagreement on the recent hardening of the Banks lending terms, which was, on the eve of the meeting reduced from a higher 8.9 per cent to a high 8.7 per cent, with the US seeing it as a means of strengthening the financial position of the Bank and the developing countries seeing it as an abandonment of the development role of the Bank ; and (e) there was opposition to increased issue of SDRs and linking them to development assistance, which the US representative described as one which would be making the IMF and SDRs a kind of international monetary printing press. In effect, the Manila meeting made no decision which moved forward the world monetary system nor did it address itself to the need to remedy the structural imbalances of the world economy, and provide some kind of equitable redistribution of the world's resources. It is hoped that the assurance given by the industrialised countries of greater access to their markets will be followed by action. IMF also decided to review its gold auction policy before the end of the year to meet the demands of Canada, France and the other EEC countries that the sales should be effected in such a manner as not to depress the price of gold. The next (fourth auction) will go ahead as usual on October 27th but after that there will be a review of procedures. What is of much more importance is that the gold sales are un-

likely to reach the SDRs 3.7 billion which the developing countries were led to expect. On the IDA replenishment, a two day working level conference in Kyoto, Japan, after the Manila meeting reached agreement on replenishing IDA by \$9 billion at a conference to be convened in January in Kuwait. The US proposed a one year budget for IDA, as it could not commit itself, pending its presidential elections. It is hoped that by January it can join all other countries, notably UK, France, Germany, Netherlands, and the Scandinavian ones in the \$9 billion replenishment. On the exchange rates movement in October, the UK pound fell to 1£ = \$1,5935, and later to 1,5865 which is the lowest it has ever touched, with rumours that it may be ultimately stabilised at \$1.5 per pound. UK has raised the question as to whether the pound should not give up its reserve currency status, unless aided massively by the reserves built up by Germany, Japan and US. Also in October the German Mark was revalued, two per cent against the Belgian franc and Dutch guilder and 3 per cent against the other EEC snake rates. The French franc also weakened in October falling from 5.0075 to the dollar to 4.995. Gold prices, however, rose during the month to \$117.375 per ounce. Another development in October was that IMF was running out of money and foresaw difficulty in making loans unless world economic recovery speeded up. At the end of October its lendable funds stood at \$6.3 billion which will decline to \$4.6 billion by the end of the year compared to \$11.5 billion in April 1975. This decline in its resources follows the large borrowing by member States to cover their balance of payments deficits. Britain has requested a loan of \$3.9 billion to resuscitate the pound's value, and Italy will be making a similar request. To meet these demands, the EEC and US

will supplement IMF resources. This weakening of the international stabilising and credit position of the Fund and the World Bank is also seen in the fact that investible funds, including the petro-dollar, are increasingly being channelled in the Euro-dollar market rather than in the Bretonwoods institutions, because of the higher interest rates offered by the short term Euro-dollar market. This is a serious problem which member States in Europe and OPEC should attend to, if the Fund and Bank are to function as agencies to maintain international economic progress along with some degree of equity.

World Food: The International Wheat Council's estimate of 386 to 396 Million tonnes, an improvement over the 10 year trend which set 1976 production at 370 million tonnes, is being realised. US and Canadian crops are a record 58.2 million tonnes and 22.8 million tonnes. In late October the equally good Soviet harvest confirmed further this estimate. As a result, the commonwealth Secretariat estimates that world production of the five main grains—wheat, maize, barley, ragi and oats—will increase above the 1975-76 total by 78 million tonnes or 8.6 per cent and reach 982 million tonnes. Its estimate of world wheat is at the higher limit of the IWC forecast at 393 million tonnes. Supply will therefore be adequate, prices will not harden and consumption likely to increase by 5 per cent. The end of the season stocks will be 58 million tonnes—same 12 million tonnes more compared to the previous year's stock.

International Jute Agreement: Further to the preparatory discussions (see Vol VI p 577), the Jute Consultative Conference co-sponsored by Bangla Desh,

ESCAP and UNCTAD met in Dacca in October and adopted a six point programme to re-establish jute in the international market. It was attended by India, Burma, Nepal, Thailand, and Bangla Desh. The Conference expressed concern at the protective measures pursued by some of the advanced countries against jute to promote the use of its synthetic substitute. It suggested stabilisation of jute prices and export earning in real terms to ensure a sustained and adequate supply of jute and jute goods. To facilitate the competitive position of jute and jute products, there should be cost reduction through more R and D, along with a reduction of shipping costs. Also trade in jute products should be liberalised, and further research and investment in synthetic substitutes should be limited. It also agreed that the next jute conference, within the framework of the integrated programme, should move to an international commodity agreement providing for the setting up of an inter-

nationally operated buffer stock of jute and jute goods. The jute producing countries agreed to jointly press for complete and immediate withdrawal of tariff and non-tariff barriers on all items of jute, and reached agreement on regional co-operation among themselves.

Association of Iron-ore Exporting Countries: The Association of Iron-ore Producing Countries, comprising 10 countries (see Vol V p 592) exported last year 174 million tonnes out of total world exports of 315 million tonnes. Hence one of the first tasks of the Association is to expand its membership to include Brazil and Liberia which together exported 89.7 million tonnes last year. This will mean that 75 per cent of the producing countries will be in the Association. The Governing Body of the Association has decided to establish a data bank for the Association and work on this is starting. A study is also underway on some of the technical aspects and the freight component.

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II. Agricultural Development

Paddy and Other Crops:

The main event in October, as noted under the State section was the very heavy opening of the North East monsoon which put all farmers all over the State to work and has given rise to the hope that the loss suffered by the scanty South West

monsoon and the curtailed kuruva crop can be made up. In Thanjavur 2,92,188 acres were under kuruva and by October end 26,000 acres had been harvested. As kuruva planting was delayed, the major part of the harvesting will be in November. For samba, five lakh acres had been planted and for thaladi about

13,000 acres. If the North East monsoon continues and if the 37,000 tanks in the State, with a total ayacut of 25 lakh acres, are in good repair then a second crop even for this year is possible in the State. 8,677 tanks are major tanks looked after well by the PWD, but the remaining 28,323 are minor tanks catering to about half the total ayacuts mentioned earlier and are in bad shape. They have to be maintained by the Panchayat Unions who have allowed them to become silted, reducing their capacity by 50 per cent, their catchment areas are eroded resulting in diversion of the water which ought to be flowing into the tank, the bunds are infested with weeds and the ayacuts being small and fragmented are not able to benefit fully from even the limited supplies of water. There is urgent need for a programme to desilt the tanks, stop their erosion and take steps for their effective use. Meanwhile with the present state of our tanks, the State and people will profit only partly from the timely rains. The Thanjavur district Collector has advised farmers not to go in for thaladi paddy, since Mettur water which even with a good North East monsoon will be adequate only for the samba crop will be closed down earlier. Those who have started thaladi will have to rely on filter points. Dry sown paddy crops over an extent of 1.9 lakh acres in the GA canal area in Thanjavur as well as a switch to other crops is taking place. In the Thanjavur division in place of paddy, groundnut is being grown in 23,820 acres, maize in 2,890 acres and ragi in 1,742 acres. In Pattukottai division, groundnut is being grown in 480 acres, maize in 1,360 acres and ragi in 355 acres. In Kumbakonam 100 acres are under onion, 560 acres under ragi, 733 acres under groundnut. For the district as a whole paddy has been replaced by 4,740 acres of maize and

3,880 acres of groundnut. Farm operations in the 2 year drought stricken Ramanathapuram are underway. Inputs—fertilisers, seeds and pesticides—are being speedily distributed to the farmers in the district. Already out of the total needed of 1,027 tonnes of improved paddy, millet and pulses seeds, 764 tonnes of seeds have been distributed. 1/3 of the district fertiliser needs totalling 31,966 tonnes is to be distributed through the 404 retail outlets of the Tamil Nadu Marketing Federation. The Department for its part has taken up a special programme in the northern districts of the State to enable farmers to grow a second crop in the drylands after the groundnuts are harvested in the season July to October just ending. The area under rainfed groundnut is 4.7 lakh acres in North Arcot and one lakh acres in Chingleput. Under its intensive dryland farming programme, the Department plans to bring a minimum of 20,000 acres under the second crop. Instead of growing the usual low yielding ragi or horsegram during the October-February period because they had no other alternative, the second crop that is to be introduced is CSH - 5 cholam which grows even in conditions of extreme stress, is of 105 days duration, costs Rs. 300 and yields 800 kg. per acre. In place of horsegram, farmers will be sowing T-9 blackgram of 65 days duration, is high priced and an important source of protein for the State. Unlike in Kovilpatti, Sankarankoil and Vilathikulam taluks where not only has the monsoon filled the tanks, but also spread itself on different days in different places, so that the limited number of bullocks and ploughs in each village could go around in a kind of rotation, (because of the 2 year drought in the area, many farmers sold their cattle and ploughs to live), the farmers using the Papanasam reservoir face dwindling water availability because

of lack of rains in the catchment area. The three channels feeding the 12,000 acres under the Pishanam paddy crop are drawing on the fast dwindling Papanasam storage. It is hoped that heavy rains in November will fill the reservoir. Meanwhile farmers are being advised by the Department to use the direct sowing method which will save on the time needed for the paddy crop and grow short duration varieties like ADT-31, and Kannagi in place of the medium duration varieties like IR-20 or IR-8, in case there is a delay in the monsoon.

Seed Multiplication Scheme

A Rs. 2 crores large scale seed multiplication scheme is being operated in the State by 9 co-operative taluk marketing societies. Seeds of all the State's major crops, paddy, cotton, groundnuts, millets and pulses will be produced on a massive scale. The co-ordinator of the project is the Thudiyalur Co-operative Agricultural Service Society. Under this programme crop loans to farmers for meeting the costs of their inputs, technical guidance and expert field supervision will be provided. Also the harvested crop is to be pooled and processed in each centre and tested in the laboratories. The produce will be then screened and the part found fit for seed purposes will be further treated with seed dressing material and stored scientifically in specially prepared space. The scheme covers a total area of 23,000 acres. As the scheme is so heavily dependent on the science and technology input in its operation, the Tamil Nadu Agricultural University should be closely associated with it.

Bananas :

The Banana and Fruit Development Corporation has launched on a programme to develop export oriented banana plantations in the 4 Southern States. In Tamil Nadu 500 acres in North Arcot, Tiruchi and Madurai district will be covered under the scheme, and the technical and Bank financial assistance given to the growers which will involve them in adhering strictly to certain time schedules. Survey and tests have shown that Bananas from the South are qualitatively superior to those from the traditional exporters — Bananas, Ecuador and Somalia and the South Indian varieties are in great demand in Kuwait, Bahrein, Dubai and other Gulf countries. There is the problem of price, as the Indian price is slightly higher than those of the competing countries, and it has to be brought down through a State subsidy in the first few years. Also the freight charges are abnormally high, and this must be lowered, together with some reservation of air-conditioned cargo space for the fruit and marine product exports from this State.

Research Results :

ICAR launched in October an operation research project for integrated control of rice pests in 5 States—Andhra Pradesh, Orissa, West Bengal, Madhya Pradesh and Kerala, both to reduce the quantum of chemicals used (estimated at 75 per cent) and to achieve a break through in rice production. The integrated use involves use of biological, non-chemical, cultural and mechanical methods, plus use of pesticides, enabling eradication of a pest at an early stage, through using one of the methods and reducing health hazards from excessive

use of chemical pesticides. And then of course there is the use of pest resistant varieties, like those which resist gill midge. In each State at a number of locations, two villages each are chosen under the scheme—one to use the integrated control and the other the traditional ones. The integrated schedule involves use of pest tolerant variety against the prevalent pest, a single soil application of a selected insecticide at the most vulnerable stage of the crop and foliar sprays at suitable intervals. Along side suitable cultural practices with biological and mechanical control methods are to be tried out. At the end, the difference in end product in the output of paddy between the integrated method and the traditional method in these widely different States will be identified. Into this project can also be introduced the results of the Tamil Nadu Agricultural University's research results in substituting chemical weed killers for the traditional hand weeding. As part of the All India Co-ordinated Cotton Improvement Project, the weed killing research involved use of 6 herbicides both singly and in various combinations, under which weeds like nutgrass, saranai and haravali grass etc. were eliminated. The cost of hand weeding worked out at Rs. 560 per hectare, while the use of weed killers cost Rs. 299 per hectare. There is a slight decline in the cotton output in use of weedicides, but that is more than made up by the saving on the cost. The main chemical, Basalin, can also be used for weed killing in paddy, groundnut, soyabeens, peas, beans, pulses, sunflower, tomatoes, potatoes, brinjal, carrot, chillies and bendai crops and is being tried out in sugarcane, wheat and jute fields. IARI also announced in October the development of a number of

varieties of rice and wheat resistant to a number of crop diseases, ranging from bacterial leaf blight to blast. The Regional Centre of CIMPO in Bangalore also released in October a high yielding oil enriched coriander seed variety—CIMPO—S-33, yielding 2,117 kg. seeds per hectare plus 1.3 per cent oil. The Centre also announced the release of two rosea varieties which are in demand in foreign laboratories as anti-cancer medicinal plants from which drugs are made. These varieties can be grown in our dry lands and yield 1,632 kg. of air dried roots and 4,000 kg. of air dried leaves per hectare, valued at Rs. 16,000, leaving a profit of Rs. 10,000. AICSIIP in Hyderabad working on drylands generally has shown in the All India Co-ordinated Sorghum Project that if the new and improved variety of castor that it has developed is grown with jowar (sorghum) and red gram as inter-crop, the combined net return is between Rs. 2,415 - Rs. 2,990 per hectare. Also it has demonstrated that in groundnut farms, if a short duration soyabean is interspersed, followed by safflower, the groundnut crop is benefited and the return to the farmer increased by around fifty per cent. The animal husbandry and dairy programmes in the State have benefited in the various measures taken for improving the cattle stock, through the import of exotic breeds and the breeding farms at Hosur and Nilgiris and the growing programme of artificial insemination. To back up this programme, there is need to disseminate the research results with regard to cattle fodder to the cattle owners. Research has shown that these improved breeds do not need rich and costly feeds, but rather high quality green fodder of the leguminous type, followed by maize, jowar and millets and green grass. Also to enhance their

nutritive value, the forage crops have to be harvested at the flowering stage, along with a balanced mixture of legume and non-legume fodder.

Sugarcane :

A meeting in October of the Chief Executives and Chief Cane Officers of Co-operative and Private Sector Sugar Mills in the State and experts from the Indian Institute of Sugarcane Research, Lucknow, decided on a series of measures to increase and improve sugarcane production and control the pests affecting the crop in the State. While the cane has been increasing at 2.36 per cent annually over the last 2 decades, the quality of the cane as shown by its recovery percentage has recorded a negative growth rate—minus 0.12 per cent per annum. So seed treatment and nursery development of demonstration centres, purchase of plant protection equipment, training of cane development staff and a visit by the Lucknow Institute specialists to the Madurantakam biological laboratory have been decided at the meeting. The conference also laid the primary responsibility for executing the productivity oriented measures on the sugar factories and emphasised the need for sound management of ratoon crops and the use of heat therapy to obtain disease free seed material, along with an increase of R and D in which the State is backward. In addition to all mills, co-operative and private, using the heat treatment for seed sets, each installing the heat treatment plant with the help of the Lucknow Institute, the three tier system of seed multiplication is to be adopted, each factory taking up 1.5 to 2.0 hectares for planting heat treated foundation seeds. The parasite breeding work of the Madu-

rantakam Co-operative Sugar Factory is to be expanded beyond the 2,000 boxes used for breeding rice moths, and further measure of soil testing and establishment of appropriate nutrient dosage for the sugar plantations are to be developed.

Farm Research Centres :

As part of the ICAR decision to establish 19 Farm Science Research Centres or agricultural polytechnics (Krishi Vigyan Kendras), the site for the Centre in this State has been chosen by the Tamil Nadu Agricultural University. It is a 150 acre area in Navalaar-Kottapattu, near Tiruchy. The University had earlier proposed Tiruchy as the State for the Kendra and a 7 man ICAR committee had examined the proposal on the spot as part of the University Fifth Plan activities and approved it. On this second occasion, a 4 man ICAR team examined the site the infrastructure facilities available and the programme for running the Kendra. ICAR's help will be Rs. 10 lakhs. It will be recalled that one Kendra has already established by the University with the financial subsidy of Rs. 24 lakhs in Pondicherry. The Kendra's main purpose is to establish a relationship between research results and their dissemination among farmers and for this, the training of extension workers and farmers will be undertaken. For women labourers, home science, nutrition programmes and family planning education is to be provided. The Kendra will follow an integrated approach to farming, dairy, animal husbandry and cottage industries. Eventually it is planned to have a Kendra for every district so that farming and research are closely tied in together.

Fisheries :

The Tamil Nadu Agricultural University is also starting a fisheries college within the University complex. The college will offer a 4 year course covering theory and practice of the techniques of fish catching ranging from the river to the deep sea, and the various processes of processing, cold storage, packing and marketing. The University should also develop programmes for the training of fishermen and an extensive network of extension agents for their technical counselling and servicing. The programme of deep sea fishing is to be intensified within the next 6 months. Against the country's fish catch potential of 12 to 14 million tonnes, currently only 1.2 million tonnes are being exploited. The Union government is purchasing 30 deep sea fishing trawlers and 3 are being allotted to Tamil Nadu. Also out of the World Bank credit of Rs.10 crores that is being negotiated, about Rs. one crore is being allocated to set up a 1,000 tonnes cold storage plant in Madras. The target of fish exports for this year is Rs. 160 crores (Rs. 35 crores above last year's) and during the first five months Rs. 77 crores of marine products have been exported (last year Rs. 41 crores were exported in the first five months), as noted earlier. By the end of the Fifth Plan, fish exports must attain a level of Rs. 200 crores for the country.

Tea :

During the first seven months of the year the country's tea output was 234 million kg. compared to 216.9 million kg. during the corresponding period last year. The increase was due to a large July crop of 61.4 million kg. in North India, while

the South registered during the 7 months a decline of 1.1 million kg. due to unfavourable weather conditions. World tea output is not increasing. While the Indian output has increased by 21.3 million tonnes and Africa by 2.36 million tonnes, Ceylon's output has declined by 19.9 million tonnes. The prices of Indian tea have been rising in the London market since September 1975, both because of the falling value of the pound and the depletion of London ware house stocks. Till the end of September 1976, 5,04, 560 packages of North Indian tea sold at 72.49 pence and 20,222 South India packages at 76.47 pence. Even allowing for the 19.7 per cent of the sterling devaluation, prices are moving upward because (a) tea supply is declining, (b) though India produced more, as noted earlier, its internal consumption is expanding, (c) London tea offerings in 1976 are smaller than in 1975. Indian tea packets are moving into many new markets and will be earning this year Rs. 22 crores. This sector is facing constraints in the shortage of packing materials which can be met by the container packing of bulk tea. There are also the time consuming procedures for claiming duty drawbacks on imports of filter paper, aluminium wares and foils and inadequate foreign exchange allocation for promotion and advertisement abroad. These can be speedily removed.

Coffee :

Until August 1976, 82,578 tonnes of the 1975-76 season's crop were delivered to the Coffee Board Pool, so that the March 1977 target of 69,000 tonnes has been reduced 48,000 tonnes, earning Rs. 75 crores against last year's Rs. 66.65 crores. Although a bumper crop was

anticipated for the 1976-77 season of 1,14,000 tonnes, due to the prolonged drought in the South, the production is likely to be nearer 1,00,000 tonnes. During the period April-July 1976, 23,108 tonnes were exported earning Rs. 49.33 crores. Coffee prices have been ruling high in the international market, in August Plantation A grade selling at Rs. 1,150 per 50 kg. and in September Rs. 1,267, Arabica at Rs. 1,074 and Rs. 1,164, and Robusta at Rs. 984.50 and Rs. 1,025 respectively. The International Coffee Agreement came into force on October 1, with 90 per cent of the consumers and 80 per cent of the producers being members. There is need for India to maintain a good tempo of coffee exports this year and in the coming years.

Rubber .

Rubber stocks at the end of September amounted to 56,000 tonnes, of which 38,000 tonnes were in the hands of estates and dealers. In August and September the total stock increased by 3,500 tonnes. The estates and dealers do not really have a holding capacity and so prices have been declining from Rs. 693.31 per quintal in January to Rs. 654.70 in April and Rs. 599.71 in August. The production of natural rubber in 1975-76 was 1,37,750 tonnes, but the consumption was only 1,25,652 tonnes. Between April-July 1976 production was 46,133 tonnes and consumption 44,112 tonnes. There is need for an increase in the scheduled price of rubber to save the industry and an increase in exports, which for 1976 has been rightly fixed at 15,000 tonnes.

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III. Industrial Development

Salem Steel :

SAIL reports that the detailed project report on the Salem Steel plant prepared by the Rajyadaksha committee has been accepted. Commending the financial viability of the project, the report also refers to the mining, concentration and pelletisation of the Kanjamalai iron-ore whose preliminary examination indicates that it can be used profitably and effectively by the Salem plant. The infrastruc-

tural facilities in the plant site are now nearly complete, with the commissioning of the 3 MW power system and the construction of the by pass roads, railway siding and mechanical and electrical workshops. Now all that is needed is the plan allocation for this year of Rs. 50 crores to be followed by the allocation during the next 2 final plan years to import the machinery, and on this crucial phase there is no decision as yet.

Neyveli :

Neyveli reports good working results in the first six months of 1976-77. Lignite production during the period April-September was 19.68 lakh tonnes, against the target of 16.80 lakh tonnes. Thermal generation, as noted earlier, was 1,715 million units, a 24 per cent excess over the target. Its urea production was 34,489 tonnes against a target of 22,500 tonnes and the Leco production was 14,844 tonnes, a 22 per cent increase over the 6 months target of 12,100 tonnes. At this rate, the Corporation will end the year with earning a much needed return.

Hindustan Photo Films :

Hindustan Photo Film exceeded its September production target at 119.94 percent, its production including items of imported jumbo rolls, being Rs. 2,868 crores for the month. Cumulatively the production during April-September was valued at Rs. 15.2 crores against the target of Rs. 13.2 crores, compared to Rs. 8.94 crores during the same period last year. In order to meet the needs of the film industry and act on the recommendations for needed new film items, the Union government proposes setting up an advisory committee of representatives of the film industry to suggest improvements in factory film manufactures.

BHEL :

In October BHEL completed the fabrication of the first nuclear steam generator for the 235 MW Kalpakkam atomic power plant. The manufacture involved installation of specialised machinery and a clean room and the employment of a number of highly trained engineers, supervisors and welders. By 1977-78 it will have

produced 8 steam generators for MAPP II. The second, third and fourth generators are well on the way to completion by April 1977. While for the Rajasthan atomic project, the steam generators had to be imported from Canada, for Kalpakkam BHEL has developed all the necessary indigenous technology, including the technique of hot, pull outs needed for heavy water headers. This is a case of close collaboration between AEC which supplied the raw material, design and technical know how and BHEL personnel and management.

Hindustan Teleprinters :

The Hindustan Teleprinters has started the development work of electronic teleprinters with a view to starting commercial production in 1978-79. The new product units now include Arabic teleprinters, three shift two - language teleprinters—English and Hindi and English and Korean. Also new products are being developed such as Data Modems computer peripherals, including high speed tape readers, and tape punches. Also phototype cassette tape units have been developed for use in Telex offices. As a result of sustained import substitution drive, the foreign exchange components of its produced teleprinters have been reduced to 4.9 per cent. Also a Rs. 73 lakh project has been completed to house the production and assembly shops for the new electric type writers. So far 300 have been produced and delivered and order books are full, with the demand outstripping supply. The target is to manufacture 4,000 typewriters at a cost of Rs. 3 crores from self-generated funds. Its exports to West Asia, Africa and South East Asia was Rs. 5 crores last year and will be Rs. 7 crores this year.

SIPCOT and TIIC :

The government has rationalised the functioning of SIPCOT which has been granted IDBI refinance facilities, as had TIIC reported in Vol VI p 511. For refinancing, all small scale industries and all medium industries with a total of Rs. 50 lakhs and below or whose total loan requirement is Rs. 30 lakhs below will be handled by TIIC, which will seek SIPCOT assistance, if it so desires. Projects costing above Rs. 50 lakhs or requiring a loan facility exceeding Rs. 30 lakhs must apply to SIPCOT, who can invite TIIC aid if needed. A copy of the application to SIPCOT must be sent to TIIC. In the case of projects where capital and reserve exceed Rs. one crore, SIPCOT is the sole agent for handling and servicing the project. Meanwhile SIPCOT's Ranipet project is well off the ground. 11 of its 60 medium and major units and 15 out of its 100 small units have started production. With the infrastructural facilities and incentives offered in the complex, by 1980 the complex will be functioning to an investment of Rs. 85 crores. Engineering, chemical and electrical units are operating in separate segments of the complex, employing at present 1,500 workers. Its housing, water supply (2 million gallons a day) bank, post-office, telephone, dispensary, super market etc. make it an attractive production centre.

Banks :

Co-operative and commercial banks in the State are breaking out of their mould and venturing on new areas. The co-operative urban banks are financing small scale industrialists at 13 per cent interest, the Vellanur Co-operative Agricultural Society has issued Rs. 1.43 lakhs in loans

to small and marginal farmers and consumption loans to rural artisans, the Kanyakumari Central Co-operative Bank has sanctioned Rs. 500 loans to each of the tribals in the area, and the SBI is functioning in 244 Madras schools operating 22,000 accounts in them, accepting even petty cash from students, offering loans of upto Rs. 2,000 per annum to poor but brilliant students, making Rs. 50 lakhs in loans to industrial workers, cycle purchases by students, village artisans, unemployed women, tribals, all totalling 12,500 persons, while its Tirunelveli branch has aided free bonded labourers with Rs. 500 per family for clothes, huts construction etc.

Small Scale Industry :

Following on these initiatives, is the State's programme to help start 5,900 small scale industrial units by November 19 (see Vol. VI p 510) SBI has agreed to finance all the units and the State government is providing the industrial sheds, water, power etc., for the loans. As of October 21, 5,767 new applicants have been registered with the Directorate of Industries and Loans have been granted to 1,827 units. SIDCO will launch an escorts service for the units to remove their bottlenecks and problems and help them obtain machinery and raw materials. The investment that would be catalysed will be Rs. 15 crores and one fourth of the units will be around Madras and the rest in other parts of the State. The government is also considering asking all its Corporations and non-departmental institutions to purchase their requirements of materials from the small scale units. This will provide the units with an assured market. Southern Railways for instance is actively pursuing a policy of meeting its needs from the small scale sector. It

reports that 222 items are exclusively reserved for procurement from the small sector, which is also given a price preference of 15 per cent over the large sector. In return it is essential that the small units should adopt their production pattern and schedules to meet the changing needs of the railways as a result of the introduction of diesel and electric traction and advanced communication techniques.

Salt Development :

The Tamil Nadu Salt Corporation has developed a plan to produce 1.50 lakh tonnes of salt to start with in the 5,560 acres of the swamp at Mariyur Valinokkam in the Ramanathapuram district at a cost of Rs. 1.16 crores. Bunds have been built around the swamp, flood water diversion channels provided for 9 reservoirs, 28 condensers and 483 crystallisers planned. In the project is the sea water supply scheme which draws 30 million gallons of sea water daily, through suction pipes let into the bay and sea water being drawn by vacuum priming of the suction and led through a masonry channel into the first reservoir. In addition to its safety and sanitary aspects, on the side of the cost of civil engineering works, it is economic. In the State, 13 lakh tonnes of salt is being produced, 7 lakh tonnes in the licensed sector and the rest in the unlicensed sector. The Corporation will also assist small scale salt producers in developing their areas, obtaining and improving their brine supply and marketing and arranging their credit facilities.

Paper Supply :

The paper trading units in the State report a relative glut on concessional writing paper supply, whose stocks exceed

1,000 tonnes in both paper and exercise books. For the year ending June 1976, the book manufacturers received an allocation of 8,200 tonnes, but due to late delivery to the manufacturer and some of the educational institutions prescribing note books and exercise books in other superior quality paper, the stocks have accumulated. However if the paper is permitted to be used in foolscap size books, it will be sold out. The trade estimate for the current year, 1976-77, for concessional paper in the State is 9,000 tonnes.

Leather :

Leather exports continued to expand according to October reports. For the 6 month period April-September 1976, the total exports were Rs. 15,996.01 lakhs, which was an impressive 75 per cent increase over the leather exports of Rs. 9,166.53 lakhs in the first six months of last year. In this good performance, finished leather was in the lead with an increase of 195 per cent, foot-wear components 138 per cent, foot-wear 59 per cent, El tanned hides and skins 49 per cent and leather goods 48 per cent. In the State, a new organisation of scientists and industrialists called Indian Leather Goods Society was formed in October for the purpose of developing new leather designs, help in marketing of the produce, and generally promote the exchanges among and interest of leather goods manufacturers. One problem that the Society can take up is the means of carrying out the State government order for waste and effluent treatment by the end of December. The 400 tanneries in the State, mostly concentrated in North Arcot, need to do a lot of preliminary work for an effective programme, each unit needs about Rs. 20,000

for an effective treatment programme (which is also the cost of a new tannery), and the finding of space for setting up treatment plants. Where there are a number of tanneries close together, as in Vaniyambadi where in just one street there are 73 tanneries, a common plant for treating wastes and effluents can be put up. The government has set up a task force and a core committee with the participation of the industrialists to visit each tannery and recommend this kind of group solutions to solve this urgent social problem.

Handlooms :

Further to the pilot project in controlled cloth being handled in the handloom sector (see Vol VI p 513), in this State a scheme for producing 37.5 million metres of controlled dhoties and sarees is being undertaken by 25,000 handlooms in the co-operative sector. 4,000 dhoties and 2,000 sarees under this scheme were released for sale in October. The government reiterated in October its plans to increase the number of weavers in co-operatives from the present 1.27 lakhs

to 3.32 lakhs through schemes which will cost around Rs. 4 crores. Meanwhile the 2 intensive handloom development projects covering 5,000 looms at Kancheepuram and Erode and the 1,000 handloom export production project at Karur are functioning well. To further improve the marketing of handloom cloth, the State government is opening 15 large sized emporia in other State capitals, along side of modernising existing sale outlets at a cost of Rs. 1.33 crores.

Private Sector :

The annual report of the Seshasayee Paper and Boards Limited for the year ending 31 March 1976 shows a good record in the production maintained at the previous year's level, the issue of bonus shares and the transfer of Rs. 22 lakhs to the general and statutory reserves. Plant and machinery were ordered and will be delivered by November for the expansion of the installed capacity from 35,000 tonnes to 55,000 tonnes at a cost of Rs. 20 crores.

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IV Education, Science and Health

Educational Reform :

To improve the quality of science education in standaras I-V, the State government, with Unicef assistance, ran in Madras in October/ November a 4 week

training course for 364 primary school teachers from 264 schools, in Krishnagiri through 5 centres where 195 teachers from 130 schools were trained and in Usilampatti through 3 centres where 150 teachers from 100 schools were provided

training. Equally important at Madras, Madurai, Coimbatore and Tiruchy, 304 Deputy Inspector of Schools in charge of primary schools were provided orientation and refresher training for a period of 10 days each. On the audio and visual side, 35,000 primary, middle and high schools are being provided with a radio set for participation in the school radio programme, in addition to the 8 schools which have a set—as a means of improving quality education in the schools. The public have provided Rs. 75 lakhs worth of books which have been used to provide free text-books to 5 lakh children from poor families during the year. The Union government has instructed all State governments to take a series of actions to ensure 100 per cent school attendance of scheduled caste students. One action is to set up pre-primary centres to ensure such attendance. The Tamil Nadu government has developed a plan to start creches in village schools to minimise the drop-out rate among girl students who stay away at home to care for the infants when their parents are all at work. Other Union government suggestions for scheduled caste education include the starting of a school where there are 35 scheduled caste students where within a one mile radius there are no schools: the provision of special facilities for girl students, the supply of mid-day meals at primary schools, student allowances for purchase and maintenance of school uniforms: free supply of text-books at all stages from primary to post-graduate: setting up hostels for pre-matriculation students: award of cash incentives to parents of primary and secondary school age children: and special coaching classes in the final year of the high school and university and professional courses. The State government's ability to execute this package will depend in part on their

resources position, but in the main on restructuring the existing wastes in the school system. The Third All India Educational survey provides some important information on the medium of instruction as at the end of 1973. In rural areas, 98 per cent of primary schools use one medium of instruction, 1.83 per cent use 2 and 0.52 per cent 3. In Secondary Schools, 95 per cent use one medium, 906 schools 2 media, 215 three and 20 four or more. The situation is about the same in urban schools: at the primary 93 per cent use one medium, 5.62 per cent two media and 0.94 per cent 3 media: In secondary schools 88 per cent use one medium. At the primary stage, 4,95,355 schools use the regional medium, 4,436 schools in non-Hindi States use Hindi and English in 4,126 schools. At the secondary stage, 35,838 schools use the regional language, 895 non-Hindi area schools use Hindi, and 2,806 English. An NCERT study published in October shows the extreme unreliability of the present examination and marking system. 90 experienced examiners were asked to mark the same 10 history answer books: one book considered the best by one examiner was given 76 per cent and another examiner adjudged it the worst and gave it 22 marks. In another answer book, which 77 out of the 90 examiners agreed was the best of the ten answer books, was awarded marks ranging from 34 per cent to 70 per cent. The only answer book considered for a distinction by one examiner was failed by 7 others, while 8 gave it a first class. The marks ranged from 22 to 76 per cent. Also the range of marks of each answer books varied widely—the narrowest was 26 per cent and the widest was 56 per cent. Again the 90 examiners did not agree on the average marks of the 10 candidates. The range of marks the 90

examiners awarded varied from 16 to 44 per cent and the passes ranged from 10 to 60 per cent. There was also no agreement on the class awarded to each answer book. Several were awarded all 3 classes by the different examiners. On 80 per cent of the candidates there was no agreement as to whether the candidate should pass or fail. In another study by the same authors, 40 experienced examiners were asked to examine for a second time the answer books in history, biology, hindi and mathematics that they had originally valued. The result was that the examiners gave the same class as before only in 65 per cent of the answer books. 52 per cent of the 400 answer books were raised or lowered by two divisions in the second marking by the same examiner. The examiner changed the pass percentage by 58 per cent on his second valuation of the same books that he had valued first. The studies confirm the complete unreliability of the examination system and the marking methods as a test of a person's intelligence or learning achievements. The study makes a case for a 5 or 6 point grading system as being less unreliable and if there are no choice of question allowed. This is true but as far as employment and selection for professional courses are concerned, these groups must devise their own selection procedures and not rely on the formal system of evaluation. The State government is launching a school complex programme from October, linking 14-20 primary schools, 3 or 4 middle schools and a high school in each district to bring about quality improvement.

Non-Formal Education :

The State government started 31 non-formal education centres in Madras city located in corporation, government and

aided schools, covering drop-outs in the age-group 6-14. In the districts of Coimbatore and Tiruchirappalli each, 100 centres have been started teachers provided orientation training and syllabi prepared to the extent of 400 for different client groups and courses. The emphasis in this programme is in imparting training in remunerative skills. As will be noted later, the Tamil Nadu Board of Continuing Education is establishing a Resources Centre to develop curricula, train personnel and undertake evaluation and research for this important and growing programme. A village survey by an NSS group in Thoropakkam, 18 kilo metres from Madras city, reveals a serious communication gap in the village. The 3 hamlets with 1,622 people, 87 per cent of whom belong to the backward community in the village, reveal some worrisome features. 50 per cent of the people have not heard of the Fifth Plan or the 20 point programme, 30 per cent have not heard of the small family norm, though it is widely publicised, only 6 per cent have bank accounts and 25 per cent in the age-group 15-40 are unemployed and 34 per cent self-employed, 60 per cent of the people have had no schooling and only 8 per cent secondary education. On the basis of this survey, the non-formal education programme in this village should start with a communication programme.

Technical Education :

Reference was made earlier under the section, Agricultural Development, to the starting of an Agricultural Polytechnic and a Fishery Training College in the State as part of the Tamil Nadu Agricultural University. The University is also expanding and upgrading its Agricultural Education Department with the help of a grant of Rs. 45 lakhs from the Ford

Foundation. In the area of engineering education, the Union government has set up a 12 member committee headed by Dr. A. Ramachandran, Secretary, Department of Science and Technology to review all aspects of education and training in aeronautical training. The issues concern the need and content of the undergraduate course in aeronautical and aerospace engineering offered by IITs. The Planning Commission has called attention to the fact that there is a wide gap between the estimates made by various committees for the demand for aeronautical engineers, and the actual requirements of the air units and other sectors for aeronautical engineers. And expert scientific opinion is divided on the question of the need for this course at the undergraduate level. One group feels that the investment in the aeronautical industry has not really progressed in our country and so most of our graduates having no employment here migrate abroad. Also the present undergraduate courses are of limited practical utility as the aviation industry prefers graduates in mechanical, electrical and electronic engineering to those in aeronautical engineering. Equally for post-graduate courses in aeronautical engineering, engineering graduates from all branches of engineering are admitted. Hence a case is made only for post-graduate courses in this field. On the other side, experts feel that this is a coming field like nuclear engineering was in the fifties, and that this strategic field is vital for the country which needs to develop skills for designing, construction and adequate maintenance of air craft without relying on foreign expertise. The undergraduate course should be updated but not given up. The 12 man committee has representatives of the Air-Force, Hindustan Aeronautics, Ministry of Civil Aviation,

National Aeronautical Laboratory, DDS, IITs, Planning Commission and UGC and Defence Science Organisation. It should also consult the Department of Space. Its report will be a significant one for engineering science and the country.

Science :

The Final Fifth Plan has restructured the country's science and technology programmes into projects with time spans, costs and expected benefits spelt out. The main norms used in the exercise are fuller use of existing facilities avoiding duplication of research, minimising spreading of resources over too many projects, and detailed monitoring of research programme up to their applications in industry or the firm. In agriculture, the priorities are control of crop diseases, crop sequencing, improvement of agricultural implements, post harvest technology, new agro-industrial complexes, research farm and institutes, animal sciences and rural industries of bee keeping, gur and khandsari. An Institute of Hydrology is to be set up. In energy, priorities include biogas technology, solar wind and tidal energy, magneto hydro-dynamics, improved mining techniques, mine safety, and gasification of coal. Survey and development of natural resources, national remote sensing, National Institute of Oceanography, space and satellite launching, collaboration in monsoon 77 and monex, new family planning system, integrated health care, prevention of communicable diseases, new low cost housing designs and materials, indigenisation of electronic components, multi-user regional computer centres, tele-communication research including the Asian Telecommunication Training Centre, in house R and D in industries and national laboratories are

further priorities. The allotment for these programmes, however, has been reduced from Rs. 560.33 crores in the Draft Fifth Plan to Rs. 329.41 crores in the final document, plus Rs. 30 crores for Insat 1 under the ministry of communication, Rs. 5 crores for information and broadcasting and Rs. 5 crores for tourism and Civil aviation. The reduction involves CSIR and DST from Rs. 214.48 crores in the Draft Plan to Rs. 140.73 crores in the Final Plan. On the other side, R and D in atomic energy is raised from Rs. 11.13 crores to Rs. 167.13 crores and space from Rs. 90 crores to Rs. 126.27 crores. The Union government has set up a technical evaluation committee headed by the Secretary, Department of Technical Development in the Industry Ministry to review and help tune up technology imported from abroad. The Committee will also study the steps needed to improve information on and use of indigenous technology. The Committee's system of evaluation will be integrated with the work of SIA and the concerned ministry so that the end purpose of upgrading are indigenous and imported technology is obtained.

Health :

Family Planning activities were developing fast in September. Sterilisation in

that month in the country amounted to 1.3 million which was twice the entire 1974-75 year figure. Till march 1976, 18 million persons had been sterilised—the North doing better than the South. For the current year the target was 7 million and by September 3.7 million had undergone sterilisation. In this State, 3 lakh sterilisations had been performed against the 5 lakh target and a high level apex body with the Governor as Chairman was monitoring the State programme. In October, a meeting of Southern States decided to improve and speed the programme on the integration of health and family planning services, the provision of proper and speedy health services at the door steps of the poor people, equipping primary health centres with operation theatres to perform sterilisations and to have one woman worker in rural family planning health units for every 8,000 people. The State also decided in October to bifurcate the State Director of Health Services and Family Planning into a Directorate of Public Health and Preventive Medicine and a Director of Medical Services and Family Planning. The third Director of Medical Education will continue pending a decision on the further recommendation to combine the Director of Medical Education and the Director of Health Services and Family Planning.

x

x

x

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x

x

V Employment

1975 was a year of comparative industrial peace, with industrial disputes down to 1,843 from 2,938 in 1974, affecting 11 lakh workers against 29 lakhs in 1974,

and the number of mandays lost being 216 lakhs against 403 lakhs in 1974. During the second half of 1975 (the period covered by the emergency), only

53 lakhs mandays were lost. Also the tripartite National Apex Body, the shop councils and joint councils and the increased supply of raw materials resulting from the good agricultural crop, account for the relative peace. But even so the work stoppages in 1975 were either more prolonged or involved larger numbers. In this State during the first seven months of 1976, the conciliation offices had helped settle 817 cases and the government was helping to reopen 7 closed factories employing 4,500 workers. The State Apex Body has decided to link bonus to production and productivity and the government has reconstituted the State Labour Advisory Board and the State Advisory Contract Labour Board to promote industrial relations. The 28th session of the States Labour Ministers' Conference meeting in New Delhi in October recommended the prohibition of the transfer of assets by employers if they are closing a unit or laying off workers, and that the ban on unilateral closures,

lay offs and retrenchments should be extended to establishments employing fewer than 300 persons. At present units employing less than 300 persons do not come under the ban. In this State, the 5 member bipartite bonus mediation committee recommended one month's bonus for cement workers, noted EID Parry's inability to pay bonus because it had no surplus, but that it would make a festival advance of Rs. 100 to be deducted from the wages in instalments, advised workers of Mettur Beardsell to accept the 9.5 per cent bonus pending study of their claim for a higher amount, recommended a 15 day festival advance by SIMA to its workers to be recovered in 12 instalments, which also applied to NTC workers. This is the first time that the whole bonus issue has been negotiated and successfully. The government announced an ex gratia cash relief of Rs. 100 each to 3,600 workers employed in six mills, 5 in Coimbatore and 1 in Pudukottai which had remained closed for 8 months.

* * * * *

VI Other Items

International Cultural Colloquium :

In International Colloquium on the place of culture in the New International Economic Order was organised by the Foundation Leopold Senghor in Dakar, Senegal from October 1-9. The 70th birthday anniversary of President Leopold Senghor was the occasion for the gather-

ing of some 500 writers, scientists, educators, poets, economists and political leaders from all over the world. The Colloquium noted the faltering progress of the Second Development Decade, reaffirmed the urgency of executing the New International Economic Order and agreed that the purpose of the Order being man, what is needed is also a new

international cultural order wherein man's inner being, his conscience and values will be the decisive force in development.

Associated Chambers of Commerce and Industry:

Similar to the mid plan review of the economy organised last year by the Associated Chambers of Commerce and Industry (see Vol V p 607) the Chambers organised a workshop in October in Delhi on a mid year review of the economy. The major question discussed at the workshop was the means of reviving the industrial sector, a long term programme or investment through revival of the equity capital market and the means of shifting the agricultural sector into the path of sustained irrecoverable growth. The lead paper for the workshop appeared as the second article to the last issue of the Bulletin (p 620)

IUACE:

The Executive Committee of Indian University Association for Continuing Education met in October and reviewed the plans for the national seminars at Bombay in November on colleges and literacy programmes, at Tirupathi in January on a Resources Centre and at Shillong on extension training programme. The Association's meeting will be held a day before the 3 day meeting of the Association of Indian Universities in January in Coimbatore. On that occasion, a seminar will be held on the contribution of universities to the programme of non-formal education.

Tamilnadu Board of Continuing Education:

The Annual Council meeting of the

Tamil Nadu Board of Continuing Education was held on October 27 in the University Seminar Room. After reviewing the progress of the activities in the past year and the non-formal school, the Council decided to set up a Resources Centre for the State Governments Non-formal Education programme. The Centre will be financed by the Union government and will develop curricula, train teachers and undertake research evaluation for the government's 300 Non-formal Education Centres that have been set up.

Lions Club:

The Lions Club of South Madras celebrated its 18th charter and the United Nations Day on October 26th. The occasion was used to continue and intensify its programme of assistance in the health field for eye hospitals and family planning and child care centres, and in the education field—scholarships for poor but deserving students, education of backward class students and of girls and women. With regard to the UN, the development of an international social conscience which it has pioneered and which is embodied in the New International Economic Order was the main theme of reflection.

Annual Conference, IAEA:

The 29th annual conference of the Indian Adult Education Association was held at Mysore from October 15 to 18, on the subject curriculum construction in non-formal education. The conference was attended by 500 specialists from all over India and worked in 6 commissions on curriculum construction for the age groups 6-14, 15-25 and women. As a result, a body of principles for curriculum development for the various client groups has been established and can be used by

the 120 member associations. The conference decided that for next year, the Association should work on the contribution of non-formal education in the National Programme of Integrated rural development and will organise 4 national workshops in Tamil Nadu, UP, Kerala and Assam on this subject and in the district chosen by the Union and State governments in each of those States for the start of the programme. It also decided to hold the 30th annual conference at Udaipur and noted that it is likely that the International Council of Adult Education would also be meeting at the same place before or after.

Heads of Departments Meeting :

The sixth Annual meeting of the Heads of Social Science Departments of the 17 South Universities will be held in the Institute on December 11 and 12 in co-operation with the Southern Regional Office of ICSSR. Of the 27 social scientists invited, 17 have accepted the invitation to be present, as at the end of October and with the papers on the agenda items. The items cover a review of teaching and research in the Social Sciences in the University, an evaluation of the 3 Inter-disciplinary Research Methodology workshops run in Hyderabad, Mysore and Coimbatore (the paper on it has been written by Dr. C. T. Kurien) and programmes of text-books writing and revision.

Tamil Nadu Education Trust :

A meeting of the Tamil Nadu Education Trust was held at the end of October and decided on the merit cum means test scholarships for the year for the Medical College students in Madras and for the women students satisfying this test in the districts. Some 30 scholarships, each costing Rs. 1,500 were awarded by the

Trustees at the Meeting. Merit was defined purely by the marks secured in the University examination. This places a serious responsibility on the University marking system and makes the case for grading as a less unreliable system of evaluation.

Cuddalore and Pondicherry Colleges :

Four colleges in the Cuddalore—Pondicherry area—the Government Arts College, the Kandaswamy Naidu College for women, Cuddalore, the Bharati Dasan College for Women, Pondicherry and the Tagore Arts College, Pondicherry—celebrated their college days and/or inaugurated their NSS village adoption programme during October. In all the colleges, there is a new spirit of service and desire to participate in the programme of Integrated Rural Development. Also the games, sports and physical education in the colleges are rising to good levels and the whole concept of CSS is being implemented with a degree of enthusiasm and seriousness which is remarkable.

University events :

Apart from the usual meeting of selection committees, syndicate committees, convenors of schools during the month of October, the Academic Council met and approved new courses in (a) B.A. Defence studies, (b) M. A. Defence studies, (c) B. Sc. Health Sciences, (d) 7 post-graduate diploma courses in employment preparation and (e) the restructuring of the first degree courses, so that both science and arts students can choose a rurally oriented ancillary. The syndicate also met and approved the package of administrative reforms of the University, resulting from a detailed study made of the adminis-

trative units and procedures and remitted for further study a group medical insurance scheme and the demand for increased M. Phil. and Ph.D. facilities.

November Development Seminar :

The paper "Productivity Trends" written by Mr. T. V. Natarajan for the Madras Development Seminar in November appears as the first article together with a summary of the discussion of the paper which took place at the Seminar on November 25 when the paper was

discussed.

Second Article :

A paper, "The Stakes of the Third World" appears as the Second Article.

Special Issue :

In the Special issue section, some of the papers written for the Inter-disciplinary Research Methodology Seminar at Coimbatore are reproduced.

"PRODUCTIVITY TRENDS"

By

T. V. NATARAJAN,

Madras

INTRODUCTION

"The story of productivity, the ratio of output to input, is at heart the record of man's efforts to raise himself from poverty" says Mr. John W. Kendrick in his book 'Productivity Trends in the United States' which is considered the most comprehensive study of productivity trends in the United States. This statement should strike a sympathetic chord in all Indian hearts as 'Quit Poverty' (the slogan given by our Prime Minister) is the corner stone of all our plans and programmes. Productivity can be defined as 'the efficiency with which resources are converted into goods and services that men want'.

SCOPE

A perusal of the seminar programme of the Madras Institute of Development Studies for 1976 will show that the main purpose this year is to monitor, review and evaluate the progress of Tamil Nadu Economy in various sectors. As agriculture has already been covered exhaustively in a previous seminar, this paper will deal with 'Productivity Trends' in industry.

SITUATION IN U.S.A.

Realising the importance of this subject,

the USA has a National Commission on Productivity which submits an annual report to the President and the Congress. Whilst presenting the second annual report (Mar 73) Mr. Peter G. Peterson, Chairman of the National Commission on Productivity said: "Improving the US rate of Productivity growth clearly is a national imperative. The United States as a nation must somehow find a way in the years ahead to purify its air and water, reduce crime, improve its transportation system, broaden education opportunities, enhance the welfare of the needy spur, development of new energy sources, encourage improvement of the health care delivery system, spur on the growth of technology and maintain a credible national defence in the face of rising costs and while doing all this, compete in increasingly competitive and important world markets. To do all these things will require higher productivity and the additional resources it would generate."

The report goes on to say "Clearly, greater productivity has been the primary factor in the long run improvement of American living standards. The average worker because of better tools, better training, better materials, and better systems produces about six times as much in each hour he works than his forerunner did in 1890".

In the United States, it was found that 'a one tenth of one per cent increase in the growth of output per an hour translated into about \$ one billion of gross national productivity in 1971'.

NATIONAL SCENE

Before we examine the position at the state level, it is necessary to understand the general economic scene at the national level. On 26 June a state of emergency was declared. Four days later our Prime Minister Smt Indira Gandhi announced the 20 point economic programme which can truly be called our 'economic Magna Carta'. The 20 Point programme can be broadly classified under three groups.

Increasing production directly

- bringing 5 million hectares under irrigation
- construction of super thermal stations under Central control
- new development plans for the handloom sector
- liberalisation of investment procedures

Increasing production indirectly

- streamlining production and distribution of essential commodities
- implementation of land ceilings
- distribution of the surplus land to the landless
- review of laws of minimum agricultural wages
- improvement in quality and supply of people's cloth
- worker's participation in management
- national permit scheme for road transport
- income tax relief to the middle class

Realising the goals of social justice

- Land for landless and the weaker sections
- abolition of bonded labour
- liquidation of rural indebtedness
- standardisation of urban and urbanisable land
- better evaluation of conspicuous consumption
- confiscation of smugglers' property
- provision of essential commodities to the students at concessional rates
- books and stationery at controlled prices.

It will be seen that 12 out of the 20 points relate directly or indirectly to production. The declaration of emergency acted as a shot in the arm for our economy and put an end to strikes, lock-outs, go slow tactics, work to rule and other counter productive methods adopted both by labour and management.

Thanks to the emergency our food position is comfortable, industrial growth this year will reach 10%. Our foreign exchange holdings have reached an all time high (in spite of the high price we pay for oil imports) and export prospects are good. However, the overall scene is not 100% rosy. Writing about this, the Economic Times in its editorial of 23 Oct. observes :

"while the overall trend in industrial production has been promising the performance of several industries has been disquieting. Apart from the fact that their operations have become uneconomic, they have also not developed the strength and stamina necessary to stand on their own legs. Many of them have even turned sick units and posed a problem for the

Government. Furthermore, whatever industrial growth has been achieved, is mainly due to better capacity utilisation, rather than to creation of additional capacity or the establishment of new ventures. This is most unfortunate in the context of several concessions and reliefs offered by the Government."

When we analyse certain select industries in Tamil Nadu, it will be seen that the above mentioned remarks are very apt.

DATA

Index of industrial production Tamil Nadu is given in Table I. Industrial production in Select Industries for the year 1974 and 1975 is given in Table II.

The State government document "An Economic Appraisal 1976" discussing the trends in the industrial production offers the following comments.

"The general trends in industrial production during 1975 were quite inconsistent in the sense that the movement of General Index of Industrial production was unrhythmic and punctuated with irregular ups and downs during the course of the year. The recessionary trends evidenced at the national level continued to persist in textile and automobile industries which dominate the State industrial scene. Added to this was the poor performance of certain other important industries like sugar, rubber products, bicycles and heavy chemicals as their production have been constrained by forces like cost escalations, raw material shortages, demand contraction and power shortages. The cumulative impact of these general constraints was felt on the general index of industrial production, the annual average of

which was nearly stagnant at 196.6 points in 1975 compared to the average of 196.7 points in 1974. The sharp decline in industrial production during the months of January, April, September and October has been generally responsible for this overall decline of 0.1 per cent in industrial production during 1975 which indicates a poor comparison with the growth of 9.5 per cent achieved during the previous year."

ANALYSIS

Let us now analyse the following industries.

- (a) Sugar (being one of the major farm based industries)
- (b) Cotton Textiles (being the largest industry in the State)
- (c) Electronics (being the most important from the point of view of technology, foreign exchange earnings and close linkages with other industries).

SUGAR INDUSTRY

Sugar is one of the major farm-based industries in the State with considerable and widespread linkages in terms of investment and employment. There are altogether 16 sugar mills in the State with nine of them in the private sector and seven in the co-operative sector. The installed crushing capacity of these mills is 29,400 tonnes per day of which 33.0 per cent is in the co-operative sector. With a total gross fixed investment of about Rs. 60 crores, this industry directly employs 14,000 persons and also provides subsidiary employment to about 10 lakh persons engaged in related activities of cane cultivation, transport etc. It pays

about Rs. 50 crores by way of price for sugarcane purchased, to 80,000 cultivators per annum.

This relatively significant industry was in trouble during 1974-75 after a record of good performance during the Fourth Plan. Sugar production in the State which had touched the peak level of 4.4 lakh tonnes in 1973-74 dropped by 14 per cent to 3.8 lakh tonnes in 1974-75. The share of Tamil Nadu in All India production which has been consistently rising in the past also dropped from 11.2 per cent to 8.0 per cent during the same period. This has primarily been caused by a 30 per cent fall in cane production during 1974-75 on account of significant decline in area under cultivation of sugar cane from 1.86 lakh hectares in 1973-74 to 1.56 lakh

hectares in 1974-75 and a drop in yield rate by 17 per cent during this period. The drought conditions that prevailed in the State during this year had adversely affected the production of this integrated crop. Added to this has been the reduced availability of cane for crushing by mills due to the large scale diversion of cane for jaggery manufacture and this can be evidenced from the fact that of the total sugar cane produced in the State, 41 per cent was crushed by mills for sugar production in 1972-73 and this was 29 per cent and 36 per cent respectively during the two years that followed. This shortage of raw materials together with the labour unrest in sugar mills on the wage question during December 1974 and January 1975 has caused a serious reduction in the production of sugar in the State during 1974-75.

SUGAR PRODUCTION IN TAMIL NADU AND ALL INDIA (1969-70 to 1974-75)

Year	All India	Tamil Nadu	Percentage contribution to All India production
1969-70	42.61	2.88	6.7
1970-71	37.40	2.90	8.0
1971-72	31.08	2.97	9.5
1972-73	39.72	3.31	8.3
1973-74	39.49	4.43	11.2
1974-75	47.94	3.85	8.0

The Sugar industry in the State is poised for a much better performance during 1975-76. It is likely that additional acreage will be brought under sugarcane cultivation following generally improved agro climatic conditions. The improved power position and congenial labour management relations will also help to retrieve this industry from the temporary retrogression experienced during 1974-75.

It is planned to increase sizeably the volume of sugar production in the State during the Fifth plan through the establishment of new sugar mills and expansion of crushing capacity in existing units. The government have taken a policy decision to have all the new units in the public sector and Tamil Nadu Sugar Corporation has been formed to implement the programme of enhancing the level of

sugar production in the State. It is planned to establish eight additional sugar mills in the State with a capacity of 1,250 T.C.D. each.

Industrial licences have been obtained for the establishment of five factories in the public sector in the districts of Ramanathapuram, Tirunelveli, Tiruchirappalli, Thanjavur and South Arcot and there in the co-operative sector at Vellore, Tirupattur and Coimbatore. The Central government has been approached for the clearance of the two more public sector units and for the transfer of the co-operative unit at Coimbatore to the Public Sector. The co-operative factories at Vellore and Tirupattur are expected to commence their maiden crushing by January 1977, and by way of incentives in the infant stages of operations the State Government have extended to these units relief from the payment of purchase tax and exempted them from the payment of enhanced cane cess for three years from the time of commencement of production. The Union government have also granted higher levy free quotas and excise duty concessions to the new and expanding units.

Speaking at Coimbatore on 7 Nov. 1976, Dr. M. S. Swaminathan, Director General, ICAR said: "Sugar cane is the

most efficient quantum of converter of solar energy and some countries had been raising this crop purely as a source of alcohol to reduce their dependence on imported petroleum products. Sunlight being the major agricultural asset in India, greater attention should be paid to explore the vast possibilities that this plant offered for uplifting the rural economy".

Dr. Swaminathan stressed the need for evolving a varietal mix and for holding national demonstration trials in sugar cane, as in paddy and wheat, to encourage and promote sugar cane cultivation. In this connection he said the Coimbatore breeding institute would shortly be airlifting one lakh seedlings to certain northern states and universities for multiplication of new varieties.

COTTON TEXTILE INDUSTRY

Though there was no addition to the number of textile mills in the State during 1974, the combined installed capacity of both the spinning and composite mills increased from 42.6 lakh spindles to 43 lakh spindles and the number of looms from 9,000 to 9,105. The average number of persons employed in the mills also rose to 1.34 lakhs from 1.3 lakh persons during the same period.

PRODUCTION OF YARN AND MILL MADE CLOTH IN TAMIL NADU AND ALL INDIA (1969-74)

Year	Production of yarn in million k. g.		Production of mill made cloth in million metres.	
	Tamil Nadu	All India	Tamil Nadu	All India
1969	181 —	951 —	154	4,168 —
1970	195+7.7	965+1.4	167+8.7	4,157—0.3
1971	180—7.5	881 8.6	139—16.6	3,957—4.9

Year	Production of yarn in million k. g.		Production of mill made cloth in million metres.	
	Tamil Nadu	All India	Tamil Nadu	All India
1972	179—0.6	972+10.3	140+0.9	4,245+7.3
1973	162—9.8	998+2.7	134—4.4	4,169—1.8
1974	175+8.0	1,007+0.9	136+1.5	4,316+3.5

After three years of continuous set back in the production of both yarn and mill made cloth, there was a recovery during 1974. Despite the severe handicaps in the form of power cuts and labour unrest during 1974, the production of yarn increased by 8 per cent to 175 million kgs and of mill made cloth by 1.5 per cent to 136 million metres. However, the production of both yarn and mill made cloth were considerably lower in 1974 than the past peak level achieved in 1970.

The overall performance of this largest industry in the State has been constrained by the continued operation of many extraneous inhibiting forces even during 1975. The major problem has been one of a demand recession faced by this industry. The ravaging inflationary forces experienced at the National and State levels had altered the consumption preference of the general public from textiles to other more essential items. The severe drought conditions and the consequent fall in agricultural production had eroded the purchasing power of bulk of the farming community. Sluggish demand for the produce of the handloom sector had also resulted in reduced off take of yarn from the mills by this sector especially during the festival seasons. These casual factors together with the large accumulation of stocks of controlled cloth with mills due to consumers' resistance for such varieties have been

mainly responsible for the poor performance of this sector in the recent past.

To retrieve this industry from its stagnation, certain remedial measures were initiated by the Government. These included exemption of financially weak mills from the production of controlled cloth, financial assistance for modernisation to mills under the control of the National Textile Corporation Ltd. and sick mills in the private sector and an upward revision of the prices of controlled cloth varieties. To help the industry in liquidating its accumulated stocks of controlled cloth, the mills were allowed to dispose 20 per cent of their production through their own retail outlets against the 10 per cent limit in vogue.

Following NCAER report sums up the position of this industry well known for its sickness:—

"This industry has many problems all of which can be summed up in its inability to keep pace with the developments in technology and management. While some units have pulled themselves together and modernised, others are sick, though at varying stages in their down hill journey towards mortality. Instead of waiting for a mill to come to its death bed and then try to restore its health, it is better to set up a monitoring

and early warning system, preferably through commercial banks and financial agencies so that symptoms of sickness are picked well in advance to avoid its closing down".

The recent announcement by the Union Finance Minister including the textile industry as one of the five industries (others are cement, jute, engineering industries and sugar) eligible for soft loans from IDBI is a welcome development. Let us hope that this industry benefits by this gesture.

ELECTRONICS

The electronics industry in the State started with an annual production of Rs. 25 lakhs has now developed to Rs. 3 crores production. The major production unit is the functional industrial estate—the Dr. Vikram Sarabhai Instronic Estate at Adyar—where apart from several small units, TIDCO operates a major unit, Dynavision for making television receivers' its parts and components are provided by ancillary units on the campus, and production is being increased to the full licenced capacity of 10,000 sets a year by next year, to the increased later to 20,000 with an export component. The R & D unit attached to it has already enabled the ancillaries to produce *sophisticated plastic parts and texturisation and electroplating of the surface*, with 7 units supplying the cabinets, and other printed circuit boards, transformers, special coils etc. The Government plans to diversify this sector set up 500 new electronics units to make professional components, industrial electronics process control equipment and material. A special committee set up by the government is at work identifying areas of production development of industrial complexes for electronics, the optimum

organisational pattern for the industry, exports, links between the electronics industry and the user industry and market research generally. A Rs. 35 lakh electronics testing and Development Centre for certification and product Development has been established in the campus. It will provide testing facilities to industrialists and develop prototypes according to the specification of the industrialists. The department of Electronics has granted Rs. 15.91 lakhs to the Centre for special testing equipment in the complex, storing information on electric, electronics and instrumentation industries in the State, with reference to investment made, manpower engaged, raw materials used and ancillary capacity established. Similar functional electronics estates have been established in Tiruchi and Hosur. There are plans for Salem, Coimbatore and Madurai.

The Tamil Nadu government proposes to set up a corporation in a month or two to give a fillip to the electronics industry. Such corporations already exist in States like Kerala, Punjab, Haryana, Uttar Pradesh, Gujarat and Rajasthan. The corporation will encourage private entrepreneurs to set up electronic units through various schemes of assistance and also take up production of certain items. A committee has been set up recently by the Government under the chairmanship of Mr. T. N. Seshan Industries Commissioner and Secretary, to suggest ways of developing the electronics industry in Tamil Nadu. It has analysed the present industrial capability in electronics, identified new lines of production, located growth centres and assessed export potential.

At present the State accounts for an annual production of 3 crores against 300

crores in the whole country. Tamil Nadu can certainly try for atleast 10% (30 crores) of the national production.

NEW AREAS

There is a general complaint (largely well founded) that Tamil Nadu's progress in the industrial sphere has not been satisfactory in the last few years. In order remedy this the State Government is taking vigorous steps to promote the following projects.

a) Sericulture

Sericulture is not a major industry at present. Tamil Nadu has only about 10,000 acres under mulberry, while the neighbouring Karnataka has an area of 1,50,000 acres. Rapid growth of the industry is warranted by the development of a variety of cocoons which can thrive in plains as distinguished from those suitable for high attitudes. Dharmapuri, North Arcot and Trichy districts will be chosen for intensive development. It is projected that the acreage could be increased to 28,000 acres in the next three or four years. According to silk industry sources, the demand for pure Indian Silk is bound to go up in the international markets in the near future.

b) Leather

Taking advantage of the present drive to the Centre to promote finished leather and leather goods industries, many medium and large sized units are fast coming up in the North Arcot district, the traditional home for tanneries and around Madras. The lines of manufacture include footwear, show uppers and fashion goods. The State has plans to float a major joint sector unit through the Tamil Nadu Indus-

trial Development Corporation Ltd. to produce export oriented leather goods, particularly footwear. Efforts are being made to secure the collaboration of some foreign country.

c) Coffee

A joint sector project for the manufacture of instant coffee is likely to come up in the near future.

d) A magnesium plant

The first of its kind in the country using salt bitterns—costing Rs. 3-4 crores, the plant will produce 500 tonnes of magnesium per year in the next three years.

CENTRAL SECTOR PROJECTS

Following projects belonging to the Central Government are located in Tamil Nadu.

1. Neyveli Lignite Corporation Neyveli.
2. Integral Coach Factory Madras.
3. Surgical Instruments Plant Madras.
4. Hindustan Teleprinters Madras.
5. High Pressure Boiler Plant Tiruchy.
6. Ordinance Factory Tiruchy.
7. Hindustan Photo Films Ooty.
8. Heavy Vehicles Factory Avadi.
9. Madras Refineries Ltd. Manali.
10. Madras Fertilizers Ltd. Manali.
11. Indian Oil Corporation Madras.

BHEL has emerged as an 'industrial giant' and the record of BHEL Trichy is excellent. In the opinion of Mr. Robert McNamara, President, World Bank "BHEL is one of the best industrial undertakings in the world". Action is in hand to start another BHEL unit at Trichy. This will have a 'spread effect' and Trichy will soon

be a major industrial area. Thanks to the good effects of the emergency productivity/profitability in all the above units have improved particularly in respect of the Surgical Instruments Plant Madras and Hindustan Photo Films Ooty.

PROFESSIONAL MANAGEMENT

There is a general misconception that productivity concerns labour only. It is equally applicable to management including government at the Centre, State and lower levels.

India is now trying to be an industrial society. No doubt finance, technology, availability of raw materials etc. are important factors that affect production and productivity but to my mind the most important factor is effective and efficient management of resources which are normally scarce in any developing country. Hence the need for good professional managers. Talking about professional managers Mr. Peter F. Drucker in his book 'Technology, Management and Society' says:

"The first job of a professional manager is to make economic resources, economically productive. The manager has an entrepreneurial job, a job of moving resources from yesterday into tomorrow a job, not of minimizing risk, but of maximising opportunity. Every manager spends a very large part of his time with problems that are essentially economic, atleast in their results".

TRAINING

Mr. R. Ramaswamy writing in the Hindu (25th Oct. '76) regarding curriculum and training methods in ITI's to suit changing technology says :

"Educational training programmes will have to be chalked out both for new recruits in the industry and for the existing personnel. Various types of training course such as full time, part time sandwich type, short term refresher courses and correspondence courses would have to be devised and introduced.

In the second place design is now a socio-economic force and technological progress must be matched by improved design sensibility. In the third place any industry is basically an economic organ and the principal aim should be to create technical competence, productivity and cost consciousness at every level".

A word about management training. It should be clearly recognised that traditional skills and time hallowed methods are quite inadequate to meet the challenge of the future. Management is now a highly specialised and complicated art for various reasons. First economic and technological complexities have enormously increased the need for planning and co-ordination within the enterprise. Secondly the management must be receptive to new technological advances and must have the requisite vision, urge and ability to try out new methods and processes. Thirdly the task of maintaining good relations with the workers and their organisation is one of ever growing complexity".

In order to increase managerial capacity equal to its management need, the Task Force on Education Science and Technology has recommended the setting up of an 'Institute of Management, Training and Development' for Tamil Nadu. The institute is to provide basic education in management problems, provide consultancy services in all management spheres and promote management techniques and

methods appropriate to all kinds of industrial units. At one stage, it was even mentioned that this institute should specialise in the management of agriculture and allied subjects like agro-industries. This is in keeping with the role of IIMs. For example Indian Institute of Management Bangalore specialises in the management of public sector projects. Unfortunately due to various reasons, this institute is yet to take shape. Government of Tamil Nadu should take early steps to start this institute.

PRODUCTIVITY STANDARDS

Shri C. Subramaniam Union Finance Minister at the time of presenting the budget in march 1976 presented a paper on 'Strategy for Integrated Rural Development'. What he said about 'minimum productivity standards' and 'minimum standards of performance by public agencies' being highly relevant are reproduced below :

Minimum Productivity Standards

Laying down minimum standards of productivity or efficiency to those who own or use precious natural resources, particularly land and water, is in the over-all social interest and in the interest of balancing the needs of the present with those of the future. This is the practical translation of Gandhiji's concept of 'Trusteeship in private property'. These resources are so valuable and demands of society on them so pressing that we can no longer afford the luxury of their indifferent or inefficient use. The need for a sense of discipline in the management of these resources has become urgent.

Minimum Standards of performance by public agencies

Corresponding to this obligation on the owners of land and users of water, public and private agencies that are expected to provide the essential facilities and services to the producers should also undertake to function on the basis of guaranteed norms of efficiency, and integrity. Without this assurance, the producers will be in no position to discharge their responsibility for ensuring minimum productivity levels. This can be achieved only by making these agencies accountable to the local people.

PROMOTING PRODUCTIVITY

In the earlier paragraphs, we have analysed productivity trends in Tamil Nadu. The over-all position is best summed up by quoting the recent editorial published in the Hindu about 'Promoting Productivity':

"The discipline prevalent in the atmosphere of the Emergency obviously was responsible by and large for the remarkable halving of man days lost in industrial disputes in 1975 from the record level of 1974. There is also a noticeable increase in production in industry in the first half of this year with larger availability of raw materials and power. All this is to the good. Notwithstanding the general increase in the quantity and value of production after years of stunted growth, there is still no firm evidence of a general qualitative improvement in one core aspect of industry-productivity. The experience, for example in steel and coal goes to show that a mere increase in output however laudable, cannot bring down prices. The need is to simultaneously reduce the unit cost which has gone up in many companies, according to the Reserve Bank of

India or keep the rate of increase in it down to the minimum”.

Discussing the 20 point economic programme the editorial goes on to say—“The 20 point programme deals with four aspects of labour, and concentrates on the weaker sections. The government could add one more aspect—a sustained national campaign to improve productivity. The country is handicapped by lack of resources for new industrial investment. If industries are to grow with sufficient muscle to promote domestic consumption and face foreign competition in exports, they have to generate financial surpluses on a large scale all by themselves. And this cannot be achieved without an all round and substantial improvement in productivity. The workers and the managers and investors must realise they have a common stake in this endeavour for prosperity.

CONCLUSION

At the end of the third plan, Tamil Nadu achieved a commanding position on the industrial map of India. During the last 10 years, for various reasons, Tamil Nadu failed to maintain its position. At one stage, there was even a flight of existing industrial units to the neighbouring States who offered attractive incentives. Fortunately, action is now being taken to

give a new thrust ‘on a massive scale’ so that Tamil Nadu can regain its eminent position in industrial productivity.

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TABLE—I

INDEX OF INDUSTRIAL PRODUCTION—TAMIL NADU

Serial number and industry (1)	Weight (2)	Base : 1960=100			Percentage change over the previous year	
		1973 (3)	1974 (4)	1975 (5)	1974 (6)	1975 (7)
General Index	100.00	179.7	196.7	196.6	9.5	0.1
a) Basic Industries						
1 Fertilizers	1.25	131.9	124.0	329.6	6.0	165.8
2 Cement	4.00	202.4	210.0	228.7	3.8	8.9
3 Heavy Chemicals	1.39	177.6	203.0	186.9	14.3	-7.9
4 Electricity	16.41	298.8	316.6	335.7	6.0	6.0
b) Capital Goods Industries						
1 Motor Vehicles	3.32	141.6	172.3	146.8	21.7	-14.8
2 Power Transformers	0.23	569.2	436.6	550.2	-23.3	26.0
c) Intermediate Goods Industries						
1 Cotton Yarn	40.95	123.6	134.7	137.1	9.0	1.8
2 Rubber Products	2.77	255.4	363.2	308.9	12.2	-15.0

TABLE—II

INDUSTRIAL PRODUCTION IN SELECT INDUSTRIES

Serial number and industry	1974	1975
1. Cotton Woven Piece Goods (Million metres)	145	153
2. Cotton Yarn (tonnes)	164,325	167,179
3. Cement ('000' tonnes)	2,361	2,571
4. Sugar ('000' tonnes)	420	323
5. Tea (tonnes)	49,934	57,604
6. Safety matches (000 gross boxes)	49,867	50,406
7. Electricity Generated (MKWH)	7,100	7,528
8. Motor vehicles (Nos)	9,417	8,245
9. Rubber products (tyres) (000 Nos)	7,333	6,364
10. Bicycles (000 Nos)	430	329
11. Wheat products (000 tonnes)	94	138
12. Fertilizer (000 tonnes)	212	548
13. Power Transformers ('000' KVA)	914	1,151

Summary of Discussion

In the discussion of the paper at the Seminar held in the Seminar room of the Institute on Thursday 25th November 1976, under the Chairmanship of Mr. Alexander Joshua, Madras Institute of Development Studies, the Chairman observed that the paper opened with a comprehensive definition of the term 'Productivity' but had not elaborated on aspects of interest to the consumer such as standardisation and prices and the linkage that exists between production patterns and technological choice. Dr. V. Shanmugasundaram presending the paper, in the unavoidable absence of the author, Col. T. V. Natarajan, said that the approach adopted in the paper was micro-economic as the data available did not facilitate analysis of factor productivity. A few important industries have been reviewed in detail. These are sugar, which is one of the major farm based industries in the State, cotton textiles which is the largest industry and electronics which is important from the point of view of technology, foreign exchange earnings and linkages with other industries. Reference has also been made to Central sector projects and the State's efforts in leather, sericulture, magnesium and coffee. As regards the sugar industry, the statistical data shows a decline in Tamil Nadu in 1973-'74 owing principally to a shift in patterns of cultivation, diversion, of cane to the production of jaggery and the price factor. The encouragement of Co-operative Sugar Mills and their exemption from levy of cane cess and tax is expected to enhance future production. In the textile industry, it was noted that over and above the increase in spindle and composite capacity, the production of textile machinery

items has reached a high degree of efficiency. This development indicates a new area of expansion for the sector. The fostering of electronics industry in the State is a policy priority. The 'Instronics' estate in Madras is doing well in spite of disadvantages of site and climate. Two more industrial estates in this area are being planned at Ranipet and Hosur and also a State Government Corporation along the lines of those existing in other States. The leather Industry in Tamil Nadu has a powerful R and D structure in C. L. R. I., but the State is still exporting mainly semi-finished leather. Whereas the units in Kanpur which are late comers in this field have the advantage of modern machinery, an enterprising approach to product development and export awareness. Among the Public Enterprises, BHEL's performance has invited appreciative comment even from the World Bank. An important fact is to be borne in mind in analysing productivity trends is that rates of return on capital and labour in a given industry are the same in developed and developing countries—varying, however, from industry to industry. Another essential aspect in a study of productivity levels, apart from the economic ones involving techniques of measurement and quantification, is the long range effect of environment, social structure, norms and attitudes and infrastructure such as education and transport.

In the discussion that followed, it was pointed out that an analysis of productivity trends should involve a more precise definition in economic, social and cultural terms, as well as the technical criteria of unit cost structure, profit ratio and labour output in relation to capital invested.

Another important element is that it should be a time series, over, a sufficient period. It should also cover agriculture and small industries. A significant comparison of manufacturing trends emerges from the United States Congress Report and the C.L.O. report on multinationals. The very precise figures given for manhours required for a single unit of manufactured product like a radio set reveal that in developing countries like Singapore and Korea, labour produces 10 per cent more at 10 to 90 percent lower wages, substantially increasing returns on capital, compared to developed countries like U.S.A. and West Germany. This has made the export of capital from developed countries attractive. It is evident that deeper analyses should be made before a rigid equation between low productivity and under development is established. A reference was made to the delay in establishing an Institute of Management in Tamil Nadu. However, the Bangalore Institute of Management had already begun faculty training of specially selected officers from Tamil Nadu, who were not primarily academicians but administrators and specialists. A recent interesting development in developed countries in labour involvement is that the old accepted concept of the division of labour which means specialisation in a single operation is being modified to group production of an article. The two main features apparent in the operations of multinationals in developing countries seem to be reservations in export of technology and utilisation of production in techniques which labour in industrially advanced

countries were beginning to reject. An opinion was expressed that the paper dealt with production rather than productivity trends as the latter has to be studied in relation to output rather than total production, as production could increase even when productivity declines. In productivity trend studies, the ratio of input to output forms only one aspect — albeit an important factor. A query was raised whether the currently unsatisfactory trend in production in some industries could be attributed to lack of discipline and application, and if there were any studies throwing light on this aspect. In this connection it was pointed out that a practical investigation had established that in major national bank, the turn over in operations and documents in the Madras Zone was the highest. In carrying out studies it was necessary to differentiate clearly between production and productivity and these studies would be of greater relevance if district level data on productivity trends in terms of labour costs and returns from capital was made available.

There was general agreement that accurate estimate of productivity trends could not be based only on aggregated production data. It is necessary to study other relevant structural aspects to derive a valid concept. An area where in depth studies are specially required in the public sector enterprise. However, the main emphasis on all such economic studies is to evaluate the welfare of the human factor in the economic processes.

THE THIRD WORLD STAKES IN THE COLLOQUE*

It was Printemps in Paris in 1949. I was fresh from liberated Asia. It was incredible. Almost with our bare hands, we had toppled the mightiest empire over which the sun never set. Gandhiji was marching on towards peace, non-violence, Nao Kholi to his martyrdom. Nehru was helping us keep his tryst with destiny which was that the liberation of India would trigger the liberation of all oppressed people in Asia and Africa.

It was then that I met a young African, Leopold Senghor, living side by side in an apartment off Avenue Jasmin. He was fresh from Africa. We began talking about our people, their needs, their hopes, our objectives and our programmes. It was difficult. I was a development economist; he was a philosopher poet. He was already Plato's Philosopher—King. I was Moliere's "La Bourgeois Gentilhomme"—the grubby down-to-earth economist. His English was worse than what it is now and my French was no better. From time to time, I would look at him and ask Leopold: "Tu comprends mon francais?" His answer was "Oui, oui, mais quel francais?" (He was to repeat these words 12 years later when he called a meeting of his Conseil des Ministres and asked me as Directeur General Adjoint de l'UNESCO on an

official visit to Senegal to explain UNESCO's programme and budget for 1961-62. I spoke to the Conseil for 2 hours and at the end I turned to Mr. Senghor and asked, "M. le President, est ce que mon Francais est claire" and his reply "M. le Directeur General, Comme d'habitude, votre francais est tres mauvais mais tres clair".

But back to Paris. We spent days and months analysing our common problems and assets in Asia and Africa. We listed them thus:

1. Political servitude and brutal exploitation of our resources and people.
2. Endemic poverty and growing ignorance of our rural people.
3. The only positive asset—language and culture—Negro African with its interpretation in American and Caribbean language and culture, and Asian language and culture.

We then sat down and made a detailed calculation of our assets, starting with land, its produce and then found ourselves faced with only one asset — people, thus:

*Extracts from Dr. Malcolm S. Adiseshia's address to International Colloquium on Culture and Development held at Dakar, Senegal on October 2, 1976.

—80 per cent of our schools and colleges completers are children from the top 20 per cent of our societies

Why this growing injustice?

Is it because we have adopted a model of development in which GNP growth is central and the purpose of that growth brushed aside, both in our national models and the Club of Rome models?

Is it because we have forgotten the values of sharing and co-operation, of justice and equality, of discipline and objectives of our freedom struggles which we have had to learn again by imposing on ourselves emergencies and new programmes of social justice?

Is it because we have forgotten the simple lesson that Mr. Senghor and I learnt in 1949, that Development is People. And people means their conscience and their conscience which produces their values. This cultural approach today has to be global approach because the development distortions it has to cover are global, the injustices are international as well as intra-national.

It was a poet 2,500 years ago in my Dravidian culture probably Leopold

Senghor in his dravidian avatar—who gave expression to this global application, “யாதும் ஊரே, யாவரும் கேளிர்”, every country is my country, all people are my people.

And so we thank Leopold Sedar Senghor for calling us in the Third World, on this his 70th birthday, back to our people and peoples' culture, not simply as the ultimate end of development but as the immediate needs and the only viable instrument, (where ends become means and means become ends),

—to achieve political freedom internally and internationally,

—to fight neo-colonialism in the economic sphere,

—to establish the new international economic order,

and to this end we pledge :

We who have liberated our countries,

Shall now liberate ourselves.

INDICATORS OF RURAL LEVELS OF LIVING

Some Methodological and Conceptual Problems

By
C. T. KURIEN
Economics

1. During the sixties and the early part of the seventies many studies pertaining to poverty in general and rural levels of living in particular have been undertaken by economists. These studies marked a rather major departure from the traditional methods of analysis that economists are used to. Consequently they have given rise to a number of new problems of methodology and conceptualisation, many of which still remain inadequately recognised. In this paper I shall try to locate some of these problems and to comment on them with the hope that the discussion can continue among economists themselves and that others will also join in as and when they feel it necessary and possible. One of my main arguments is that the problems posed by these studies burst out of the conventional frame work of economists, but that economists have not been able to readjust their boundaries to accommodate them. I believe that it is in such border areas that dialogue with other disciplines can become most fruitful.

2. For convenience of exposition and later discussion I shall deal with issues under three broad heads, measurement, analysis and policy frame. As there are to be separate papers dealing with measurement, I shall be very selective in

my comments about it.

Measurement:

3. It would appear that specifying a norm for levels of living, especially in a poor country like ours where some absolute minimum is still the major concern, is an easy procedure. And in the discussions on poverty and minimum needs the impression has been created that there is at least a physiological norm, in terms of per diem nutritional requirements for instance, which can be determined fairly precisely. Table I gives a few estimates of adequate nutritional requirements:

4. Some variations here are understandable especially because the ICMR recommendation is for a balanced diet and the other two are minimum requirements. But there are other problems associated with such specifications. Panikar, for example, commenting on the ICMR recommendation observes.

"The prescribed balanced diet, however, raises some doubts in one's mind. From the composition of the diet in such broad groupings as cereals, leafy vegetables,

TABLE 1

RECOMMENDED DIETARY REQUIREMENTS (quantities in grams)

Food items	ICMR	Sukhatme	FAO
Cereals	400	403	395
Pulses and nuts	85	104	75
Starchy roots	85	46	160
Sugar	57	50	35
Milk	284	201	98
Meat, fish and eggs	125	7 19	36 27
Fruits and Vegetables	284	137	225
Oils and fats	57	18	16

Sources: ICMR (Indian Council of Medical Research) Recommended balanced diet, 1966 (Quoted by PGK Panikar, "Economics of Nutrition").

Economic and Political Weekly, Annual, January 1972 Sukhatme (P. V. Sukhatme: Feeding India's Growing Millions) quoted by Ashok Rudra, "Minimum Level of Living—A Statistical Examination"

Sankhya, June and December 1974, Series C

FAO (Food and Agricultural Organisation) quoted by Ashok Rudra, loc. cit.

root vegetables, other vegetables, fruits and so on, one cannot derive their calorie value. For, calorie content varies according to the type of cereals, vegetables, fruits etc., their respective edible portions, their maturity and period of storage, type of processing and preparation of meals etc. But more importantly, even the rationale of the recommended intake of the different nutrients is difficult to judge. Calorie requirement, after all, is a function of a host of variables concerning the individual in question—body weight, specific age, type and intensity of activity, atmospheric temperature

etc."¹ Conceptually and methodologically such adjustments may not present any major problems. But the matter is not only one of more detailed specification. Dealing with a similar problem Sukhatme comments: "It is not enough to know how frequently a diet is deficient in protein. It is also essential that we know also the probability that a diet deficient in protein is also deficient in calories. Such a question is the outcome of a mathematical model representing the relationship between calories and protein. And as soon as we attempt a model to fit in with the known relationship, we are in

1. P. G. K. Panikar, "Economics of Nutrition" *Economic and Political Weekly* Annual—January 1972.

effect in the domain of statistical discipline with problems of estimation and multiple decision."²

5. It is not surprising that a statistician sees even a nutritional problem leading to mathematical and statistical analysis. So does the economist. For him the main concern is not calories and proteins, but costs and prices. Thus Panikar who begins with the nutritional problem soon turns to its economics. "Assuming that the daily intake of essential nutrients recommended are the optimal requirements for an adult to maintain good health, it is doubtful whether the components of the proposed balanced diet are the most economical sources of these nutrients." He, therefore, resorts to linear programming where the "diet problem" is a standard exercise,³ and proceeds to work out the costs of a variety of nutritionally adequate diets. The least cost diet that he initially arrives at for Kerala consists of only four items, tapioca including tapioca chips, horsegram, amarnath and groundnut reflecting the linear programming technique's notorious proclivity to lead to corner solutions and necessitating a revision of the adequate diet to allow for variety and palatability. On these considerations he works out the costs of several food baskets all satisfying the nutritional norm and ranging in variety and costs.

6. From the economists' point of view most of the methodological problems associated with measurement appear in this process of transition from physical specification to cost calculations. Some of these may be identified (but not elaborated) for purposes of discussion. There is first of all, the data problem especially when the aim is to find out what proportion of the population is below (or above) the norm adapted for minimum levels of living. In recent years the main source of data has been the National Sample Surveys on which Dandekar and Rath, Minhas, Ojha and others have relied.⁴ The NSS reports give information on the consumption items of people at different levels of expenditure which can be used to find at what level of expenditure the minimum level of living can be attained. The usual tendency is to identify some leading food items such as cereals and to use a certain quantity of these as a proxy for the calorie requirements in terms of which the minimum level of living is generally indicated. Dandekar and Rath, for instance, used 616 grams of food grains in the rural areas and 490 grams in the urban areas per day per person to decide on the cut off line of poverty. This procedure is as adequate or as arbitrary as any other approximate procedure for indicating a norm. But in commenting on the Dandekar-Rath estimate of poverty Madalgi pointed out that the NSS estimate of the total consumption

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2. P. V. Sukhatme: "Protein Strategy and Agricultural Development," Presidential address to the 31st annual conference of the *Indian Society of Agricultural Economics* January-March, 1972.
 3. For instance see, Dorfman, Samuelson and Solow: *Linear Programming and Economic Analysis* (New York, MacGraw Hill, 1958 ch. 2)
 4. V. M. Dandekar and N. Rath, "Poverty in India" *Economic and Political Weekly* — January 2 and 9, 1971.

of food grains in the country (96.2 million tonnes) for 1960-61 was far in excess of the actual total availability of food grains calculated to be about 75.31 million tonnes.

7. A similar problem relates to the regional variations in consumption patterns. As noted above Dandekar and Rath used a significantly lower food grains figure for urban areas to provide a daily per capita calorie of 2,250 on the assumption that urban households get their calorie requirements less from food grains and more from non-food grains than the rural households. It has been argued also that the Dandekar-Rath estimate of the extent of poverty in Kerala is misleading because the rural population in Kerala gets a very high proportion of calories from tapioca which had not adequately been calculated by them.

8. But, for economists the most serious problem is what kind of prices are to be used to convert physical quantities into values, particularly when calculations are required for different points of time.⁵ It is generally agreed that the wholesale price index is very misleading for these purposes. There is also the additional problem that for the study of rural levels of living there are hardly any suitable price indicators and deflators. Further, again in the case of rural areas particularly, there is

the problem of dealing with the consumption of goods which are produced by the households themselves and hence do not get priced by the market. The problem of assigning appropriate weights for different commodities that go into the consumption basket is also important, and one has to recognise the fact that the weights are likely to be different at different levels of consumption or income.

9. There is finally, the more fundamental problem of measurement that Sen raises.⁶ Referring to the problem of poverty Sen says the usual procedure is to identify some level of income, say y^+ as the required level of living and to consider those coming below that level as poor. The trouble with this measurement is that "it makes it worthwhile for public policy makers seeking credit for achievements in 'garibi hatao' to concentrate on people just below the level y^+ . Pushing them a little higher up brings rich dividends in terms of this poverty measure, while the credit for pushing up even poorer people is likely to be zero in this measure unless they are pushed up quite a bit." To overcome this problem Sen suggests two additional criteria: (i) We should be concerned not merely with the number of people below the poverty line but also with the amounts by which the incomes of the poor fall short of the specified poverty

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5. For a discussion of these issues see Pranab K. Bardhan, "On the incidence of Poverty in Rural India in the Sixties" in *Sankhya* Vol 36, Series C, June and December 1974. This issue is a special number dedicated to the memory of Pitambar Pant and contains several papers of special relevance to the theme under discussion. The same collection of essays have also come out in the form of a separate Volume: T. N. Srinivasan and P. K. Bardhan (Ed.) *Poverty and Income Distribution in India*. (Statistical Publishing Society, Calcutta 1974.)
6. A. K. Sen "Poverty, Inequality and Unemployment: Some conceptual issues in measurement". *Sankhya* Vol 36, Series C, June and December 1974.

level, and (ii) the bigger the shortfall from the poverty level, the greater should be the weight per unit of that shortfall in the poverty measure. On this basis Sen develops his P measure of poverty as :

$$P = \frac{2}{n} \sum_{i=1}^q (y^+ - Y_i) (q+1-i) \quad (y^+ + i = 1)$$

where n is the population size, y the income of the i th individual arranged in ascending order of magnitude, y^+ the minimum acceptable level of income or the poverty line and q the number of people at or below the poverty line.

Analysis

10. We may now turn to the methodological and conceptual problems that economists confront in the *analysis* of rural levels of living. In fact economists are more concerned with analysis than with measurement *per se*. The main thrust of analysis is to relate the phenomenon under discussion to other phenomena so as to gain perspective about a problem. Levels of living, for example, must be related to levels of income, to the production and distribution of income, and to the pattern of changes in the levels of income overtime, to mention just one class of phenomena. Other phenomena with which levels of living must be related are structure of assets, the composition of demand, the utilisation of resources, particularly manpower etc. It goes without saying that these are related to the class of phenomena (income-related) already mentioned. The search is, therefore, for the other pieces of the jig saw

puzzle of which levels of living are but one piece so that the whole thing will "make sense". What the economists consider "whole" may or may not be adequate (my own feeling, as already conveyed in para 1 is that it is not). This is a point that we must come back to, but we shall begin with the usual frame of reference that economists use.

11. Those who rely on NSS data for measuring levels of living have to use the levels of *consumption* as its proxy. At least two problems arise here. The first is that NSS and most other estimates of consumption at different levels take into account only *private* consumption. But levels of living in any meaningful sense must also include what an individual or household "shares" of *socially* financed consumption. That this can make a major difference to one's understanding of the levels of living where public goods such as education and health facilities are made available to individuals free of charge or at heavily subsidised rates is the argument put forward in the recent study of the situation in Kerala.⁷ Secondly, it has been pointed out that consumption as an indicator of levels of living can be quite misleading as it will tend to underestimate the differences between those at low and high levels partly because those at higher levels may under report their consumption but mainly because at higher levels savings are likely to be larger. Hence it is argued that income rather than consumption should be accepted as the more accurate indicator of levels of living.⁸

7. *Poverty Unemployment and Development Policy—A case Study of Selected Issues with reference to Kerala* (Prepared by the Centre for Development Studies, Trivandrum, 1975, Mimeographed).

8. See Phiroza B. Medhora : Poverty in India — A Comment — *Economic and Political Weekly* February 27, 1971.

12. The argument against using consumption data, particularly those from the NSS has been pushed further by Brahmananda.⁹ The main question that Brahmananda raises is whether *consumption expenditure* as gathered through NSS correspondence to *consumption* in the Keynes-type dichotomous division of national income into consumption and investment. The procedures of the NSS, according to him, involve a serious methodological lapse. "Amounts consumed (and values thereof) within the households and not the amounts produced, purchased and/or obtained for (domestic) consumption are taken into account.... Now National Income data for any year refers to outputs in each year. From a national angle actual consumption in any year equals, in a closed economy, the sum of (a) the portion of previous year's stocks used for consumption in the current year, and (b) the portion of current year's outputs consumed during the current year... Even granting that the distinction between enterprises—expenses on consumption and unproductive expenses or consumption is validly applied in the NSS schedules and the processed reports, the data from these exclude from consumption expenditure in any year that portion of purchases which is *not* used for consumption during the current year, but includes however the portion of current consumption occurring out of previous year's stocks. This is perfectly understandable, but this procedure destroys the possibility of a link between NSS consumption expenditure data and the National Income data." Brahmananda

goes on to point out that if the NSS data are to correspond to National Income categories the assumption to be made is that the ratio between stocks and consumption remains the same year by year which, of course, is difficult to justify.

13. According to Brahmananda there is one more conceptual problem associated with the NSS data on consumption expenditure: "The formulators of the NSS methodology have not realised that physical consumption by households is involved in the production of both consumption goods and investment goods. The mere act of physical consumption does not tell us whether the activity of the households involved in it leads to the production of consumption goods or of investment goods... Theoretically speaking, some portion of what the NSS treats as consumption expenditure is *not* consumption expenditure. Hence the distinction between household expenditures for consumption and for the enterprise has no analytical rationale at all, particularly in India where most households, particularly in rural areas, are also enterprises."

14. Brahmananda's criticism, it seems to me, is very valid. The problem is that National Income analysis of the kind that we make use of is built on the implicit Keynesian assumption of complete independence of the consumption and investment decisions. It has major limitations in our situation dominated by producer-households where the consumption and investment decisions are intrinsically interrelated.¹⁰

9. P. R. Brahmananda: "NSS and Some Poverty of Economic Methodology Therein" *Economic and Political Weekly* June 5, 1971; Also see his "Theory Versus Facts as Sources of Research Hypotheses" in C. T. Kurien (ed.) *A Guide to Research Economics* (Madras, Sangham Publishers, 1973).

10. I have developed this point in my *Indian Economic Crisis—A Domestic Study* (Bombay, Asia, 1969).

But it must be conceded that no alternate method for empirical analysis has been developed and so the gap between empirical studies of consumption expenditure, levels of living etc. on the one hand and the analytical categories of consumption and investment on the other, will continue, for the time being at any rate.

15. A theoretically informed and from the empirical point of view quite promising approach to problems related to levels of living is a study by A. N. Bose,¹¹ Bose's frame is essentially Marxian. "Ability to produce a surplus over and above that needed for minimum subsistence is the starting point of extended reproduction, of growth and development. Nature of this growth and development, however, depends on the manner of utilisation of this surplus. Given the manner of utilisation of the surplus the rate of growth depends on the volume of the surplus." Bose also defines the surplus as the "difference between the amount of socially necessary labour one spends, say L , and the amount of similar labour required to produce the minimum subsistence required for the worker and his dependents, say V . Thus $L - V = S$, or surplus". All this is familiar ground. But while most studies on growth deal with the situation where $L > V$, the special feature of Bose's paper is that he concentrates on case where $L < V$. This is a case of "forced surplus" as against "real surplus", says Bose defining the former as a situation where a "surplus" is generated by pushing down the income of the worker much below the level of minimum required subsistence. It is Bose's treatment of "forced surplus" and the manner in

which he measures it that makes his study of special significance in the discussion of levels of living and poverty. Since Bose's paper is not widely known I shall attempt here a brief review of his main ideas and analytical techniques.

16. The first part of Bose's argument is that in West Bengal certainly, and possibly throughout India, peasants do not produce by their annual labour even the minimum required to support the working peasants and their dependants. He goes on to demonstrate that if all cultivated land (in West Bengal) is absolutely equitably distributed to peasant families, including the presently landless agricultural families, and if they can be freed from the burden of rent or interest etc. then the entire land is likely to be used for production of cereals and almost the whole of the cereals is most likely to be consumed by peasants themselves. If this is so it must follow that the system now supports non-peasants both in urban and rural areas only by extracting a "forced surplus" from the peasants. Bose then describes the mechanism involved. For instance, "In 1971, 45 per cent of the peasants were landless and this landlessness is increasing at a rapid rate. An average landless family of six persons, with 1.5 workers can get work in a year for 160 days per worker at a wage of Rs. 400 (or about 2 kg of rice) per day. Thus the total income of that family is Rs. 960/- (or 4.8 quintals of rice) per year which can provide only 219 grams per capita per day to them even if the entire income is spent on cereals alone. Had they been the owners of that land, as we discussed earlier, they could have consumed 594 gms. per capita per day.

11. A. N. Bose, "Regional Planning in the Era of Transition from Poverty to Plenty" *Indian Journal of Regional Science* Vol. VI No. 2, 1974.

Thus landlessness as a distinct form of ownership of average amount of land generates a forced surplus of $(595-219) = 375$ gms. per capita per day or a surplus of 820 kg. per landless family per year." Similar calculations are made of 'surplus' extracted through share-cropping and other forms of land utilisation. He comes to the conclusion that landlessness, share-cropping, and Mahajani and allied arrangement can reduce cereal consumption to the tune of...nearly 42 lakh tonnes. According to Bose's calculation 'surplus' of this kind is extracted also from those who operate in the small production units in the unorganised Industrial sector.

17. Bose then goes on to argue that whether the situation will change for the better or for worse will depend on how the surplus is utilised. He envisages two alternative patterns of utilisation of the surplus. The first is to use it for the production of goods which will increase the productivity of agriculture, irrigation pumps, fertiliser, plant protection material, ground water surveys, agro-service centres and the like. The other alternative is to divert the surplus into motor cars, luxury flats, refrigerators and air-conditioners, cosmetics, luxury hotels, tax consultancy services etc. "The basic difference between the two groups of output mixes is simply this: the goods in the first group can be used in agriculture for increasing, in a way dramatically, its productivity and hence for generation of real food and agricultural surplus, while the goods in the second group cannot be so used. The higher the size and rate of growth of the non-agricultural activity producing the first type of product mix, higher will be the complementarity bet-

ween agriculture and industry and between metropolis and countryside, and so higher will be the rate at which poverty can be eliminated from the country. Such an output mix also can make it unnecessary to impose the currently prevailing type of production relation which generates surplus by enforcing hunger on the overwhelming majority of the people." The opposite, of course, will be the case if the surplus is used, as is happening extensively, for the production of the second kind of non-agricultural goods.

18. Bose's analysis, thus, paves the way for policy prescriptions also which he then follows up. I shall not go into those details here. Instead, I shall turn to the last, and most important area of policy frame for raising the levels of living.

Policy Frame :

19. It is now well known that one of the first documents to go systematically into the problems of a minimum level of living and to suggest a policy frame for the same was the Note prepared by the Perspective Planning Division of the Planning Commission in 1962 entitled; "Perspective of Development: 1961-1976.—Implications of Planning for a Minimum Level of Living."¹² It was the first to make use of the "magic figure" of Rs. 20/- per month at 1960-61 prices as the norm for minimum level of living. It was the one which gave a new turn to the planning process in the country to guarantee a minimum level of living to all citizens by a set target date. And, more recently, it also became one of the basic documents in the formulation of the Draft Fifth Five Year Plan. Hence it is worth examining what policy frame it envisaged

for achieving its objective which at that time was a radical departure from the contemporary thinking on development and planning.

20. After recognising that half the population of the country lived below the norm of Rs. 20 per month per capita, the Note went on to say that the minimum which could be guaranteed was limited by the size of the total product and the extent of the redistribution which was feasible. It did not think that any revolutionary changes in property relations was contemplated, and expressed the view that "any drastic redistribution at the present level of incomes even if it were feasible, is bound to make the mobilisation of savings for investment far more difficult. Moreover, such a measure will reduce the incomes of skilled workers, supervisors, managers, entrepreneurs and other groups who have a crucial role in developing the economy. Unless these groups are permitted incomes substantially above the average, development will be affected adversely." Having thus ruled out, by assumption, any major structural change of the economy the Note called for a "purposive policy of redistribution which does not come in the way of the potentialities of continued growth being realised in full," adding that "this means that investment must be stretched to the maximum consistent with the organisational capacity and the balance of payment constraints".

21. The policy frame that the Note envisaged to raise the levels of living may, therefore, be summarised as follows :

(a) A sharp stepping up of investment in the economy necessitating one-fourth of

the additional income being set aside to finance investment, (b) A redistribution of income (but not of property) to facilitate the increase in investment; (c) An increase in the income of the poorest 20 per cent of the population; and (d) "a substantial increase in the consumption standards of all upper income groups including the richest 5 per cent of the population". The Note felt that it was characteristic of a rapidly growing economy that the attainment of the minimum income objective was consistent with a substantial increase in the consumption standards of all upper income groups. In sum, the strategy for raising the levels of living of the poorer sections was to be one of stepping up investment and redistributing consumer expenditure pattern.

22. It seems fair to say that practically all major studies of poverty and levels of living have postulated the same or a similar strategy. Thus, for Dandekar and Rath a public works programme supplemented by fiscal measures became the central piece of policies to raise levels of living. In Minha's scheme the main thrust is land consolidation measure ("the purpose of land redistribution is not to turn non-farmers into farmers, but only to improve the position of small cultivating operators"). A similar position is also taken by the Draft Fifth Plan and the supporting documents that spelled out the policy measures for 'garibi hatao'.

23. As mentioned already the Fifth Plan's approach to raising levels of living is very close to the procedure described in the 1962 Perspective Planning Division's Study.¹³ In effect, the strategy is to lift the levels of living of the bottom 30 per cent of the population by slowing

13. On this point see Ashok Rudra : *Indian Planning Models* (Allied Publishers, 1975) and S. D. Tendulkar, "Planning Models for growth and distribution in India; An assessment" in *Sankhya* Vol. 36, Series C, June and December 1974.

down the rate of growth of the consumption of the top 30 per cent.¹⁴ Employment schemes to draw rural poor into productive activity is the main policy measure for the former, and slight changes in production patterns (curbing the production of durable consumer luxury goods) along with appropriate fiscal measures the procedure for the latter. Once again, the policy frame boils down to a restructuring of *consumption patterns* alone.

24. It is necessary to examine how effective a strategy of this kind can be to raise levels of living, particularly in the rural areas. To do this it may be useful to examine some of the basic problems pertaining to low levels of living in the rural sector. The recently published report of the 26th round of the NSS gives the following information about land ownership patterns in the four Southern States (see Table 2). The average area owned by all rural households is 1.48 hectares, 2.05 hectares, 0.42 hectares and 0.74 hectares in Andhra Pradesh, Karnataka, Kerala and Tamil Nadu respectively. 6.95 per cent of rural households in Andhra, 12.46 per cent in Karnataka, 15.74 per cent in Kerala and 17.01 per cent in Tamil Nadu are landless. The percentage of rural households owning less than 1 acre of land in the four States is 47.59, 36.07, 72.22 and 60.53 and their share in total land 2.23, 0.66, 16.81 and 4.45 respectively. At the other end the top 10 per cent of the households own 55.73, 41.17, 59.12 and 58.00 per cent of land, and the top one per cent claim around 15 per cent of all rural land. Taking the country as a whole the Report

of the *All-India Debt and Investment Survey 1971-72* shows that 9.34 per cent of the rural households are landless and that the average value of their assets (including buildings, livestock, farm implement, durable household goods and deposits is Rs. 1,044.59 per household compared to Rs. 11,343.34 of all households and between Rs. 62,000 and Rs. 1,02,000 of households at the very top levels. One need not search for more detailed evidence to say that the ownership pattern of land and other resources is a main factor in the low levels of living of the vast majority of people in the rural areas.

25. The problem really is, where do we go from here? Considering the 'limited' availability of these resources, particularly land, one natural response is to say, as Dandekar and Rath have done: "It is futile to try to resolve the problem of rural poverty, in an overpopulated land, by redistribution of land which is in short supply... (and) any drastic lowering of the ceilings and redistribution of the surplus to the landless workers will serve no useful purpose". Often, this argument is supplemented by two others. The first is that attempts to alter the structure of ownership patterns, particularly to impose strict ceilings on land and other forms of wealth may adversely affect incentives and capital formation. The second is that no radical changes are possible "within the existing socio-economic frame work". Of these the former is an economic argument and the latter is more general. The economic argument is certainly not of universal validity.

14. The strategy is spelled out in *Approach to the Fifth Plan 1974-79*. For a critical appraisal of the strategy see C. T. Kurien, *Poverty and Development* (Madras, 1974) esp. ch. 6, "The Fifth Plan's Approach to Poverty"

TABLE 2

LAND OWNERSHIP PATTERNS IN RURAL AREAS OF SOUTHERN STATES : 1971-72

States	Average size of holdings of all households (hactares)	Average size of holdings of all land owning households (hactares)	P. C. of household without land	Percentage of land owned by *		
				Those with less than one acre	Top 10 per cent	Top One per cent
Andhra Pradesh	1.48	1.59	6.95	2.23 (47.59)	55.7 (10.00)	20.17 (1.53) 9.4 (0.46)
Karnataka	2.05	2.34	12.46	0.66 (36.07)	48.17 (10.22)	9.15 (0.64)
Kerala	0.42	0.50	15.74	16.81 (72.22)	59.12 (11.31)	14.85 (1.00)
Tamil Nadu	0.74	0.88	17.01	4.45 (60.53)	58.00 (10.21)	19.73 (1.45)

*Figures within brackets in these columns show the actual percentage of households whose ownership of land is given correspondingly.

Source: National Sample Survey, 26th Round :

It has been shown over and over again that production and capital formation can, and almost invariably do, increase when radical alterations are brought about in ownership patterns and property relations and that such measures are a necessary pre-condition to raising the levels of living, especially of the poorer sections in poorer countries. It has been shown also that incentives necessary to increase work and production can be provided for after radically reducing inequalities in ownership patterns and even after abolishing private ownership of the means of production. So these who argue that such solutions are not feasible in our context cannot be resting their case on economic premises. This is not to say that economic considerations are the only ones that are relevant to issues of this kind, but only to clarify the nature of the argument. It is an aspect that calls for more thorough investigation.

26. In the meanwhile we must also examine how the levels of living, particularly of the poorer sections, will be affected if one holds the view that radical alterations in ownership patterns are not possible or desirable. It has been noted already that in the absence of such changes the policy frame for raising levels of living gets reduced essentially to restructuring consumption patterns. But then one is entitled to ask how such restructuring is to be brought about. The assertion that significant changes in the structure of consumption can be brought about without changes in the structure of the distribution of income and of assets violates more of the logic of economics

than the opposite: one that only through radical changes in asset distribution can the problem of low levels of living be tackled.¹⁵ For in an essentially private enterprise economy consumption patterns are set by demand patterns and demand patterns arise from income patterns and income patterns from production patterns and production patterns from ownership patterns.¹⁶ It is not easy to break this chain effectively at its culminating end. We must note also that in spite of the many expert studies and with the best of intentions the policy frame we have relied on during the past quarter of a century does not seem to have delivered the goods. The Perspective Planning Division's strategy to assure minimum levels of living was quietly shelved. It was pulled out in the form of 'garibi hatao' in the early seventies. *The Approach to the Fifth Five Year Plan* stated in 1972 that the strategy of the Fifth Plan would be to curb the consumption of the top 30 per cent so as to increase the income of the bottom 30 per cent. But the budget of 1976-77, half way through the Fifth Plan period, found it necessary as a matter of economic compulsion, to give concessions to the production of consumer durables and to allow the top income groups to have more disposable income.

Some Methodological and Conceptual Questions

27. I have touched upon a few problems relating to measurement, analysis and policy instruments in reference to levels of living. In conclusion I would like to enter into some methodological and conceptual questions.

15. I have argued this point systematically in my paper "What is Growth?" *Economic and Political Weekly*—December 23, 1972.

16. One of the earliest and clearest exposition of these inter-relationship is in Karl Marx: *A contribution to the Critique of Political Economy*, Appendix on "Production, Consumption, Distribution, Exchange (Circulation)."

28. In the introduction it was stated that studies pertaining to levels of living marked a departure from the conventional methods of analysis in economics. Problems are confronted at the very outset. The concept of "need" does not belong to the vocabulary of economics. "Subsistence" had a place in economics once upon a time, but before economics became a formalised discipline. And those who are committed to a positivist approach to economics with its pretense of neutrality between ends may find the concept of "need" suspiciously normative. No economist may be callous enough to imply that the basic needs of human beings ought not to become a subject matter of economic analysis, and yet there is the problem that it is difficult to bring such analysis within the bounds of the theoretical systems that economists usually work with. One of the most formalised theoretical systems in economics is the competitive model which has, of late, come to have a completely axiomatic presentation. It has been shown that one of its fundamental assumptions is that the basic needs of all participants is ensured.¹⁷ Hence problems, even economic problems in the very broad sense of the term, i.e. problems relating to the utilisation of resources, that pertain to the basic needs of life cannot easily be brought in for theoretical discussion. It is therefore, pertinent to ask whether problems of an economy can be formalised only after it crosses the threshold of minimum needs.¹⁸ It can even lead to the more fundamental question whether

economics can even become a theoretical science at all, building up a logically deductive structure in terms of analysed categories alone.¹⁹ It is not possible to enter into all aspects of the question here. But in the discussion of levels of living one of the conceptual problems of economists is that 'need' is an unanalysed 'physical' term, and hence cannot easily be dealt with in terms of the economists' analysed concepts of income, costs, prices and the like. A major part of the methodological problem associated with measurement of levels of living is precisely this. Levels of living are usually specified in forms of a number of unanalysed categories, food intake, calories, clothing etc. each measured in terms of its own unit. The problem of measurement faced here is *not* that of the difficulties of quantification as most of these items are readily quantifiable. The problem is the incompatibility of unanalysed categories with analysed categories.

29. That leads to another related methodological question. To what extent must and can economists work with unanalysed categories? No definitive answer can be given to this question. But a few factors relevant to formulating the answer may be touched upon. In the first place it is clear that if economists are concerned with practical economic issues such as levels of living it is impossible not to work with unanalysed categories. Secondly, if economic analysis is to lead to

17. In the literature this is referred to as the "Survival Problem". See T. C. Koopmans *Three Essays on the State of Economic Science* (Mc Graw Hill, 1957).

18. I have posed this question in my *A Theoretical Approach to the Indian Economy* (Bombay, Asia Publishing House, 1970)

19. One of those who very forcefully raises this question is Nicholas Georgescu-Roegen. See his *The Entropy Law and the Economic Process* (Cambridge, Harvard, University Press, 1971).

policy conclusions, again, it is not possible to avoid contacts with unanalysed entities. Here, again, pre-occupation with poverty and levels of living has brought home some very basic issues. Perhaps these problems can be analysed upto a point in terms of analysed categories such as income, investment and surplus. But if the intention is to go beyond analysis into policies to solve these problems it is necessary to come down to specifications such as the availability of certain quantities of cereals, oils, cloth . . . etc. to X, Y, Z . . . wherever they happen to be. It will be equally misleading to imply that policy measures can be formulated relying solely on measurement without going through the process of analysis. What Marshall referred to as "delicacy and sensitiveness of touch" in policy measures can come only by acquiring competence in analysis and familiarity with the unanalysed. Constant dialogue between the specific and the general, between the unanalysed and analysed is thus necessary for policy formulation and problem solving. Thirdly, recourse to unanalysed categories may be helpful and often the only way to establish contacts with related disciplines. Social reality, after all, is an unanalysed flux. Different procedures of abstraction and analysis of the same reality it is that leads to divergences of the disciplines. Where convergence or even co-operation among the disciplines is desired some decoding of disciplinary specialities is necessary. Hence the ability to talk meaningfully about a problem without all the theoretical wrappings and professional jargon is a pre-condition to inter disciplinary dialogue. It cannot be said however, that this is a virtue that the academic community can boast of!

30. One of the distinctive features of economics, unlike most other social

sciences, is that it has a few theoretical systems complete in terms of their own analytical categories, the general equilibrium system being the best example. A complete theoretical system has many analytical advantages. Because of its logical completeness it provides a frame to ensure consistency of arguments and thus builds up a universe of discourse. Such a universe of discourse is a pre-requisite for developing a community of scholars, and thereby to universalise the discipline. Logical rigour can also lead to precisions, both in concepts and in measurement. The base for the tremendous progress that economics has made in quantitative aspects has been provided by its logical frame. And, of course, a logically complete frame also makes "prediction" possible, prediction being the ability to draw conclusions when the premises are given. It will be generally agreed that all these factors have helped economics to become the most "advanced" among the social sciences.

31. But a logically complete system is also a *closed* system, sharply demarcating its territory and universe of discourse and distinguishing itself clearly from everything else. The closed nature of the system imposes at least two major disadvantages. In the first place it may leave out many important areas from its universe of discourse. Thus, the general equilibrium system is complete without reference to property and power, and hence cannot enter into discussions about these aspects even when it is recognised from a common sense point of view that they are important for the understanding and analysis of some problems. This is precisely the weakness of economics when it comes to the discussion of issues such as levels of living, poverty and development in general. In these discussions economics is far too often forced to say

"thus far and no further" when common-sense cries aloud that the discussion cannot be stopped at that point. What is an academic weakness, (and which disciplines are free of them?) however, can become a danger spot when the discussions are meant as a prelude to the solving of practical problems. The danger is that the logical rigour of the system can be pressed into service to provide *some* analysis and to suggest *some* remedies even if these are not the proper ones. As an example, it is possible to explain unemployment in a country almost exclusively in terms of technological rigidities and to prescribe remedial measures on that basis ignoring all other aspects which may have a bearing on the problem. "Models of unemployment" of this kind are not altogether unfamiliar. Or again, it is possible to provide a rigorous and plausible analysis of the problem of low levels of living solely in terms of a vicious circle of low incomes, low savings and low investment and to recommend accelerated capital formation as the remedy for it. This has been the bane of much of what passes under the name of "development economics."²⁰ The logical completeness of the analytical apparatus of economics explains also why sophistication coexists with sterility in the discipline. Logical completeness, in other words, prevents analysis being informed and influenced by common sense.

32. The second disadvantage of a closed system is closely related. A system which is complete in terms of its own analysed categories must view most policy measures as an external interference. We may refer back to the recurring tendency for economists to suggest that the problem of low levels of living must be tackled through a restructuring of consumption, or at best of income. Consumption and income are flow categories and economists' standard exercises are mostly in terms of flows. A restructuring of the flows, therefore, is something that the analytical system can accommodate even though it is generated by external forces. On the other hand, the system cannot accommodate changes in property relations in the sense that it cannot easily relate these changes to the internal working of the system. One wonders whether this is one reason why professional opinion is generally so resistant to changes in property relations.

33. These are some of the conceptual and methodological problems that confrontation with the practical problems of poverty and low levels of living pose to an economist. As has been mentioned already they can provide an opportunity for dialogue with other disciplines for it is very likely that students of other disciplines also confront similar problems.

20. In my *Poverty and Development* I have argued that the problems of poverty cannot be understood unless one extricates oneself from what is referred to as 'Development Economics'

INDICATORS OF RURAL LEVELS OF LIVING:

A few Methodological Considerations

By

V. ESWARA REDDY

Education

One of the dilemmas faced by the planners in the developing countries is in identifying the development indicators. The choice of indicators assumes a great significance in planning development strategies. It has become a dilemma because the indicators should combine both qualitative and quantitative goals. The indicators should also help in the appraisals of progress. The wrong choice of indicator and the indicators which are not comprehensive may lead to wrong assessment of the levels of development and consequently lead to wrong development strategies. This problem is faced particularly by the developing countries because of the existence of dualism in their economy and development. The unitary indicators and the aggregate index suppress the realities. Such indicators fail to monitor the transformations in the social and economic structures of the country. Development in the developing countries implies not only the increase in production or productive capacity but it also implies structural transformations in their socio-economic systems. The indicators that are usually selected to measure the development are economic indicators and the social components are ignored. In the absence of the social component the indicators may give us at most an indirect measure of the level of living

possibilities but not actual patterns of living. What is important for measuring the performance of planning and economy is the actual pattern of living rather than a possibility.

The guiding framework for the choice of indicators should be the type of economy an society that is already in existence. We cannot rely upon the international indicators. They should be specific to the type of economy of the country. It is typical of developing countries including India that their economies are characterized by dualism where contrasts are seen between their modern and backward sectors and social and economic inequalities. In such a situation it is necessary to supplement the conventional indicators with the other indicators to cover other dimensions. The Report of the Meeting of Experts of Social Policy and Planning held at Stockholm from 1st—10th September 1969 stressed the importance of the concept of dualism. "The group considered that the meaningful approach to development Planning must take account of the dualistic structure of many developing societies—dualist in terms of the differences between modern and traditional sectors, differences within these sectors and differences between those participating in develop-

ment and those left behind or on the margin". The implication of these statements is that the spread effect of the development programmes should not be ignored and in fact they stress that this is the main consideration in judging the performance or progress. Gunnar Myrdal also in his book on *The Challenge of World Poverty* makes this point explicit.

In the past the choice of indicators was mainly governed by such considerations as the ease of identification and the availability of statistics. The developmental plans aim not only at the increased production but especially in the developing countries they aim at structural and institutional changes. So the indicators should reflect these aims. The qualitative aspects of development are also as important as the quantitative aspects. So considerable attention should be given to the qualitative aspects in constructing the indicators. Otherwise the trend may be in the direction of unhealthy quantitative expansion and consequently it may lead to the distortions in the development. The very basic goals will be threatened. The means of identifying the goals in practice become the goals per se. So the indicators should be comprehensive to reflect the aims of development. The practical alternative would be to consider various components of development and develop indicators to measure different aspects of each component. Millikan in his paper on strategy of development stresses "thus in considering the goals of development, we must add to the usual indices of higher productivity and larger output per capita increased participation by the people of developing countries in decision-making in the fruits of development and in the process of its implementation as well as the elaboration on institutional structure that will

make such participation both possible and fruitful" (Max P. Millikan, *A strategy for Development*, United Nations Centre for Economic and Social Information, New York, 1970, P. 7. The Indicators should not be too many and it is necessary to keep them to a reasonably low number. The most important consideration in selecting the indicators should be to identify the areas of intervention and to obtain the factors which are capable of manipulation.

THE CONCEPTUAL PROBLEMS OF INDICATORS:

The most neglected aspect in the choice and construction of indicators is the conceptual base of the educational indicators. It is essential to be clear about the concept of education. Whether education should mean only such things as literacy and formal level of education or should we consider the knowledge, skills and attitudes of people as the indicators of their levels of education. Unless such conceptual problems are solved the choice of indicators is not going to be meaningful. The same case is with regard to the definition of literacy.

MECHANICAL EXERCISES :

The exercises conducted by the United Nation's Research Institute for Social Development, Geneva (UNRISD) did not support the view that there was a separate general social factor of development and a separate general economic factor. The implication of this result is that the economic and social factors are different aspects of development. Further they found that the pattern of correlation differed from country to country. The correlational significance of the indicators varied according to the

level of development. The following procedure is suggested so far as the mechanical exercise part of the validation of the indicators is concerned. The first step involved is to select a large number of indicators and obtain the correlation matrix. From among them, choose a set of indicators with high inter correlation co-efficiency, care must be taken to avoid the obvious duplicates. From among them select a few which can be considered as the core indicators and which are highly inter-correlated. Then the correspondence points are to be set up. The basic ideas in this is that the indicators of development which are highly inter-correlated can be analysed in terms of sets of scores that tend to go together at each successive level of development, and that are consistent in all directions. To give an example, if the life expectancy of 56 years normally corresponds to a school enrolment ratio of 30 and a school enrolment ratio 30 corresponds to per capita G.N.P. of Rs. 800/- then Rs. 800/- per capita G.N.P. and a school enrolment ratio of 30 will both correspond to 56 years of life expectation. This method brings out the existing relationship between different factors and detect imbalances in development and facilitate projections. On the basis of correspondence point methods a general index of socio-economic development can be constructed which will cover both social factors and structural factors more adequately than does the per capita National Income. This method however is also full of limitations. The first limitation is that the indicators do not fully take into account the natural resources situations region wise. Secondly it gives us only the existing relationships but does not indicate what ought to be the pattern of distribution. In other words the positive effects cannot be obtained. It

also does not take into account the distributional aspects. Some of the indicators may refer to the availability of facilities rather than their use.

THE EDUCATIONAL INDICATORS OF THE LEVEL OF LIVING

Development in the developing countries is essentially an educational process because in these countries the developmental tasks are mainly directed towards the improvement of productivity of labour, utilizations of technology, utilization of labour-force to its fuller capacity, promoting the organizational skills, acceptance and adoption of innovations, to improve the capacity to make use of the administrative machinery and especially in the Indian context to promote secular, socialistic and democratic values and attitudes.

The above objectives and processes are essentially the educational objectives and processes and whatever institutional and individual constraints there are to be broken mainly by Education.

The conventional indicators of education such as literacy and enrolment at various levels of education are meaningless unless they are viewed in the context of their content and their consequences. If education is understood as that which comprises of knowledge, skills, values or attitudes there are a number of problems which we have to solve with respect to each of them before we develop the indicators. This problem is particularly difficult in the rural context in which the skills and values are not associated directly with the attained levels of formal education. In an urban and developed context we can assume the congruence between the attained knowledge, skills and attitudes

and the attained levels of formal education. This situation should suggest that in a 'rural' context an altogether new approach is to be adopted in order to measure the levels of education understood not in a narrow sense of formal education but in a comprehensive sense of the knowledge, skills and attitudes attained either through the formal or non-formal or experience channels. It is in the logic of this approach to go in for a set of indicators which consist of various dimensions of the factor of education and then proceed with the mechanical methodological steps such as working out correlation matrixes, setting up of the correspondence points and the construction of general index.

Literacy is one of the most important indicators used all over the world as an indicator of the level of development. The reliability of this indicator largely depends upon the content of the literacy. There is no one single definition of literacy followed, across the cultures. For example, in the United States' Census literacy is defined as equivalent to the completion of six grades of schooling. In Colombia state census, literacy is measured on the basis of individuals' ability to write his name. The Indian Census 1961, defined a literate as one who could both read and write. UNESCO came up with two definitions "a person is literate who can with understanding both read and write a short simple statement on his everyday life" (expert committee on standardisation of educational statistics 1951). The other definition is that an individual is literate when he has 'acquired the essential knowledge and skills which enable him to engage in all those activities in which literacy is required for effective functioning in his group and community, and whose attainments in Reading, Writing and Arithmetic make it possible for him

to continue to use these skills" (committee of experts on literacy UNESCO 1962). From all these varied definitions of literacy, it can be understood how difficult it is to construct a test of literacy which is functional. It must be pointed out that the procedure followed by the Indian Census in designating an individual as literate or illiterate is highly unreliable. They follow an easy method of asking respondents to designate themselves as literate or illiterate. The validity of this definition then obviously depends upon not only the honesty of the respondents but on their ability to assess their own competence in literacy skills. So, for any serious purpose, it may not be possible for us to depend upon the census figures on literacy and it should suggest that we have to go in for an independent test of literacy. The UNESCO definition of literacy (1962) can be used as a guide in constructing the test of literacy because it comprehends all the three aspects of education, namely, knowledge, skills and attitudes. While using the enrolment figures at various levels of education as indicators educational development, we should be careful about certain implications. For example, the enrolment rate at the primary level as a proportion to the number of children in relevant age group cannot be considered as a valid indicator for the simple reason that the drop out rate is very heavy during the first three years of schooling. So what is reliable is to consider the enrolment at the 4th standard. We can also use the drop out rate as an indicator of development. Similarly for the other formal levels of education also, the enrolment at the terminus years can be used as the indicators.

The aggregate literacy and enrolment statistics may not be very useful as the indicators of development because they

ignore the spread effects of education which are in fact very essential to measure the development. So for this reason, it is better to give the figures sex-wise, caste-wise, region-wise etc., so that we can identify the imbalances and the points of intervention.

The assessment of the quality of education is as important as though not more important than the quantity of education. For this certain indicators should be developed. They may be of the nature of the Teacher-Pupil ratio, the equipment available in the schools, the curriculum content etc. In the under-developed and rural areas it is also desirable to develop the indicators to obtain the measures of the modern attitudes and value orientations of the people which are assumed to be the consequences of educative process in the traditional societies seeking modernization.

The UNRISD identified the following indicators under education :

1. Literate as percent of total population (age group 15 and above)
2. Combined primary and secondary enrolment as percent of age group 5-19.
3. Primary enrolment as percent of age group 5-14.
4. Secondary enrolment as percent of age group 15-19.
5. Higher education enrolment for 1,000 aged 20-29.
6. Vocational enrolment as percent of age group 15-19.
7. Percent of age group 15 and over with atleast one year of

(i) Primary School Education :

- (ii) Secondary School Education:
- (iii) Higher Education.

The above indicators are categorised under developmental and the following under structural :

- (i) Female, as a percentage of total primary enrolment.
- (ii) Pupil/Teacher ratio in primary Education.

The indicators mentioned above may have to be supplemented with the following indicators for the reasons mentioned in the preceding pages of this paper.

1. Literacy by age group, sex group (male/female) caste group (scheduled castes, backward castes, forward castes). For this again independent test of literacy has to be developed in order to rely on it as indicator of development.
2. The enrolment at 4th standard.
3. The enrolment at 7th standard.
4. The enrolment at 10th standards.
5. The occupational skill level. For this is required the construction of a test to measure the skill levels from the points of view of both conceptual and psycho-motor skills for some important occupations.
6. The indicators to measure the modern attitudes and value orientations.

The above mentioned indicators will give us a measure of the educational level of the people in a comprehensive sense,

INDICATORS OF RURAL LEVELS OF LIVING :

—a few conceptual considerations

By

N. C. VIJAYARAJ

Geography

Regional differences in resource distribution, socio-economic and cultural conditions, and geographic situations have created an uneven distribution of economic development over the earth's surface. Spatial unevenness in economic development has resulted in the spatial variations of the levels of living, and India is no exception to this. The purpose of the present paper is to evaluate the importance of geographic approach in understanding the levels of living.

Though the definition of geography has changed from time to time, the locational and spatial stand-point has remained the same (Yeats and Garner, 1972, P. 1). It is the unequal distribution of geographical features that has drawn the attention of geographers to interpret the distributional disparities in terms of environmental influences. In fact, no other single concept in geographical methodology has excited more controversy and attention than that of the *geographical environment* and its influence on the development of human society. Many of these distributional disparities can be explained, accepting geography as a science dealing with man-environment relationships. During the last three or four decades there is a shift in geographical thinking considering the large scale human achievements. The result is that

the *environmental determinism* has given its place to *possibilism* and *probabilism* (Ackerman, 1963). However, one cannot completely ignore the environmental influence on the patterns of human life and activities, and in case of extreme geographical environments it is notably significant. For example, economic attainment of man in desert and polar areas is very much conditioned by the environmental conditions. In such environmentally harsh areas, even if man takes up to the process of economic development as a challenge, it will be definitely uneconomic if not an impossibility.

Considering the human achievements in the areas of *economic reality* and *economic feasibility*, the emphasis is now on the social environment in general and economic environment in particular. With all the new ideas and integrated approaches, Thoman and Corbin (1974, p. 31), did make a reference to the natural (physical and biological) environment in their work. The geographical environment deserves critical attention not only by geographers but also by other social scientists who are interested in understanding the *location* and *linkages* of economic activities.

"It is an unassailable fact that the study of spatial distribution of geographical phenomena provides the *raison d'être* of most of geographic literature" (Reddy, 1972, p. 157). The statement strengthens the view that the spatial variation and areal distribution of geographic elements forms the subject matter of most of geographical studies. Hence, of all the concepts in geography, the concept of *pattern* is the most important one (Hudson and Fowler, 1966). At one time geographers developed cartographic techniques to identify patterns of human activity, which now, is supplemented with statistical techniques in order to be more scientific and precise. The word *pattern* is very much associated with the concept of *space* and this concept is so much so fused with the geographical studies that to-day geography is accepted as a science dealing with the *spatial arrangements and distributions, spatial integration, spatial interactions and spatial processes* (Berry, 1964). This change in no way indicates that the impact of geographic environment on the pattern of human levels of living, is to be ignored.

Cause and effect is one of the approaches in geographical research. Though some geographers have placed critical comments against this approach, I am of the opinion, that it is helpful in identifying the causative factors of certain geographical phenomena. For example, 'poverty' or 'levels of living' (since they are interrelated) may be considered as an effect of several factors, of which some may be considered as environmental constraints.

Rural levels of living and Geographical approach :

The regional and urban-rural imbalances in the social and economic develop-

ment of India are so striking that regional planning and rural reconstruction programmes have become a matter of top consideration. Poverty and levels of living, though, appear to be two different concepts, in a way, they are interrelated. Poverty, for example, "refers to a low standard of living that lasts long enough to undermine the health, morale and self respect of an individual or group of individuals" (Theodorsen and Theodorsen 1969, P. 307). As there is no universal definition of poverty, so also, there are no well accepted indicators of levels of living. Even if it is seen from an economic point of view, it is rather a relative concept, in the sense, that relating income to the needs of life will reflect the levels of living (Miller, 1965). Hence, all those indicators that effect income and consumption levels, the style of living, health, and morale can be considered as indicators of levels of living. However, the availability of collected data on the social aspects of life is limited, add it is said that most of the studies of this type in the Indian Economic literature are based on the consumption data collected through the National Sample Surveys.

Though poverty appears to be the normal condition for a major part of the Indian Population, in terms of proportion and extension, it is a major problem for the rural population (80.1% of the Indian population is rural, 96.1% of the nation's area is rural and it is estimated that nearly 50% of the rural population is below the poverty line). Studies pertaining to the measurement of poverty run into difficulties as "the total cost of any social problem cannot be measured" (Horton and Leslie, 1970, P. 323). Apart from the basic needs of life, i.e., food and nutrition, clothing and housing, factors like education, recreation, transportation,

employment situation and social inequalities also affect the levels of living. The mere identification of the indicators does not solve the problem. The analysis of the spatial pattern of the distribution of these indicators, with reference to the environmental conditions is highly essential for a proper understanding of the problems. For example, land holding, though a good indicator of rural levels of living has such a wide variation in its spatial distribution, that if it is not related to the environmental conditions, the indicator will not carry the complete sense. In a district like North Canara the land holding pattern is far different from that of the districts of Raichur and Bijapur. The agricultural features like "land capability" and 'land efficiency' face a similar situation. The agricultural practices also vary from place to place and so also the problems of soil erosion.

Diffusion of innovations is essentially a *spatial process*. The spatial diffusion of

technical innovations can significantly affect the patterns of levels of living, in a region.

Hence, the identification and measurement of the indicators of the rural levels of living do not make the study complete. Spatial analysis of the nature and distribution of rural levels of living is highly essential. The studies on dietary patterns (Kariel, 1966) and educational level (Kariel and Kariel, 1972) are good examples of such a requirement. In addition, studies concerned with resource evaluation, the natural and economic environments, non-environmental relationships structural changes in agriculture, land use planning and landscape evaluation can supplement the studies that are directly concerned with the understanding of the levels of living. In conclusion, geography can play a significant role in interpreting and explaining the spatial pattern of levels of living, whether rural or urban.

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INDICATORS OF RURAL LEVELS OF LIVING :

By

GOHALA SARANA & B. G. HALBAR

Anthropology

STYLE OF LIFE AND LEVELS OF LIVING

In the long history of the march of humanity, which began roughly two million years ago, there have been basically two major kinds of societies. In one category fall all the human societies which existed before the beginning of history. They were prehistoric societies where preliterate people lived. In the historical period also some societies have existed which shared the characteristics of the prehistoric societies. These societies are found to be unaffected even today by the great civilizations. They have been known variously as 'primitive', 'nonliterate', 'tribal', 'savage and barbarian'. These peoples—both the precivilized prehistoric and the primitive or nonliterate of the historical times—have formed the basic subject matter of anthropological study. They exhibit common characteristics which distinguish them from civilized societies and therefore they have been called "folk societies".

History began with writing and an urban or civilized pattern of living. This was built on the foundation laid by the preceding food-producing Neolithic Revolution. The life in the Neolithic times was folk not urban. Barring the few primitive societies we have referred to above, the other basic kind of society since the advent of history is civilized society. The

influence of urbanism has been increasing. As a result of the impact of urbanism on the basically folk societies another kind of people have emerged. They have neither been folk/primitive nor fully urban/civilized though they have lived on the fringe of urbanity. In the anthropological literature these peoples have been called peasants. According to Robert Redfield since history began most people in the world have been peasants. In short, there are three kinds of people who live differently and can be called folk peasant and urban.

As anthropologists we feel that the idea of levels of living can be understood properly if it is viewed with reference to context. For this purpose we introduce here the concept of 'style of life' which is more wide-ranging than that of the levels of living. We have talked of three basic kinds of peoples, the folk, the peasant and the urban. All these people have their own respective styles of life. The peasant style of life is derived both from the folk way of life and the urban way of living. But it also has its own distinctive features. Peasants constitute only one part of civilization, the other part of which is constituted by the urban centres with the urban way of living.

Let us now spell out some of the chief features which distinguish these three kinds of peoples. In folk society the community is small, isolated homogenous and self-

sufficient. There is practically no division of labour. The relationships are personal and kin-based. Familial conditions are most important and the diversification of relationships into political, economic, etc. may not be as marked as we find in other kinds of societies. The material possessions of these peoples are very meagre. Redfield says that folk society is that society in which the technical order is subordinated within the moral order.

In contrast to the folk society, civilization is known by cities, writing, public works, the state, the market, division of labour, the preponderance of impersonal relationships, breakdown of homogeneity and the emergence of differential kinds of relationships which can be given labels such as political, economic, religious, moral, ethical and so on. Though it may seem to be belabouring the obvious to some, however, the people living in a folk society and those who live in an urban-civilized society fundamentally differ with respect to the most basic and enduring ways of groups living. To put it differently, the style of life of the people in a folk society is sure to be different from that of the people living in an urban society.

In between the folk and the urban styles of life there is a peasant style of life which is our main concern in the present workshop. Peasantry, irrespective of the national differences, may be said to have its own distinctive style of life. This style of life which prospered outside of the cities, though not outside the sphere of urban influence is of a very long and enduring kind. In the West the peasants existed between the Urban Revolution, at the advent of history, and the famous Industrial Revolution.

Redfield has further indicated that peasantry are a kind of resting place in the long march from the primitive or folk world to a world of universal urbanity. Peasants, in Redfield's words, "preserve the local customs and moralities of the original primitive communities as modified to provide stable relationships with the manor of the town. The peasant is indigenous; he lives where his forefathers lived and much as they lived. But he knows trade, money, taxation and perhaps exploitation; and his local culture is represented not only in his own village life but in another societal dimension: in the life of gentry and townsman; his society is completed in the manor where he is sometimes employed or in the town where he sometimes trades or serves". (Redfield 1962, p. 311).

We think we have already given some idea of the meaning of the term 'style life'. Now let us elaborate the concept a little further. It refers to certain ways which a people have of looking at the world. The emphasis is on certain virtues and ideals and to the judgements about good conduct. To quote Redfield again, "style of life"...includes the ways of getting a living in so far as these contribute to the shaping of ideas of good life. The term emphasizes the judgements, implicit or expressed, as to what right conduct is. And not excluded are the lesser tastes and preferences that give a people its characteristic flavour (1957 p. 52).

A very interesting description of people of the Survey has been given by George Bourne which may not be inapplicable to many other peasant peoples as well. According to him a peasant has "a grim and lusty determination to make the best of this world". Poverty and toil are to be

borne; in age death is usually faced with resignation " . the conditions of peasant life make [the] view of good life that of his entire community and the life he actually leads is on the whole consistent with his view of what is good about it" (Redfield 1962, p. 320 emphasis supplied by us.)

The idea of levels of living indicates diversity or variety that is discernible in terms of content and pattern and in ways of living in a society or community. Each level is characteristic of a class, a caste or an ethnic group. For instance, it is common knowledge that the day-to-day life of the poor is different from that of the middle class or the rich. The same is true as between the Brahman and the Shudra; and between the serf and the lord in the Mediaeval period. In Indian villages there are different levels of living, as conceived by the villagers themselves, with reference to the landed gentry who do not cultivate the land themselves, the small-scale farmers, the tenant cultivators, the agricultural labourers, the various artisans, the craftsmen, the service people, etc.

In the traditional Indian polity and society the extent of landownership, the status of the caste-group to which one belonged, the political privileges, the access to learning or lack of it, etc., determined the level of living. Property, power and social prestige determined the level to which an individual and his primary group belonged to in a system of hierarchies. Some colleagues here may like to depict the level of living in purely economic terms with such criteria as income, expenditure and the material possessions. Some others may even limit the use of the term level of living to the level of consumption. As anthropolo-

gists we cannot subscribe to such a limited meaning of the term. In the broader perspective the idea of levels of living must include, besides economic, social and psychological dimensions of life as well.

As the terms are being used here a rural community is populated by peoples who differ in their economic possessions, social status and family and other traditions. To put it differently, though belonging to the same community different groups of people have different levels of living. But by virtue of their being members of the same rural community they also share certain things in common regardless of the differences in their levels of living. In Redfield's terms the conditions of peasant life make the view of the good life that of the entire community. The actual life which an Indian villager leads is, on the whole, consistent with his view of what is good about it. He also knows that somehow he leads a different kind of life from the life of a city-dweller. In one word, despite differences in their levels of living the rural people share the same style of life.

ECONOMY AND SOCIETY

Anthropologists may not be agreed whether all societies have politics, but there is complete unanimity that all known past and present societies have economies. Any analysis of a culture is bound to remain incomplete unless some attention is paid to the production and distribution of goods and services. What do our economic experts consider to be basic economic fact and how is it viewed in the overall background of the total way of life of a people which we anthropologists call culture. All economic theory, classical and modern, is based on the

assumption that something called economy is separate or separable from the rest of culture. This is the gift of the industrial Revolution. The economic historian, Karl Polanyi, and his collaborators in the book *Trade and Market in the Early Empires* have very forcefully advocated that both the method and content of economic theory have been deeply influenced by two central features of the nineteenth century Britain: factory industrialism and market organization. It may also be pointed out here that human beings have not always been conscious of the "economy" as a separate entity.

In economic anthropology there are two view points, formalist and substantivist. The formalists hold that the difference between types of economic systems is one of degree rather than that of kind. The economists' model is assumed to be universally applicable. Cultural diversity may limit but cannot deny its applicability. According to Polanyi and others the formal meaning of economics derives from the logical character of the means-ends relationship as can be seen in the use of such words as "economical" and "economizing". Man has infinite material wants. His material means are limited. The economizing is the only way for maximum material acquisition.

The substantive view of the economics is rooted in empirical economy. According to Polanyi it can be "defined as an instituted process of interaction between man and his environment, which results in a continuous supply of want satisfying material means" (1957, p. 248). The substantivists hold that formal economics arose within the cultural context of a Western market economy. Therefore its assumptions are culture-bound. Economics differ in degree and not merely in

kind. Since the formal economic theory originated it can be applicable only to the kind of economy for which it was developed to begin with. It cannot be suitable, for example, for the analysis of primitive, archaic and peasant economies which anthropology has been most intimately concerned with.

It is no doubt true that the concept of the "economic man" of the 19th century was based on real facts. He was not a myth, in George Dalton's terms he was a succinct expression of the Western institutional fact in which the market organization compelled the participants to seek material self-gain. The English originators of the formal economic theory based their arguments and analyses on this basic postulate. Further, economy is based on and structured in the physical universe and therefore the above principle enunciated by the classical economists were taken to be universally applicable.

In the last three decades many Asian and African countries attained freedom. They have started their march towards economic and political modernization. Their economies are not market-based like those of the Western countries. The exact Western-originated economic principles are not in operation here in the same manner and to the same degree. Nevertheless, when it comes to talking about economics as a discipline economists from even the developing countries take positions quietly accepting the seeking of material self-gain as the highest virtue as presented by the Western economic theorists. In the Western idiom, this can be attained only when the individual is given perfect freedom. We shall like to state here emphatically that such a trend eroded the social and community life in the West in the 19th century. It

compelled the peoples of the Western countries to march on into the blind alley of individualism from where turning back into the social realm has not been easy.

In the developing countries, in general, and in India, in particular, Western-style material economic gain attained up-to-date has not been at the cost of social and community life. In the context of the peasant societies and rural complexes, in the developing countries, it is unfair to view the development of economic factors in terms of formal economic principles according to which economy is isolated from society. As pointed out earlier, we are well aware that exchanges, allocations, transfers obtaining in the use of resources, labour, produce and all kinds of services are found in every economy. How they are integrated in terms of the relationships between themselves, on the one hand, and the overall relations of these factors with the rest of the life of a people, on the other, is of great importance to us as anthropologists. This is called the embedded nature of economy in society.

Karl Polanyi has indicated that the ideas and generalizations about man and his relation to society—which were implanted by the Industrial Revolution and became the mainstay of the classical economics with its *laissez faire* ideology as well as that of Marxian socialism—may be quite suitable for certain kinds of peoples living at a certain point in time. But it will be a great mistake to consider it a universal generalization of human nature. Polanyi has advised us to unlearn the simplistic notion of economic determinism of history and social change. He also points out that Marx was right in presenting his perspective in the light of

laissez faire industrial capitalism; but help was certainly wrong when he tried to generalize economic determinism of social organization to all kinds of societies.

We shall like to state once again that the economic theory was created with a view to analyze special structures, processes and problems which cropped up for the first time in the wake of industrialism of the West. Its main feature are too well known to be repeated here. But it is notable that not merely classical economists but the modern economic theorists to seek to separate economy from society. While doing so they make two simplistic assumptions: (1) the maximization principle and (2) the allocation principle. According to the first the individual is seen as maximizing his satisfaction in the use of means to satisfy his wants and as a result of this has a set of motivations which can be considered as purely economic and separable from the other types or motivations. According to the other assumption, the allocation principle, economics is conceived as a rational allocation of means, which are scarce, to achieve given goals. These facts are clearly borne out by the following definitions of economics as given by Kenneth E. Boulding:

"It is precisely the separate class of variables which it employs which for the economist, at any rate, distinguishes economics from the other sciences. Economics studies prices; quantities of commodities, exchanged, produced, consumed, interest rates, taxes, tariffs: its basic abstraction is that of the commodity. It seeks to find reasonably stable relationships among these variables, but it is the variables not the relationships, which delimit the subject matter of the science" (quoted in Dalton 1961, p. 11).

Paul Bohannan says that the reason for the difference between anthropology and economics is that the anthropologist does not ask the same kinds of questions as the economist does. The anthropologist is concerned with people's categories of thought and language. The anthropologist is much interested in accounting for the manner in which the people get their living and the ideas behind that. The difference between the perspectives of the two disciplines has been very cogently presented in the following quotation: "It would appear [...] that rather than ignorance being the reason why economists and anthropologists do not operate as well as is desirable, the cause is deeper being a fundamentally different approach to the study of society [...]. No one can study society without some initial assumptions, implicit or explicit, concerning the nature of society. Anthropologists are focussed on the community rather than the individual; they view society as a system of mutually dependent elements, and emphasize the influence of social forces on behaviour. The economist, on the other hand, derives the forms of economic behaviour from assumptions concerning man's original nature. He begins by considering how an isolated individual would dispose of his resources and then assume that the individual members of a social group behave in the same way". (Walker 1942-43, p. 135).

The above mentioned difference between the two disciplines becomes clearer with reference to the notion of scarcity. Economists insist that there is no limit to economic scarcity. The anthropologist regards economy as a part of culture and, therefore, to him the levels of economic scarcity are also determined culturally. Dissing has expressed this view point very succinctly thus: "The

degree of scarcity present in a society is culturally determined in part, since ends, that is levels of desire or of aspiration, are culturally and psychologically determined. When levels of aspiration rise with change in culture, scarcity increases even though resource levels may also be rising. Thus an affluent society, one with many resources, might well have a more serious scarcity problem than a poor society, if its goal demands had increased faster than its resources. In fact a poor society could conceivably be almost untroubled by scarcity in the sense that culturally determined ends were relatively suitable by available resources and means of production"

INDICATORS OF RURAL LEVELS OF LIVING

Before discussing in some detail the indicators, a set of postulates must be spelled out: though there may be variations in the levels of living in terms of ownership of resources, material possessions, income, caste etc. there is a common style of life which is the same for many classes or castes at the village level, which can be understood by studying their world-view, the dress pattern, the overall pattern of food habits, attitude to nature and supernaturals, and their relation to the world outside the village and so on. For instance, we have come across villagers who have experienced a steep rise in their income because of cash-cropping, modernization of agricultural techniques and rising agricultural prices in the past two decades. This has not reflected in the day-to-day life of such peasants, as you would find in case of city people. The only change in the pattern of expenditure has been an increase in wasteful and ostentatious expenditure such as building a very big

house disproportionate to the needs, pompous marriages, huge expenses on local elections as well as on litigation because of factions.

Though the villagers share a common style of life, one finds a clear cut distinction between the orientation of the laity and the gentry: those who work with hands and those who do not, the mass of "common" people and a small but significant section of gentry who may be called the rural "elite". And the first thing a prospering commoner does when he becomes affluent and educated is to try to enter into the life-ways of the sophisticated gentry. Different sets of specific terms are available in all the languages of India indicating this broader difference, Trani, Sawkar, Dhani, Vatandar, Jahagirdar, Inamdar and so on for the gentry; and Salgar, Kula, Vokkaliga, Raita, Alu, Kusu etc. for the peasants and labourers. Mutual administration and appreciation of good qualities and characteristics as well as hatred and implicit rivalry expressed in contemptible remarks and social stereotypes prevail between the two classes of people. Literature in the Indian languages is replete with many subtle portraits of such differing and contradictory styles of life that obtain in the country side. Social transformation has been going on since time immemorial. While a few tribal communities that have been exposed to the prolonged, continuous culture contact with the multicaste villages are experiencing a process of peasantization (cf Halbar 1975), many of the peasant villages are caught up in the throws of urbanisation and industrialization. To study the whole process of social transformation, the concept of folk-urban continuum has been used, (cf. Redfield 1941:338) which we shall not be able to elaborate due to shortage of space.

Though the analytical and heuristic concepts (such as standard of living, income brackets, class, caste, poverty line, affluence and poverty, culture of poverty and destitution) or various social science disciplines are useful in conceptualizing the levels of living, anthropologists would like to stress a point viz., the researcher should not ignore the people's conception of phenomena under study. The differential possession and/or participation by the different classes or caste groups in the village communities are responsible for emergence of different levels of living or socio-economic statuses.

1. Economic Variables:

Under this heading, the economic resources such as arable land, irrigation facilities, forests, pasteurage and sources and forms of energy supply available within village boundaries are an important factor which determine the prospects of life of the villagers, though there is scope for marginal sharing of resources among the villagers in a region. Given this resource background, the next important area for investigation is the study of distribution of these resources among the various castes and religious groups, as it is the differential possession of these which gives an economic base for the different levels of living. (Bailey 1958; Beteille 1966, 1074; Epstein 1962).

In fact landownership confers social prestige among the rural people and hence land has first preference whenever there are savings to be invested. The acquisition of land is therefore one of the prestige seeking mechanism. To perform manual labour has the lowest esteem (Myrdal 1968:1057). But in the investigation with reference to economic pattern like landownership and income etc. there

are difficulties. The demographic composition of the village in terms of castes and religious groups, as well as the extent of land they own are guarded secrets (ibid:1056) and can be known by painstaking inquiry.

The glaring inequality in the distribution of lands in India is brought out in the first ever conducted agricultural census in 1970-71. According to it, half the 70.5 million operational holdings in Indian agriculture are marginal holdings of less than one hectare. These marginal and submarginal holdings together operate over an area of 14.4 million hectares, which constitutes only 9% of the total area under cultivation (Indian Express dated 25.12.1975). This state of affairs has necessitated the introduction of consolidation of uneconomic holdings and of ceilings on large landholdings. Thus the basic problem in the countryside is agrarian. A few people own much of the land*, making others eke out a substandard living from small holdings, and making yet others landless wage earners whose income is less than the living-wage. Lack of land means poverty, illiteracy, disease, infant mortality, dependence on landed gentry, and subjugation. The land hunger is, therefore, quite intense.

Though land is the most important resource of the rural people, the mere size of family or group landownership does not really give a true picture of the net income it yields unless we take note of its associated characteristics and facilities as well as techno-economic inputs. The

related aspects that need to be studied are the topography, nature of the soil, climatic conditions, crop pattern, capital inputs, and the level of agricultural techniques including farm power and tools. The interplay of such factors determines the agricultural yield and thereby broadly the pattern and the levels of living. In addition, we must also note the different levels of efficiency that obtain in different communities in carrying on cultivation. The differing efficiency is the result of varying socio-economic conditions under which people lead their lives.

Income and Expenditure:

Here also in estimating income and expenditure we face many conceptual problems, which are basically related to conceptualization and measurement. This is an area which is amenable for quantification, whatever the limitations of quantification. What we would like to point out is the fact that many non-economic aspects influence and are influenced by the economic aspects of rural India. For instance, the social nature of work-groups which are based on kinship and friendship bonds and obligations (Baric 1967) are very important in the family-based economic organization of village India. Similarly, the income and expenditures involved in *Jajmani* or fixed economic relationship as well as gift and redistributive exchange are quite significant and they should also be considered in addition to direct input-output analysis of the agrarian economy (Belshaw 1969; Davis 1972; Epstein 1967; Gould 1958;

* The junior author in his study of Hiliyana, a South Kanara village, in 1958 found that, of the total cultivated land of 682 acres, 85.41% is owned by the dominant caste group of Bunts. The remaining 14.59% is owned by Brahmins of which only 3.65 acres is held by 3 Brahmin families and the rest by Udipi Mutt.

Harper 1959; Kolenda 1963; Mauss 1925; Neal 1957; and Wiser 1936).

The economic variables like extent of ownership of economic resources, the level of income and the level of consumption are quite helpful in conceiving the different segments of the rural population which occupies stratified socio-economic statuses, the lowest being the poor.

India is known as a poor and backward country and poverty definitely comes in the way of socio-economic development. While poverty is a problem of the minorities in the advanced countries, land is confined to about 20% of their population, in India it is the problem of the majority involving about 70% of the population (of Galbraith 1958). Two approaches, among others, to the study of poverty deserve mention: one, the *standard* approach of the economists in which an income (or consumption level) which is socially accepted as proper is specified and those below this level are considered poor; the other approach may be called as the *relative* approach (which we espouse in this paper). According to the latter, the ecological (fertile or barren region) geographical (location; rural vs. urban) and socio-cultural (caste or communities) aspects of the poor are studied. Since there is correlation between these approaches the phenomenon of poverty has to utilise both the approaches. Therefore, we have to speak of poverty at different levels—economic, socio cultural and psychological.

The idea of poverty line put forth by economists is very helpful to delimit the extent of the poor in a population though the bases of that line itself vary from researcher to researcher: from paise 50 at 1960-61 prices to paise 93 at 1970-71

prices, per capita expenditure. Quite a large proportion of rural population lives below the poverty line in this country, the estimates varying from 246 million in 1968, 223.5 million to 245 million in 1975. Everybody knows that the life of the poor is becoming poorer in the last one decade and a half. The recent National Sample Survey findings show that the urban areas have a higher percentage of the poor than the rural (Indian Express dated 19-4-1976). Of course there is considerable variation in the incidence of poverty among the States in India with Tamil Nadu being the poorest (59.23% of population), and Punjab and Himachala Pradesh being comparatively well off (15.30% and 12.27% respectively).

Interestingly, the N.S.S. subdivides poverty under three heads: "severe destitution", "destitution" and "poverty"—these being defined as those with per capita consumption expenditure of 70, 80, and 93 paise, per day, respectively in the rural areas and 93 paise, Rs. 1.13 and Rs. 1.43 respectively in urban areas, at 1970-71 prices.

In case of expenditure, what is spent on food, clothing, housing, material possessions, medicine, education, recreation, and social security have to be examined; savings and investments and availability of credit should also be gone into. All these determine the quality of life lived by different segments of the rural population.

At this point, it is appropriate to refer to a very good study on the possessions of the poor by Oscar Lewis (1969) who concluded that material want reveals quite a lot about poverty in general, as gleaned through the material possessions of the

poor households. For the purpose, he studied in great detail one of the poorest tenements in Mexico City, that housed 14 families totalling 83 people, each family occupying windowless, one-room apartment built of adobe-brick and covered with a cement roof which was common to all apartments. The impression of extreme poverty given by the tenement was amply substantiated by an inventory the researcher made of the possessions of the 14 households. The total value of all their belongings was, on average, \$338 per household. The inventory of material possessions consisted of the following 13 categories: furniture and furnishings, personal clothing, bed clothes, household equipment, kitchen equipment, household decorations, jewellery and other items of personal adornment, religious objects, toys, medicines, animals, plants, and the tools and materials of certain households who carried on trades at home.

Lewis' justification of such studies is more instructive for us :

"We all recognize poverty when we are confronted with it, but it is not easy to define the condition in objective terms. Income itself is not an entirely adequate measure because it does not tell us how people actually live. We come closer to describing what poverty is when we define it as the inability to satisfy one's material wants or needs. It occurred to me that it might be interesting and useful to study the material possessions of poverty-stricken people as a concrete expression of the lives they lead...

In many respects such a survey is analogous to an archaeological examination of the material remains of a

civilization. From an analysis of material objects the archaeologist can learn much about a people's history, achievements, cultural influences, values and ways of life and can make important generalizations about the society. Similarly, a quantitative analysis of the material possessions of a living society should tell us many things, including information that might escape notice in a direct study of the people themselves. In the case of a living people we have the advantage of being able to supplement the story told by the material objects by questioning the people about their possessions.

The enquiry opens up a mine of interesting questions. What proportions of their income do poor people spend on furniture, on clothing, on religious objects, on luxury items, on medicines? How much of what they buy is new? How much is second hand? To what extent do they depend on gifts or hand-me-downs? How do families in poverty finance their purchases? Where do they do their shopping? How wide are their choices? What is the physical condition of their possessions? How long do they manage to hold on to them?...

Lewis also make a distinction between poverty and 'culture of poverty'. For instance, countries like India may have many poor people but not culture of poverty even in case of poor segments of the population of (1968 : XLVIII). The economic predicament of the poor presents a vicious circle. Low wages, unemployment and under-employment lead to low income, lack of property ownership, absence of savings, absence of food

reserves in the home and a chronic shortage of cash. These conditions reduce the possibility of effective participation of the poor in the larger economic system. There is a high incidence of pawning of personal goods borrowing from local money lenders at usurious rates of interest, spontaneous informal credit devices organized by neighbours and kinsmen, the use of second hand clothing, and pattern of frequent buying of small quantities of food as the need arises.

Poverty is harmful not only to the poor but also to the economy as a whole. The abysmal poverty of the masses in this country and the sharp disparities in incomes and levels of living place severe structural constraints on the generation of effective demand which alone can ensure continuous productive activities of the economy. Accordingly, in India the structure of production is heavily weighted in favour of higher-income consumption goods which provide comparatively a more profitable market. But the erosion of middle and poor class income because of continuous inflation and slowing down of generation of new incomes and employment opportunities because of slow down in developmental activities to check inflation, have led to shrinkage of demand, affecting the production to the level of under utilization of established capacities. This in turn, has affected adversely the income and consumption levels of the people.

Occupation pattern of the villages also is an important aspect of economic base of the levels of living. Villages where agriculture is a primary occupation are better off as compared to the ones where non-agricultural pursuits like crafts, small scale and home-industries provide a major source of living for the majority

population. Similarly, within a single village the economic prospects of group and individuals are broadly dependent upon the occupation followed by them. Non-cultivating landlords, merchants, big farmers, small cultivators, landless tenants and wage labourers, craftsmen and service people—all have a distinct orientation of life conditioned by the economic earnings, the values attached to particular pursuits in the society and social rank attributed to the group based on the conception of ritually clean and unclean occupations. In many marginal cases, a single avocation is not capable of providing the where-with-all for the family, thus necessitating the acceptance of a primary and, one or more secondary occupation.

Those villages which have been carrying on the occupations long existing, without any change in techniques may be characterized as traditional while those which accept new economic opportunities, new occupations and new techniques may be called progressive. Diversification into new avenues, which is very necessary to increase the level of incomes and to take-off the surplus man-power from the land, is the need of the hour. Even before such major breakthrough in the occupation pattern of the individuals, groups, and even of village communities, a small beginning is made by way of provision of small-scale and village-industries in order to supplement the income of rural families.

2 Social Variables

Caste-hierarchy : Generally, in the village organization the economic standing of the families and the status of their caste in the caste-system are correlated. The higher caste are usually economically well-off and the lower ones are poor, though it is possible to find a few exceptions to the

contrary. The tacit assumption made by the backward classes commissions of enquiry and the government's decision to give special encouragement to the members of the backward castes and tribes is that all the members belonging to lower and scheduled castes and scheduled tribes are economically poor.

The clean occupations are the privilege of the upper castes and the ritually unclean occupations are left to the lower castes. Thus, economic position, occupation followed, the caste to which one belongs mutually reinforce to determine the rank or social prestige in the hierarchical village community. It is common knowledge that the seemingly rigid hierarchical system permits, over a period of time, a certain degree of mobility at the group level and is made possible because of the changing economic and political opportunities of certain castes (Bailey 1958). The process has been variously named as *Brahmanization*, *Sanskritization*, *Rajputization* and *Lingayatization* and so on.

In the last 50 years or so in village India, the phenomenon of caste has assumed new economic and political functions in order to adapt itself to the changing times. A significant aspect of this changing role of the caste is the emergence of a 'dominant caste' in each region, which acts as a liaison between the villages and the government, as well as a leader-group in the villages. In these capacities, the dominant group exploits the other groups, openly or clandestinely. Such a caste need not necessarily be a high caste and sets the tenor of living in the villages.

Family type and size are other social dimensions of the levels of living. The village studies have shown a correlation

between extended, large families and high economic position, though for various reasons the joint-family is under severe strain leading to its decline. Though not realised in many cases, and inspite of the tremendous difficulties in maintaining the joint family intact, as an ideal the joint family has still a hold on the minds of the villagers.

The degree of urban influence and the availability of means of transport and communication are other important variables which affect the socio-economic changes the village and the groups within it experience. Even the spatial nearness has meaning provided there are adequate facilities of transport and communication. Otherwise, even a closeby village is relatively less affected by the city than the one which is fairly away from the city but has adequate facilities of contact. So far as urban impact on the levels of living in the villages is concerned, it can be conceived into two types: villages that are under the direct influence of the city and those which lie in the remote hinterland. The easiest way of finding out this difference is by noting the economic contacts, the number of commuters to city, the frequency of visits of the villagers and the availability of *local* transport facilities. The people from villages with the direct city influence have a high degree of economic dependence like sale of their products such as vegetables, fruits, dairy products etc. in the city market and the daily commuting on the part of village wage-earners for employment. These people who spend most of their day time in cities and the night in their homes in villages exhibit a peculiar blend of rural and urban life orientations and world view, and therefore form a third category of personality. They live and share two worlds unlike others who by and large, share a single world-view. They are more open-

mind and change-prone in contrast to the rustic villagers tied down to the soil and the local community. Hence the role of villagers exposed to regular and constant city-influence is very significant in introducing programmes of change at the village level. For these reasons, the villages nearby the city are relatively well-to-do than the isolated and remoter ones. However, the urban influence on villages is not an unmixed blessing. As Redfield noted with reference to Mexican communities (1941) increasing contact and social heterogeneity which one notices as one moves from a tribal village towards the city via a peasant village and a town, lead to unmistakable consequences such as increasing disorganisation of culture, secularization and individualization. This is true of rural villages under the influences of cities. In terms of adherence to their traditional way of life, the villages near the cities are the ones which stray off from it. Such villages can be compared to adolescence in human life-cycle; they are disorganized and behave in an awkward way.

In spite of their dual impact, urbanization and the provision of a net work of transport and media of mass communication are considered as very potent means of modernization and economic development (Pool 1967).

As there can be differential impact of urbanization and communication on different villages, the same is true with reference to social groups within a single village and the individuals in a family. Much depends upon the degree of exposure to urban influence, the ability and the motivation on the part of the recipients and the incentives for seeking such contact and communication.

We should also note *the educational facilities and the level of literacy* among the rural communities. In India, during the ancient and mediæval periods, education was the prerogative of the few (the twice-borne castes and different type of education was needed for priest-craft and higher learning, state-craft and trade and commerce, while the majority comprising the cultivator and menial classes was denied access to formal education. With the introduction of British rule in India, education was secularized and democratized.

Today education is considered as an agent for change and modernization. It is considered very necessary for economic diversification. It is the recognition of this catalytic role of education which underlies the special financial aid to the education of the Schedule Castes and Schedule Tribes and other backward classes. Education has come to acquire certain new roles of national reconstruction by inculcating a sense of self-confidence and an urge for creativity among the students. It should help eradicate superstitions, thereby promoting a scientific temper and is to be geared to create the necessary atmosphere to fight social evils.

However, we have to find out what is the level of educational aspiration of the rural folk by studying what education facilities are available at the village level, what do they do in order to prosecute education for which there are no local facilities, the amount of money spent on education and what, according to them, is the use of the education. Studies of educational attainments show a direct correlation between socio-economic status of the family and the educational performance and attainments of children.

In spite of sizeable investment on education, India's literacy percentage is only 30 and of this, the majority belongs to primary and secondary levels. Even in this meagre proportion, the percentage of rural literacy is lesser than urban one. Secondly, the literacy rate is quite uneven as between higher classes and the poor sections. This has created a gap between the masses and the elite in the country, leading to a lack of effective communication between the educated elite and illiterate and not-so educated masses.

3. The degree of impact of sponsored programmes of socio-economic change:

The introduction of community development programme has been a very important new item in the life of villages. Therefore, its impact can be considered as one of the indicators of rural levels of living.

According to 1971 census a little less than 80% of the country's population lives in villages and Gandhiji was right in saying India lives in villages. Nearly 70% of the total population consists of agricultural classes and about 90% of them live in villages. In the light of these problems it is not difficult to understand the importance of agriculture and rural community development for the progress of India.

The basic aims of the movement as stated in the First Five-Year Plan document were, and continue to be, two (Dube 1967; 8): (i) to provide for a substantial increase in the country's agricultural production, and for improvements in the system of communications,

in rural health and hygiene, and in village education; (ii) to initiate and direct a process of integrated culture change aimed at transforming the social and economic life of the villages.

Though the community development programme is in operation since October 2, 1952, all the villagers or different groups within them have not been benefited to the same extent. Therefore, while assessing the impact on the rural areas, we have to be guided, not by what is said by the officials or what is written in terms of aims and objects, but in terms of what really has reached the villagers and to what extent their lives have changed for the better in objective terms as well as in terms of values, attitudes and mentality. The various extension services such as agricultural extension, co-operative extension which were supposed to revolutionize the village life have not achieved fully their objectives and targets. The various co-operatives at the village level have benefited only the rich people, in many places. They have to realise that they have also an obligation to the poorer sections of the population.

Though the community development programme was to be primarily a people's movement and the government's rule was to be limited to helping the people to help themselves, the case studies reported reveal that bureaucracy, in reality, has emerged as the key instrument of this programme, whereas at various levels of the administration there is need for changing the outlook of the officials so as to make them realise the importance of their roles to make the movement more effective.

All information on the impact of the movement shows that the benefits of the programmes have accrued mostly to the well-to-do high castes, thereby exonerating the already existing economic and social disparities in rural India. The facilities provided by agricultural extension service have mainly been utilized by the rich farmers. The working of the new agricultural strategy of the Agricultural Department with its heavy accent on providing facilities for raising marketable surpluses has led to alienation of small farmers from land and its greater concentration in the hands of larger farmers.

4. Social Participation and Political awareness :

These variables also seem to be correlated with the others discussed so far. The social participation in the form of membership and active interest in various social organizations, and political awareness are high in case of rich villagers who usually belong the higher castes and who are generally educated. The opposite is the case with the poorer and low cast people. It is only recently that we find the various castes forming their own associations to safeguard their interests. Some of them have attained all-India level.

The greater politicization of the rural elite makes them aware of recent legislation, even well in advance so as to take care of their interest. Even among the SCs and STs, it is the well-to-do and educated who avail the special facilities and there are reports regarding the exploitation of the illiterate and ignorant among them by the educated.

The social prestige and political importance of the rural elite give them certain privileges and they are sought after by the higher-ups in the political system. This

gives them access to centres of political power at the block, district and state, and even at the national level, providing them easy leverage for manoeuvring, thereby reinforcing the advantages which they enjoy because of other factors. What is striking in village India is the phenomenal increase in the disparity of income because of the increasing opportunities for getting richer for the richer sections, due to the rising agricultural prices, government subsidies and loans, and their increasing participation in the wider economic and socio-political arena, and the inability (economic, educational and political) of the poorer sections to utilize these very opportunities. The very facilities and services which are meant for alleviating the misery and poverty of the poor do not really reach them, partly because of the inability of the poor to avail them and partly because these facilities etc. are dried up in the middle of the way before reaching the poor. The lack of effective participation and integration of the poor in the major institutions of larger society result from a variety of factors like lack of economic resources, social segregation and discrimination, fear, suspicion or apathy, and the development of local solution for problems.

As a result, the traditional single style of life of the rural villages with a more or less similar world view, values, ideas and aspirations is fast changing into a plurality of styles, leading to increasing heterogeneity in the rural society. To the usual ritual and social rank-scale of the caste society are now being added new aspects such as economic, political and modernistic characteristics.

Thus, various indicators such as caste, occupations, level of educations, social participation, land ownership, type of house, farm power, material possessions,

family type and size, political awareness and level of aspirations together give an idea of rural levels of living. Depending upon their theoretical preoccupations or differing situations studied, different researchers pick up a few indicators among these as crucial or the most important ones; but there is no agreement on this issue.

Based upon a study of two villages in a community development block in U. P. Dube has broadly classified the population of the villages into three distinct socio-economic groups and we quote him to sum up this section :

A. The upper group of agriculturists, and higher income segments of the population, consisting mainly of the dominant agricultural caste as well as the upper castes and a few people with better economic status drawn from the other castes.

B. The middle group of less well-to-do agriculturists, and artisans and occupational castes.

C. The lower group of low status and lower income castes (consisting mainly of untouchables and other poor agricultural labourers).

There is a small but significant section which may be called the rural *elite*. It includes mostly people from the higher income and higher status groups who have some education and urban contacts, and have active interest and influence in village and inter-village politics. Politically conscious vocal and assertive members of the lower groups especially those rising to positions of village leadership

through elections to the recently instituted units of village self-government, can also acquire membership to this group, although there is considerable initial resistance to their admission from the rural gentry and the established village leadership" (1967:57).

CONCLUSION : THE CULTURAL CONTEXT OF SPONSORED SOCIO-ECONOMIC CHANGES :

Even before the era of planned change, Indian society has been experiencing changes which were non-directive or automatic. With the beginning of planning, the range and rate of change have increased tremendously and, as a result, the rural communities are also experiencing unprecedented changes. As a result, the social structure and social organisation of the villages are also affected. The democratization of the polity, abolition of discrimination of various kinds, attempts to reduce the abysmal economic inequality by abolishing various types of concentration of wealth, increasing facilities of health, education, recreation, all these have differential impact on different segments of rural population; and as a result the traditional stable relationships and institutional arrangements between the various rural groups are undergoing radical transformations. To eradicate poverty, we do not have a dearth of programmes; what we need is effective implementation of these programmes.

The basic problem here is; do these changes ensure a better life? At what social and psychological costs are these changes brought about? Can there be a painless change? Or is it possible to minimize the unavoidable problems which are inherent in any type of change. We

do not have precise answers to all these fundamental questions. Even some of the answers we put forth may not be wholly satisfactory. The situation is a very intricate and complicated one, and the perspective of a single discipline cannot hope to provide the key for varied problems of economic development and cultural modernization. An integrated approach tapping the perspectives and methods of various social sciences is the only way-out and the collaboration of different social sciences in this workshop is the testimony of this realization. Craving not to be mistaken for conservatives or no-changers, we offer the following caution to be observed while introducing changes affecting the rural levels of living by drastically altering the existing relationships, if such programmes of eliminating poverty are not to create many more problems than they hope to solve.

A scientific approach to any kind of change must take account of a complex set of variables involved in the process. First, the society itself must be taken into consideration since it is in the society that the change has to take place. Inadequate understanding of its structure and ethos can lead the policy makers to failures of the objective of programmes of change. On the other hand, the process of induced change may be greatly facilitated if programmes are based on a proper understanding of the dominant values, attitudes and motivations of the society.

The detailed studies of Indian villages in regard to their groups, norms, patterns of attitudes, and reactions to change, and ideologies, goals and values, conducted by anthropologists and rural sociologists deserve serious consideration in this context. Since Indian villages are even

now largely tradition-directed the approach to and strategy of change has to be different from those adopted for inner directed or outer-directed societies. It is necessary to examine the patterns of social relationships before upsetting the functional inter-relationships of the various groups within the villages in an effort to herald an egalitarian society. Luis Dumont says that Indian society, more so its rural part, is essentially hierarchic in nature and the process of transition to egalitarian one, has to be a slow and prolonged one, if the change is not to give a severe jolt to its equilibrium. This does not mean we should not immediately attend to the pressing needs of the most down-trodden sections of the population.

Equally important is the problem of individual adaptation to newly set cultural goals and institutionalized means like reducing the inequality by resorting to increasingly progressive taxation, ceilings on bigger landholdings, special aid to the backward sections of the population, and abolition of social discriminations such as untouchability and exploitation practices such as usurious rates of interest, bonded labour, *beggar* etc. Here the relevant points to investigate would be: do individuals accept the new norms, ideas and practices and the institutional means? In some cases they may accept the new goals but not the means so that they are reintegrating the new goals in terms of existing practices. Here we may come across a series of responses from willing and total acceptance to passive rejection of both goals and means (escapism) or active rebellion.

Similarly, no approach to change in village community can ignore the constituent groups. What is the nature of

caste or religious groups in the villages? Can they be identified on the basis of their stability over time? Which and how many groups are transient, recurrent and stable? Are they formal or informal and what is their relative position in the structure of the village? Are they oriented to kin, territory or to specific interests? These are some of the queries relevant for understanding the group dynamics in village India. Equally important is an analysis of norms and roles in the villages.

Questions of immediate relevance in the context of reorganizing the rural groups affecting their relative social positions and economical prospects are in the general areas of leadership, cultural view of change and emergent aspects of society into which we are not delving deep. An accepted item of change has to be intergated into the total cultural fabric of the society, and, in the process, other areas of life also are affected.

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INDICATORS OF RURAL LEVELS OF LIVING

By

N. SUBRAMANIAN

History

The problem of "the indicators of rural levels of living" if taken to be a static phenomenon will not belong to history; for history to be interested in any problem, it shall not just be static; it must be dynamic, function in time and generally belong to the past. So if it be contended that it is within the right of an economist to take a snapshot of certain social condition at a given moment of time and say that is also an indication of a certain social phenomenon, the contention may be accepted as valid but rejected by the historian as irrelevant to him. "What does he do with such phenomena?" is the logically next question to which the historian's answer is that he allows that phenomenon to become a past phenomenon, watches its behaviour and consequences and then begins to interest himself in it. Now, let us ask a question: Who is a poor man? The economist and his tools supported by the tools of other neighbouring disciplines like statistics, geography etc. are necessary to fashion answer to this; but this question by itself can have no social meaning. Its only value can be to provide some cerebral exercise and to secure a fact—answer which will have no personality. It must be followed by two more questions: (i) why or how did he become poor? and (ii) what shall we do about this condition? The former question belongs to the historian while the latter belongs to the political scientist. The

circumstances which brought about the poverty of this person are historical and so they belong to the historian. The eradication of poverty by means of legislation followed by administrative action based on executive decision is a concern of the political scientist, for he deals with those procedures. What I have now said is on the assumption that any rational person who wants to identify a poverty situation will also be logically interested in its causes and its remedy.

Now, historically the poor have been in large numbers clustering in villages, though urban areas were no strangers to poverty; for the reason that the King, his court, his officers, the army and other power-holders were mostly to be found in urban areas and their interest in village fold was mostly to extract revenue from them. Their interest in their welfare was also generally due to the fact that the villager must live to take his taxes. This does not preclude a few rich peoples in villages and a number of poor wretches in the capital city or other urban areas. This fact is testified to by those who have personally noticed the differences in the "ways of life" (style, levels, quality of life have been spoken of—I say "ways") among the people in villages and the city folk in Vijayanagar, Agra, Delhi and other capitals.

In the Indian context, even in the villages some of which were granted tax-free to certain groups of persons for non-economic reasons but with economic consequences, (like depriving persons engaged in economically productive activities from having access to property which was granted to persons like brahmins and institutions like temples which were not designed for economically productive activities) these groups were monetarily poor, compared to the merchants or the successful landholders, but enjoyed enormous prestige and indirect power out of all proportion to: 1. their number in society and 2. their economically productive work etc. This economic limitation did not work as any kind of deprivation on these privileged groups; for they had power *plus* basic needs provided. So in certain villages like the Aghrahams, poverty was not necessarily indicated by lack of obvious affluence or absence of conspicuous property; this criterion would be misleading in that case. That is, there were and or groups in our society which develop vested interests in poverty so that they could become objects of commiseration which might lead to unearned income for them.

I said just now that for a historian the phenomenon of deprivation should be a process in time. This time could be a long period or a matter of days or hours or minutes. In Tamil, we speak of two kinds of the poor. (i) the *Paramparai Andi* (the traditionally poor) and (ii) the *Panchathukku Andi* (the temporarily poor). The former will be indicated by comprehensive poverty i.e., illiteracy, lack of skills, want of ancestral property, inability to secure employment due to his belonging to his group.

The latter can be illustrated thus: I. Imagine a son of a very rich father who

till the moment he dies enables his son to live a princely life, but soon dies leaving a testament by which he wills away *all* his property to persons hostile to his son. The son at once becomes a pauper. He feels his poverty more for two reasons: (i) believing that his prosperity would continue, he did not develop freedom from external aid or assistance; and (ii) because he knew prosperity and by contrast felt his poverty more than a traditionally poor man who somehow gets adjusted, to some extent at least, to poverty. This deprivation occurs momentarily and could be the starting point of longstanding poverty. II. A father who in old age gets no pension, has saved nothing for himself and is therefore dependent on his earning son. If the son turns him out, the father becomes a pauper. He also is suddenly deprived. He feels it more because, (i) he is sorry he did not save for himself; (ii) he spent so much on an ungrateful son. These deprivations can be rectified only by political action; e.g. in the former case it can be legislated that a father can will away even self-earned property only after providing for legitimate dependents; in the latter case it can be laid down that the state shall look after all persons past a certain age and who are not otherwise cared for.

But for the permanent cases of group poverty in rural areas (and even urban areas like the residents of slums) long term measures of alleviation are required. Now I know that I have not strictly followed the theme, namely "indicators of rural levels of living". This is a theme which transcends the poor and includes all rural folk to whatever level of living they might belong, none excluding a very rich landlord who lives in a village and whose cultural level is not much different from that of his own farm labourer. This

is a wide spectrum. The historian has no means of knowing anything about his problem; for if the economist or the sociologists get the data, after allowing for sufficient lapse of time, he will put the stratification to test with reference to the consequences of the stratification and make history. Till then he has no interest in it, i. e. professionally.

There was a basic issue raised about the historical process being concerned more with the typical than with the unique. It is not a question which demands an "yes" or "no" answer. It is "yes" and "no". For it is true that there is no type without the unique and *vice-versa*. We may have general theories regarding criminals, but when the court deals with a particular criminal, it starts investigating him afresh and in detail to discover the unique in him. We know dictators are a type: but new unique instances constantly come in so that we

have reservations about our "General theory of dictators" till the last one is observed and docketed. So among the poor it is true that "the poor man" is a type; but the type relates to a group which necessarily consist of a number of individual poor, each one of whom reveal important unique characteristics. The difficulty about the normative sciences dealing with hypothesis, analysis, and law is that once they arrive at a general principle, they tend to consider that principle sacred and are generally unwilling to examine unique cases falling outside that principle. "Poverty" being a human problem, the blunter the tools we employ in dealing with it, the better. The economist and others are already functioning in an interdisciplinary style when they deal with a human problem, like wanting to know e.g., the history of a problem before analysing it and so forth. We are now trying only to theorise the procedure.

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