

# BULLETIN

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TOWNS AROUND MADRAS CITY

DAR - ES - SALAAM IN PERSPECTIVE



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# MONTHLY BULLETIN

## CONTENTS

	Page
1. Editorial — Some Highlights	
I. General Economic Scene	... 351
II. Agricultural Development	... 365
III. Industrial Production	... 368
IV. Education, Science and Health	... 372
V. Employment	... 376
VI. Other Items	... 377
2. Towns Around Madras City	... 379
3. Dar-es-Salaam in Perspective	... 388
4. Book - Review	... 392



# EDITORIAL-SOME HIGHLIGHTS

## I General Economic Scene

### State

#### Weather

June was a hot and dry month when the damage caused by the May cyclone (see last issue p. 297) was attended to. The more serious devastation which was suffered by Andhra Pradesh was assessed by a Union government team, resulting in a Union government grant of Rs. 25.97 crores and a short term loan of Rs. 10 crores to the state government. In addition rice worth Rs. 10 crores is being provided under the food for work programme. Also the Agriculture, Commerce, Health and Family Welfare and Industry Ministries are aiding the state and the suffering people. Rs. 9.85 lakhs in essential medicine, disinfectants and insecticides have been supplied, as well as term loans to tobacco growers who suffered serious losses and more generally meeting the credit needs of farmers in the affected areas. June also witnessed throughout the country, particularly in Kerala, Maharashtra, Assam and West Bengal, a week to 10 days' delay in the onset of the southwest monsoon leading to drying up of newly sown fields of paddy in Kerala and West Bengal and damage to the jute crop in West Bengal and Assam. Not only were agricultural operations disrupted, there was the problem of drinking water, coconut and arecanut plantations

were hard hit and the power projects became worrisome. However the monsoon set in by mid-June and was in full force by the end of the month.

#### Power

As noted earlier, due to the south-west monsoon which broke in mid-June, the state's storage in its hydel reservoirs began increasing. By the end of June the storage position was the equivalent of 387 million units per day as against 387 million units in June 20, 1978 and 175 million units on June 20, 1977. On top, Ennore and Basin Bridge thermal plants were producing 7.8 million units per day, and Neyveli 8.85 million units per day. Kerala was supplying 2.74 million units per day. On July 8, the first unit of the Tuticorin thermal plant with a capacity of generating 210 MW is to be commissioned. As a result, from June 27 all restrictions on power supply to high tension non-continuous industries and to continuous process industries were removed by the government. In March, 30 per cent cut on HT non-continuous industries, 15 per cent cut on continuous process industries along with staggered holidays for non-continuous industries were imposed by government (see vol. IX., p. 235). The agreement with Kerala for power supply comes to an end at the end of June and negotiations are under way for a new agreement. Tamil Nadu has offered to

invest in joint sector projects in Kerala to generate hydro electric power. It has been computed that to generate 3000 MW of hydel power in Kerala, Rs. 1,000 crores would be needed. Tamil Nadu government will finance a such scheme jointly.

For the country as a whole, the power situation in June was similar. In Maharashtra, the government discontinued power supply to all general industries including textile mills from June 17 to 21 because by June 16 the water level in the catchment area at Koyna and other hydel stations dropped to a record low point. For the period immediately after June 22, Maharashtra entered into a barter deal with Gujarat under which in exchange for giving Gujarat 400 tonnes of fuel oil from its quota, Maharashtra will get 200 MW of power for seven nights from June 25. The state was also getting 40 MW from Karnataka and 30 MW from Madhya Pradesh. Most of Bihar including Patna were in darkness by mid-June as power generation of Bihar State Electricity Board slumped to about 100 MW to the breakdown in the Patratu thermal power station. DVC power supply fell during June to 500 MW from 750-800 MW a day. The Bengal power crisis continued in June. One major cause for the poor power generation situation in the country is the neglect of maintenance systems, services and personnel requirements by thermal power stations, the NPC on the power sector shows. All emphasis is on generation and design with not enough attention to maintenance and repair and so the quality of machinery repair suffers. It reports that a unit of two 110 MW generation sets has had more forced outages than the planned ones, 90 breakdowns in 1974-75 and 120 breakdowns in 1975-76 in major equipment

like boilers and turbines. Alongside of the long term power generation plans to ease acute power shortage by 1982-83 by the addition of 18,500 MW to the country's generating capacity raising its total to 44,500 MW which is the Ministry's VI Plan target, and alongside of the plan to set up small power plants of 10 MW each near coal mines to ensure uninterrupted supply of power to coal mines and the good plans and designs for the super thermal plants (Tata Electric has awarded the contract to Engineering Construction Corporation for the first 500 MW thermal plant boiler), what is needed is planned use of maintenance personnel in such matters as the supervision guidance and evaluation when a breakdown occurs, availability of proper tools and skilled workers, building up proper records and information retrieval and the training in use of correct techniques by the maintenance personnel. Each power station should be made responsible for critical spare parts management. With the out break of the monsoon from June 25, power was made available to general industrial units to work in two shifts. The agreement with the Soviet Union on heavy water supply means that the record unit of the Rajasthan atomic project can start generating an additional 208 MW before the end of the year.

## Water

After nearly 14 years, the Mettur waters were made available for irrigation from mid-June of this year. The effect on farming in the Cauvery delta will be referred to in the agricultural development section. The sharing of water between Tamil Nadu and Kerala in the Pandiyar-Punnapuzha power project is still under negotiation between the two governments. The original plan was that after generating power, the water would be diverted back to Kerala. Subsequently



Tamil Nadu has wanted to use part of the waters for irrigation in the state (see vol. VII, p. 577) and this has to be negotiated. The Rs. 16 crore Siruvani dam project which by impounding water from the south-west monsoon will increase the drinking water supply in the Coimbatore area was again held up for over a week due to the workers strike. The dam has reached a height of 31 metres and only 330 cubic metres of masonry work is needed to complete the project in 10 days. Work was resumed on June 12 but even the partial completion of the dam was not possible before the onset of the monsoon which now postpones its completion till after the monsoon which is a delay of 3 months.

### Small Savings

In the 1978-79 National Savings Scheme, Tamil Nadu's gross and net collections at Rs. 144.6 crores and Rs. 50.19 crores against Rs. 129.5 crores and Rs. 37.2 crores in 1977-78 was a record. The major increases were in the sale of national savings certificates and national development bonds. Time deposits also gave a higher rate of return, sending up their total from Rs. 44 crores to Rs. 52 crores; post office savings increased from Rs. 55 crores to Rs. 67 crores and certificates and bonds sales from Rs. 3.22 crores to Rs. 8.45 crores. So the state exceeded all the savings targets and among the districts, Madras stood out with Rs. 30 crores, followed by Coimbatore Rs. 4 crores, Salem Rs. 2.86 crores and Tirunelveli Rs. 2.53 crores. During the current year the trend is continuing with the general agency and women's agency collections doubling over 1978-79 collections.

## National

### VI Plan

The finalisation of the VI Plan has had to take into account a number of factors. One is the price rise factor which has characterised the last four months and which has led the commission to raise the total outlay slightly to allow for the increased cost of projects. The increased outlay will, in the main, be met by additional resource mobilisation by the states, which in the Draft Plan of Rs. 116,240 crores were to raise Rs. 4,000 crores. Also there is likely to be a larger drawing down of foreign exchange reserves over the Rs. 1,180 crores projected in the Draft Plan. Another factor that had to be taken into account was the NDC decision about the restructuring of central and centrally sponsored projects and the sharing of their financing on a 50-50 basis between the Union and the States as well as the application of the Gadgil and the other agreed criteria as between states. The Commission has set its face against any further price increases — on foodgrains prices for the kharif season or support prices for the coming cotton season. The Agricultural Prices Commission has recommended a Rs. 10 per quintal increase from Rs. 255 to Rs. 265 per quintal and the Commission's opposition is based on its rolling effect on textile prices. An outlay of Rs. 4,180 crores has been fixed for the revised minimum needs programme, which is in the state sector but whose financing is 'earmarked', so that it cannot be diverted. The VI Plan, with the finalisation of the state plans, is now ready for presentation to the Cabinet by mid-July and to NDC by July end for approval.

### Prices and Anti-Inflation

The inflationary pressure continued in May, the wholesale price index rising by

2 per cent for the month, 8.4 per cent for the year and 6 per cent since the presentation of the Union Budget. This is the third straight month of price increase and the rate of increase is disturbing. The wholesale price index stood at 198.1 for the week ending May 26 and 199.1 for the week ending June 2. The largest price increases were in the primary articles group (2.9 per cent) — oilseeds 3.4 per cent, pulses, 2.4 per cent and cereals 1 per cent with crude showing no change and fibres falling by 1.3 per cent. The fuel, power and light group show no change. The third group manufactured products, rose by 1.8 per cent, with sugar leading by 6.7 per cent (by 26 per cent for the 12 month period), electrical machinery 2.4 per cent, jute 2.2 per cent, chemicals and transport equipment 1.8 per cent, cotton textiles 1.4 per cent, edible oils 1.3 per cent and metal products 1.2 per cent. The inflationary pressure comes from the lack of an income-wage-price policy, the continued inflow of foreign remittances, the lack of recovery of 73 per cent of loans made under the differential rate of interest scheme (the banks report that out of Rs. 2,966.22 lakhs which should have been recovered during the quarter ending December 31, 1978, only Rs. 865.27 lakhs were recovered) to cover which a subsidy scheme to compensate the public sector banks is under study and the various price increases for foodgrains, coal, steel, cement, paper, cotton which are under study and which as noted earlier are all opposed completely by the Planning Commission. On anti-inflation, the Union Cabinet has under study a comprehensive plan on cutting back on government expenditures, RBI's actions to restrict credit, the freezing of banks payments and an expanded public distribution system to cut back on government expenditures, the Union government decided that no additional budget provi-

sions will be approved unless it was originally provided for; there is to be no reappropriation from plan to non plan activity; no additional posts are to be sanctioned unless there is surrender of equivalent posts; additional allotments on travel, telephone etc, will not be made; and executing the recommendations of the Mishra Committee on economies on administrative and non-plan expenditures. The Union commerce ministry also reports that the production cum distribution programme will go into effect on July 1 and by the end of 1979 the entire country will be covered by a net-work of distribution centres, where selected essential commodities would be available at prescribed prices. To back up the programme, production of the goods is being organised by the states, any short supply being made up by imports. To start with, the ministry is intervening in the market in a massive way to check the rising prices of edible oil. STC is providing palmolein oil to various centres around the country at Rs. 7,250 per tonne to check the spurt of groundnut oil prices from Rs. 7,500 to Rs. 7,900 per tonne. Under the distribution scheme, the number of fair price shops will be increased from 3 to 3.5 lakhs, so that one centre for a population of 2,000 would be attained. The shops will offer additional items such as tea, coffee, matches, toilet and washing soaps, exercise books for students and cheaper varieties of cloth like Janata sari and dhoti, and depending on state governments' possibilities some centres will offer vegetables, eggs, onions, potatoes, milk and mutton and as the scheme develops in the future, pulses, salt, vanaspathi, sugar and baby food as suggested by a number of states. The scheme will start on July 1 with 13 items; wheat products, rice, coarse grains, processed oils, kerosene, controlled cloth, common varieties of cheap cloth, matches,

toilet and washing soap, exercise books, tea and coffee. The unviable aspect of dealing with inflationary pressures after they occur is the stop, wait, go system which is disruptive of the economy and the distributive system as it affects the poor majority.

### Loans

On June 15, the Union government announced the issue of three loans aggregating Rs. 600 crores. The lists will open on July 2 and close on July 4. On June 22, the government announced the issue of 7 year national rural development bonds, bearing an interest of 7.5 per cent per annum. The proceeds of the bonds are to be used entirely for rural development. It will be recalled that the Union budget provided for such investments being made eligible for capital gains tax exemption.

### Agricultural Labour Indebtedness

A government study published in June states that the average debt of an agricultural labour household increased from Rs. 148 in 1964-65 to Rs. 387 in 1974-75, with money lenders being the main source of loans. Households with land are more prone to debt (71 per cent of the total) than the landless (62 per cent of total) and the loan is mainly for non-productive purposes. More than 75 per cent of the agricultural households in Tamil Nadu, Haryana, Kerala and Rajasthan are in debt and except for Assam, the incidence of debt increased in all states. The average amount of debt outstanding per agricultural household was Rs. 584, an increase of 139 percent in the decade. The average amount of debt outstanding per scheduled caste and tribe household was Rs. 393 and Rs. 187. Of the total debt owing in 1974-75, money lenders accounted for 48 per cent, which was 17 per cent more than 1964-65. Loans from friends and

relatives stood at 26.5 per cent and that from employers at 10.2 per cent and shopkeepers 6.7 per cent and loans from co-operative societies showed a small increase from 5.1 to 5.3 per cent during the decade. Loans for household consumption accounted for 48.2 per cent of the debt, festivals and marriage 18.8 per cent and for production purposes 12.7 per cent. In the nature of the debt, hereditary and contracted loans formed 95 per cent of the total. For scheduled caste and tribe agricultural labour households, loans in cash formed 78 and 60 per cent of the debt. The survey also showed that 41 per cent of the households were either free of debt or owed small amounts of upto Rs. 50.

### Economy and Public Sector Performance

The Planning Commission estimates that growth rate of the economy this year is around 4.4 per cent (against the Finance Ministry which places it at 3.5 per cent). The Planning Commission analysis is based on an 8 per cent growth rate for industry with power and transport as the lead sectors and 2.5 per cent for agriculture. An IMF review of the Indian economy is also positive, endorsing the emphasis on agriculture along with the need to improve agricultural pricing in certain commodities. In the industrial sector, it suggests maintaining an appropriate balance between labour intensive small and medium industries and adequately rewarded large scale enterprises. It welcomed the government's policy to revive private sector investment. The economy needed the expansionary policies of the past year to promote faster use of available resources, unused capacities and as a means of stimulating private sector investment. But as the economic slack has been taken up the expansionary policies need to be reviewed and used

with greater caution. The DGT reports that the 109 industries on its rolls registered an overall growth rate of 10.3 per cent in April compared to April 1978. Of these, 68 industries with a total weightage of 20.47 recorded a growth of over 10 per cent. The lead units were commercial vehicles (20.9), tractors (34.2), food manufactures (13.3), metal products (12.2), electrical appliances (16.2) and machinery other than electricals (15.78). The industries with a lower than 10 per cent growth were pumps (9.8), fertiliser (8.6), soda ash (4.2), polythylene (9.1) and streptomycin (9.4). 21 industries with a weightage of 8.35 recorded a decline — paper (1.8), cement (6.2) explosives (6), railway wagons (12.5) and calcium carbide (10.8). Infrastructural facilities — power, coal, transportation and industrial relations are being improved to increase performance in May and some sections like cement, commercial vehicles are showing an upward trend, while the low performances are being watched and aided to improve their performance.

## National Production Front

### Steel

Rourkela reports that it exceeded its May target, producing 1.02 lakh tonnes of ingot steel (102.3 per cent of the target), despite the shut down for repair of its large capacity blast furnace. The Vizag steel plant is now all set for work to be started by December. Soviet Union offered 250 roubles as the initial instalment to start the project. The total cost of the project including infrastructural facilities will be Rs. 2,500 crores. The first stage steel plant is expected to go on stream within 4 years with the help of a set of managers who have mastered the techniques of project management and with the assurance of imports of equipment in case the indigenous supply is delayed.

Work on the first stage with a capacity of 1.2 million tonnes of saleable steel will start in April 1980 on the basis of the preparatory work on the greenfield site which will start by the end of 1979. The detailed project report is being revised by Dastur in consultation with Gipromet, the Soviet Organisation and an agreement for building a 7 metre high coke oven battery at the plant has been signed by MECON and Gipromet. It is expected that a long term agreement will be entered with the Soviet Union to supply coking coal and oil on a barter basis for bauxite and alumina which will meet the needs of the steel mills in the country.

### Crude

The major event in regard to crude in June was the effect of the OPEC decision in June to raise the April price of crude from an average of \$ 14.51 a barrel to \$ 21 a barrel from July 1 which will involve an additional annual foreign exchange outgo of Rs. 1,200 crores. This is further to the additional Rs. 600 crores outgo resulting from the April hike to Rs. 14.52 per barrel noted in vol. IX, p. 245. The total crude imports for 1979-80 will be 16.5 million tonnes, with 4 million tonnes of product imports. Some imports have been made but the major part will be against the \$ 21 price, which is above the earlier estimate of Rs. 2,400 crores for the year. The government has under study the problem of who will pay for this increase and the extent to which the price will have for the consumer to restrict consumption without further stoking the fires of inflation. Against this background, the request to the Soviet Union for an additional supply of crude over and above the 600,000 tonnes agreed to becomes important. Even more important, ONGC announces that in June exploratory drilling for oil in the Palk Straits was started with the drilling

ship, Gettysberg. In addition, ONGC also announces that it will be shortly taking up exploratory drilling in the two offshore areas, adjoining Kasargode on the Kerala-Mangalore coast and in the Godavari basin along the AP coast. It is now evaluating the offers for the chartering of drilling rigs, the supply of which is tight and involving the companies when selected transferring the vessels from other locations in the world to India. This will involve waiting till the end of the monsoon before work on these two locations is taken up. A Soviet team is now at work with ONGC for combined geological exploration of oil and gas resources in offshore areas, particularly in West Bengal as well as in the Himalayan foothills and the Ganga valley. In the Ankleshwar oil fields in Gujarat from 2.8 million tonnes in 1978-79 which was the peak, output in 1979-80 is reduced to 2.25 million tonnes, and in 1980 will be 2 million tonnes and in later years 1.4 million tonnes — which will prolong the life of the oil field and sustain production from the secondary recovery methods, on which the Institute of Recovery Studies in Ahmedabad is carrying out a number of studies in secondary recovery, including polymer flooding, water flooding, hydro fracturing and gas lift of oil with Soviet and French assistance. ONGC is also inviting global tenders for laying the subpipeline from South Bassein in Bombay High to the shore terminal Kawas in Surat over a distance of 246 km for pumping gas to the proposed fertiliser plants in Thal-Vaishet and Kawas. Its telecommunication and telemetry project Titan, linking the Bombay High offshore oil fields and the shore terminal in Uran is expected to be completed by May 1980. Oil India reports establishing a drilling record by striking oil at 5265 metres at Kumchai in Arunachal Pradesh with its difficult and harsh sub-surface geological surface.

## Coal

The coal situation continues to be worrisome. On the one hand the geological survey has reestimated the country's coal reserves at 11,877 million tonnes against the 1976 estimate of 83,000 million tonnes and the Union cabinet, on the basis of maintaining last year's 7.5 per cent industrial growth, has fixed the 1979-80 coal production target at 118 million tonnes. (In 1978-79 coal production was 102 million tonnes.) On the other hand the actual production in the first quarter of the year was a low 21 million tonnes — 4 million tonnes below the earlier established target. The reasons are known — poor supply. (DVC supplying 110 MW against the target of 230 MW to the eastern region collieries) and the limited availability of explosives in the last few months with only 70 per cent of its daily need of 76 tonnes of explosives actually supplied. The amount of washed coal has also sunk to 60 per cent of the 4 000 tonnes per day capacity. Fertiliser plants at Bhatinda, Panipat and Nangal face coal shortage and the thermal plants at Maharashtra are left with 10 days' coal supply. Coking coal stocks with the integrated steel plants in June were down to 3.7 days' consumption (instead of the normal 15 days) with steel production facing further cutbacks. In this poor coal situation, the Union government has asked a high level team of investigators to review and report on the functioning of the coal industry to streamline its administration. The other agencies — power, railways, steel as well as the state governments — dealing with coal are also included in this important review where prompt action is needed to save the economy. A start is the decision to set up small 10 MW power plants at coal mine sites in order to ensure continuous power supply at least to the washeries.

## Cement and Paper

To increase future cement production, the government has under study a plan to increase the public sector Cement Corporation of India's capacity from the present eight lakh tonnes to 18.97 million tonnes by 1988-89 at a cost of Rs. 1000 crores. This will increase the share of public sector in cement production from the current 3 per cent to 32 per cent. Despite this expansion, cement shortages will persist, being 7.18 million tonnes at the end of the VI Plan and 10.60 million tonnes at the end of the VII Plan. To deal with the paper crisis referred in Vol IX, p. 247, on June 30, the government issued the Paper Control Order 1979 to prevent malpractices by paper manufacturers and traders and make paper available at fair prices. White printing paper which under the previous informal arrangement was being supplied for educational use at Rs. 2,750 a tonne (since 1974) will now be supplied at Rs. 3,000 a tonne and cream laid paper at Rs. 3,785 a tonne. The order empowers the government to direct the manufacturers to dispose of their stock or sell those varieties on such terms and conditions as it specifies. The Hindustan Paper Corporation's retail outlets will be used for equitable distribution to bulk consumers and use the private distribution channels to ensure wide distribution to small consumers. The government is also arranging for import of writing and printing paper to augment the domestic supply.

## Textiles and Sugar

The rollback of textile prices reported in the last issue (see p. 307) has taken effect and is producing some side effect. First it should lead to increased production and increased domestic consumption of cotton textiles, which have been declining between 1975, when 8,034 million metres were produced and

1977, when 6,901 million metres were produced. This meant that the per capita availability of cotton cloth which was 15.22 metres in 1964 declined (with increased population and falling production) to 9.47 metres in 1977. The availability of synthetic blended fabrics has however increased from 0.2 metres in 1969 to 2.35 metres in 1977 but this being small, there is a tendency for the industry and trade to take advantage of the tight domestic market. This includes the NTC mills and their operations. A related effect has been a decline in exports of cotton fabrics which was in April-June 1977 72 per cent of the EEC and 81 per cent of the US quota, in April-June 1978, 60 per cent of EEC and 28 per cent of US quota, and in 1979 a low 33 per cent of EEC and 10 per cent of US quota. On the sugar front as forecast in the last issue p. 302 the government has reintroduced from June the monthly release of sugar. For June it released 5.25 lakh tonnes compared to 4.75 lakh tonnes to 4.92 lakh tonnes released for the previous months by the industry. The effect on prices has been to prevent a further increase in the already high price but lowering of the price is yet to take place.

## Cotton

Cotton production this year is expected to be 7.6-7.7 million bales — which is above the year's target and will meet the total domestic demand. This is the first that this production is above the target and the meeting of domestic demand has been attained since Independence. One-third of the cotton will be of the long staple variety compared to nil in 1946. There will be no import of cotton, while 2,50,000 bales of staple cotton will be exported. For 1980-81, the target has been fixed at 8 million bales, with continuation of the Intensive Cotton

Development Programme covering 1.72 million hectares and on which Rs.6 crores will have been spent compared to Rs. 5.5 crores last year.

### Agricultural Production

The Union Agricultural Ministry reports that foodgrains production was a record 130.5 million tonnes this year with all-time high increases in both wheat which was 34.7 million tonnes and rice which was 53.79 million tonnes. This involves a doubling of wheat production since the HYV seeds were introduced in 1967-68. Coarse grain production is estimated at 30 million tonnes and pulses at 12.01 million tonnes. Total foodgrains production was 125.6 million tonnes last year. Potato output is estimated at 9 million tonnes. This record production is due to the good monsoon and increased irrigation facilities, better management practices and good seeds and increased use of fertilisers. This passing for the first time of the 130 million tonnes mark despite the drought in June referred to earlier which led to heavy crop damage in Assam, West Bengal (where on jute Rs. 130 crores was reported lost) and Bihar and the earlier farming losses from floods which devastated West Bengal (see vol IX, p. 18) and the cyclone in Andhra Pradesh (see Vol IX, p. 297). The government also reports that rabi procurement this year has set a new record with 7.4 million tonnes having been procured by mid-May, representing an increase of 2.14 million tonnes over the quantities procured in the corresponding period in 1978. This bumper production raises once more the storage problem. The government is pushing forward its plan for a network of rural godowns with an initial 2,00,000 tonnes storage capacity. Punjab and Haryana in addition to storage depend heavily on

regular movement out of the state of their wheat stocks—about 6 lakh tonnes monthly from the Punjab and about 3 lakh tonnes from Haryana. But actually only 3.50 lakh tonnes were lifted in May from the Punjab and in Haryana 10 lakh tonnes of procured foodgrains are awaiting lifting. In the second half of June though 55,000 tonnes will be lifted, 35,000 tonnes of it is backlog. U.P. has opened 2,769 purchase centres (2,386 last year), MP 292 (198 last year) and Rajasthan 204 (196 last year); so procurement is proceeding despite the shortage of gunny bags due to jute mills strike in West Bengal. Against a demand for 2.72 lakh bales, only 1.9 lakh bales were available. Hence India is importing 45,000 bales from Bangladesh. Meanwhile the states are setting their kharif target in light of their experience this year. Gujarat has set its target for the kharif and rabi seasons at 48 lakh tonnes of foodgrains, up from this year's record 46 lakh tonnes output. In addition groundnut production will be raised by 2 lakh tonnes at 18.7 lakh tonnes and cotton by 1 lakh tonnes to 23 lakh tonnes. Pulses will be increased by 90,000 tonnes from the current year's 2.6 lakh tonnes. Bihar has fixed its kharif target at 72 lakh tonnes comprising 60 lakh tonnes of rice and 12 lakh tonnes maize sown over 68 lakh hectares, which is 63 per cent of the state's total cultivated area. ICAR reports that the lab to land programme which provides proven and viable technology at the doorsteps of the small and marginal farmers and landless labourers is developing well. The farm advisory service of the Haryana Agricultural University and its district level Krishi Vigyan Kendras are pooling their services with the extension services of banks, SFDA, MFAC, IRDP, DPAP to make these services on cropping pattern, land and water use and credit made available to the poor small agriculturalist. The

National Agricultural Cooperative Marketing Federation has set up the Associated Agricultural Development Foundation to do research into export oriented farm produce. The Foundation has started with the investigation on onions as they are in great demand all over the world, covering all the blocks growing onions—Nasik, Poona, Haryana, Punjab and Delhi. It will import germ plasma of the yellow and white varieties which are in demand in Europe and to study means of countering the low yield in India compared to that in US, Egypt, Italy and Japan. This research into exportable farm produce is an important move forward in the country's farm practice.

### Exports

Further to the trade balance for 1978-79 reported in the last issue, p.309 revised figures for that year issued in June show that the trade deficit was Rs. 1,085 crores which was Rs. 23 crores higher than reported last month. This was due to the final export figures for 1978-79 being placed at Rs. 5,618.26 crores, Rs. 75 crores higher than the provisional figure of Rs. 5,544 crores and the final import figure being Rs. 6,703.89 crores, Rs. 97 crores higher than the provisional Rs. 6,600.27 crores. Thus exports grew at 6.5 per cent in 1978-79 due to the growth that took place after January at 1.9, 3.1 and 6.5 per cent (which has kept up this year with a 7 per cent growth in April). Imports in 1978-79 rose by 15 per cent due mainly to higher crude and petroleum products costs and increased fertiliser imports. The import bill this year will be higher because of the further sharp rise in the price of crude. With a view to boost exports, the Union government is encouraging product development

and adaptation to meet the fast changing requirements of foreign buyers. Each export promotion council will open a product development and adaptation cell for regular contracts with importing interests abroad, obtain samples from prospective customers and get their members to produce the new items. Products will thus be tailored to meet the needs of foreign buyers. This product adaptation to conform to fashion trends is urgent in the case of handicrafts and jewellery and in the case of toiletries, perfumery compounds and cosmetics unsophisticated packing must be replaced by a regular process in the adaptation of containers. Similarly RBI has introduced a number of facilities and is working out others to boost the country's exports. It has instructed all commercial banks to allow ready remittances up to \$ 50 for obtaining intelligence reports from abroad. Also rules and procedures for sending trade samples have been simplified and covers have been introduced for exchange rate fluctuations in the US dollar. ECGC is working out an insurance cover scheme for foreign exchange fluctuations. One area where exporters are at a competitive disadvantage is in interest rate of export credit which is 2 to 2.5 per cent higher than that paid by the competing exporters in other countries. India's silk and seafood and shrimp exports are fast expanding. In the case of silk starting with the export of Rs. 2 crores it now stands at Rs. 43 crores. Also cashew kernel exports are increasing, the January-April 1979 exports being double at 10,091 tonnes compared to January-April 1978. April exports at 2,554 tonnes were 6 times that of April 1978. Ore exports could have been further expanded by 3 lakh tonnes in June to meet the Japanese demand consequent on the Australian strike, which is important as



Indian ore has been priced out at West Germany due to freight which makes it \$ 29 per tonne against that of Sweden and Brazil at \$ 23 per tonne. But the absence of railway wagons and the slow tempo loading facilities at Paradip led to the loss of this opportunity. In fact the infrastructure — railways and port facilities — has to be restructured to meet expanding exports. Japan is also emerging as a major buyer of Indian handloom, increasing from Rs 2 crores to Rs. 10 crores this year as part of the export earning of Rs. 300 crores compared to Rs. 274 crores in 1978-79. Japan is replacing India for Taiwan and Hongkong because the Japanese are moving to more sophisticated products like electronics and want the variety and fineness that Indian handlooms represent. Of the Rs. 300 crores to be earned this year, handloom garments will earn Rs. 160 crores, cotton fabrics Rs. 67 crores, silk and other non-cotton Rs. 47 crores and made-ups Rs. 26 crores. In engineering goods exports, the export performance of the top 100 units show a decline of 4 per cent in 1977-78, particularly sharply in the aluminium, iron and steel and machinery other than transport and electrical industry, due to recessionary and protectionist conditions internationally and power shortages, port congestion, industrial unrest and floods in UP, West Bengal and Bihar. These are the results of a study by the Association of Indian Engineering Industry which show declining profits due to higher expenditures. It concludes by comparing our biggest firm, BHEL's sales which are one-third that of the smallest multinational and 1/89th that of the top world engineering company, with General Motors. The trigger price mechanism which is a protectionist US device to safeguard an industry which the US authorities feel is being exposed to unfair

competition and which has been worked out for various categories of steel and steel products, will result in a decline in engineering exports to the US. (The trade balance with the US has been a plus—\$ 6.9 million in 1977 and \$ 37.6 million in 1978). EEPC computes that if India is to achieve the engineering export target of Rs. 2,400 crores in 1990-91, then capital goods and turnkey projects must contribute Rs. 1,200 crores and to achieve the target of Rs. 365 crores for capital goods and turnkey projects by 1980-81, it should have on its books orders for Rs. 1,100 crores in 1978-79 and an order of Rs. 3,600 crores on April 1, 1988. These are draft engineering plan outlines of EEPC which call for offer floating against tenders of Rs. 12,000 in 1978-79 and Rs. 36,000 in 1988-89 to achieve the target.

### Aid

The Aid India club formed by the World Bank at its June meeting in Paris pledged \$ 3 billion in development aid for 1979-80, which is an increase of 22 per cent over last year's pledge and is apart from UK and Canada pledges which could not be made because of the change of their governments. There was general commendation of the way in which India was managing its economy, the priority to agriculture and small industry as employment generators, the seriousness with which the population problem is being tackled and the need to take account of the fact that its foreign exchange reserve of \$ 7 billion will have to meet the increased cost of crude oil and the vagaries of weather. India, on its side, urged the members to provide more programme assistance (as well as commodity assistance) instead of excessive reliance on project assistance which

introduced rigidities in planning. The government has also taken measures to revise the slow pace of aid utilisation to make gross aid utilisation during 1978-79 reach Rs. 1,400 crores compared to Rs. 1,288 crores in 1977-78, due to the improved foreign exchange reserves of the country, the over-emphasis on project aid even in the case of the World Bank, the exhaustion of OPEC credits and the tying of foreign aid to slow moving rural projects — agriculture, irrigation, command area development, drinking water supply, family planning and rural electrification. This rush of foreign donors into our priority areas together with the free use of foreign exchange reserve to finance liberalised imports has slowed aid use. Further among the major donors, in the case of Austria and US there had been an outflow of resources, in the case of Japan and West Germany the net inflow was marginal or negative and in the case of Italy was in the form of suppliers' credit. As more of the aid moves into programme assistance, the utilisation rate will improve. India has applied for its share of \$ 180 million from the IMF Trust Fund to meet balance of payments difficulties expected to arise later this year — due to rise in crude oil imports price and fall in exports earning. The Trust Fund has been constituted from the sale of gold by IMF (See Vol VII, p. 152). While the Union government projects a 32 per cent rise in imports, the World Bank estimates that it will be 14 per cent and IMF 10 per cent. Sweden and India signed an agreement for a non-repayable grant of Rs. 110 crores from Sweden for 1979-80 and 1980-81, of which Rs. 53.34 crores are available this year. Rs. 20.04 crores will be for general imports from any part of the world, Rs. 19.08 crores for imports from Sweden and Rs. 16.20 crores for project support for health and family

planning, forestry, fisheries, water resources and nonformal education. US is giving two loans of \$ 63 million, of which \$ 58 million is for rural electrification and \$ 10 million for malaria control. A World Bank loan of Rs. 205.88 crores is to be given to seven of the eight composite irrigation project stage two in Maharashtra. In addition the World Bank is giving a credit of \$ 250 million for the Thal Vaishet fertiliser project in Western Maharashtra, whose total cost will be Rs. 511.34 crores.

## International

### World Monetary Reform

The International Monetary Fund will be reducing its monthly gold auction sales from 4,70,000 ounces in the last 12 auctionis to 4,44,000 ounces for the last year of the sales programme, beginning June 1979 because it has already sold 19.7 million ounces out of its 25 million ounces set apart for gold sales. It will conclude its gold sales programme in May 1980. As of May 1979, the Trust Fund built up out of gold sales amounted to \$ 2.5 billion. During June, the price of gold further spurted to \$ 282.875 an ounce and held on at about that price during the month.

### UNCTAD V

As reported in the last issue, UNCTAD V which ended early in June sharpened the conflict between the industrialised and underdeveloped countries on all major issues — the multilateral trade agreement which was negotiated at the Tokyo round and which the developing countries have refused to sign (see Vol IX, page 252) and an agreed statement on protectionism, structural changes in the world economy through global consultations, monetary reform, debt, resource

flows (the US stating that it had not accepted the 0.7 per cent GNP target for ODA), a code of conduct for transfer of technology and shipping. Most of these deadlocked issues have been remitted to the Trade and Development Board of UNCTAD which is another way of shelving the issues. On five minor issues there was agreement—substantial action programme for the 31 least developed countries, appeal to fight off inflationary pressures and annual study by UNCTAD of production and trade schemes, holding a restrictive business practices conference at the end of 1979 with multinationals and transnational corporations for a thorough probe into their functioning, call to double ODA without fixing a time frame, holding separate meetings for developing countries within UNCTAD and studies to be undertaken on brain drain, improved use of patents and exploitation of ocean bottom resources. UNCTAD has thus become a forum where the major issues dividing the North and South are debated.

### Non-aligned Conference

The non-aligned coordinating bureau meeting in June after UNCTAD in Colombo at the foreign minister level called upon the developed countries to accept global consultations on their economic policies within the UN framework to pave the way for NIEO. That order implied fundamental restructuring of the world economy which past evidence shows could not be achieved through the free interplay of market forces. Increased economic cooperation among the non-aligned and other developing countries is one of the key elements in restructuring the present economic order and for accelerating economic growth of the developing countries, calling for intensified efforts based on self-reliance to

strengthen and develop trade and economic links among these countries—which is highlighted by the failure of UNCTAD V. This, the conference noted, meant that the developing countries should intensify the cooperation among themselves and for this purpose a consulting group was set up to discuss further measures for increasing mutual economic assistance and solidarity among them. It deplored the protectionist measures introduced by the industrialised countries in sectors where comparative advantage shifted in favour of the developing countries with potential for growth of their industries. (A recent OECD study shows that imports from the newly industrialised countries supply only 1 per cent of the manufactures consumed by the industrialised countries and the exports from the latter to these countries, which are growing so as to create a balance of trade surplus for the industrialised countries of \$ 18 billion in 1977, provide employment for 5,00,000 persons in the industrialised countries. Protectionism by reducing the capacity of these poor countries to import from the rich will create unemployment in the rich countries). Hence world industrial restructuring is necessary which should be linked to the 25 per cent share of world manufactures for the developing countries by 2000 AD. It asked the developed countries to phase out progressively the existing protectionist and other barriers, refrain from raising new barriers, evolve policies that will correct the deficiencies of GSP, give it a legal character, extend it beyond 1981 and make it non-reciprocal and non-discriminatory and not use it as an instrument of political and economic coercion or retaliation. It called on all states to announce their pledges to the second window of the common fund under the

integrated programme for commodities and to operationalise the commodity agreements and underlined the significance of producers' associations. It called for a reform of the international monetary system with full and effective participation in decision making by the developing countries, stressing the need for finding effective measures to combat inflation imported into the developing countries. In other words, the Colombo conference made all the decisions which UNCTAD should have made, and should be made by UNCTAD and the UN in the near future.

### OPEC and World Energy

As noted earlier, the June meeting of OPEC Ministers raised the price of oil from \$14.55 a barrel to \$18 to \$23.50 a barrel. Each of the OPEC members will be charging different prices in 3 broad groupings—a) Saudi Arabia, Qatar, and UAE at \$18 a barrel, producing a third of OPEC production, b) Kuwait, Iraq, Iran, Venezuela and Gabon will charge between \$20 and \$22 a barrel, producing half of OPEC oil, and c) Nigeria, Algeria, Libya, Ecuador and Indonesia will charge \$23.50 per barrel. The new prices are effective from July 1 till end of 1979. The 35 per cent increase is not very different from the actual position before July 1, with the many surcharges and the spot market, which if controlled or suppressed, will be a positive factor. The IEA comprising 20 leading non-communist industrial nations except France estimate that combined oil exports from OPEC will fall short of world oil demand by 5.7 per cent by 1985 and 24.9 per cent by 1990. World demand will rise from 1.76 billion tonnes in 1985 to 2.13 billion tonnes in 1990, while OPEC exports will decline from 1.66 billion tonnes in 1985 to 1.60

billion tonnes in 1990, leaving a net shortfall of 100 million tonnes in 1985 and 530 million tonnes in 1990 taking into account IEA countries' domestic production. Hence it stresses the urgency of expanding nuclear energy, construction of coal fired plants and other energy sources. The Tokyo summit of the seven top industrialised non-communist countries — US, UK, France, Canada, Germany, Italy and Japan — decided on ceilings on oil imports till 1985. For France, West Germany, Italy and UK, imports will be held to the 1978 figures, Canada will reduce imports by 50,000 barrels a day by 1985, Japan not to exceed imports of 5.3 to 6.9 million barrels and for US the 1985 import goal will be 8.5 million barrels per day. The wildly speculative oil spot market is to be controlled by not receiving imports from there, and oil prices are to be the world market prices. The need for expansion of alternative energy sources such as coal and nuclear energy was also agreed upon. There was little reference to the problems faced by the developing countries or the serious deadlock characterising the North-South relations at UNCTAD V.

### World Food

FAO forecasts in June that world wheat and coarse grains production will be 1,139 million tonnes, (3 million tonnes lower than the March forecast due to deteriorated position in some countries). This will be 49 million tonnes less than 1978 bumper production. World production will be larger than world consumption, increasing carryover stocks.

### World Population

UNFPA reports that a decline in the rate of world population growth is now established. 2 billion of the developing world's 3 billion people have been

reducing their fertility. With the falling birth rate in Europe, USSR, North America, Australia New Zealand and Japan, the trend towards smaller families has now spread to three quarters of the human race. However past rapid population growth has left the third world with 40 per. cent of its people under 15 years and about to enter their child bearing years. So, even with the present decline in birth rate, world population will increase by 2 billion by the end of the century. Nine-tenths of the additional two billion will live in the developing world, where 20 per cent of the people are severely malnourished, 30 per cent lack safe water or health care, 40 per cent are unemployed or underemployed and where 50 per cent of the over-fifteens are illiterates. The further highlights in the report are (a) the rapid aging of the world's population, when there will be twice as many over-60 and 80 years old by 2000 AD compared to 1970; b) world urban population which doubled since 1950 will double again by 2000 AD; c) there is the threat of food shortage—highlighted by the 1950 ratio of 6 rural to 1 urban dweller, 1970 ratio of 3:1 and the 2000 AD forecast of 2:1; d) the problem of the tendency of the family size to fall below the replace-

ment levels in developed countries. Zero population growth was reached by East Germany in 1969, West Germany in 1972, Luxembourg in 1974, Austria in 1976, with Czechoslovakia, UK, Belgium, Denmark, Hungary, Norway and Sweden hovering around that point.

## World Information

UNESCO's Communications Commission presided by Sean Macbride points out that due to pressure by UNESCO, the large international news agencies have improved their coverage of third world countries in the last 2 years. Taking the five major new agencies—Reuter, AFP, UPA, APA and IP—there is a distinct increase in their coverage of the third world events. The Commission is working on assuring freedom of information and ensuring adequate protection of investigative journalists. It has also recommended an increase in the number of news agencies. The commission has under study the controversial project—an international code of conduct for journalists—which would include the obligation to publish the truth, not to deform information and not prostitute the profession of journalism by becoming the instrument of a multinational company.

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## II Agricultural Development

### Paddy Cultivation

Unlike the 1978 kuruvai when 3.67 lakh acres were under cultivation, for this year's kuruvai, 5 lakh acres will be paddy cultivated. As noted earlier Mettur waters were released from June 12. With the

present storage adequate for 10 days' irrigation needs of the Cauvery delta, farmers are raising nurseries which will be ready for planting when Mettur waters flow fully with the south west monsoon showers in Mercara, which is its catchment area. The Agricultural

Department is ready with the needed manure, seed, pesticide needs of the kuruvai farmers. About 100 to 105 days of seed to seed means that the entire kuruvai area would be safe and the kuruvai paddy will escape the onslaught of the North-east monsoon. Early harvest of kuruvai will also mean less of moisture in Kuruvai paddy and no exploitation of the producers by dealers demanding 62 to 65 kg. per bag against the regulated 52 kg. The farmers are also looking forward to receiving Rs. 115 per quintal, which the State government has promised, involving the payment of Rs. 20 from its funds. To ensure that the farmers receive that price, they ask for the adequate development of market facilities so that the kuruvai crop grown in 1,260 out of the 2,000 delta villages are covered with purchase centres of which there should be 600. They suggest that cooperatives at the village and taluk levels should be strengthened to undertake paddy procurement with on-the-spot decisions. On their credit needs of Rs. 75 crores for kuruvai, they want cooperative central banks to be given funds to meet this need and not stop at Rs.25 crores which has been the past cooperative credit limit. Farmers at the tail end want a steady and equitable supply of water and this should be assured.

### **Paddy Price**

In further elaboration of the reference made earlier, the state government announced on June 13, that it would pay an extra amount of Rs. 20 per quintal of paddy from the coming kuruvai season to the state's paddy farmers if the Union government's price was not satisfactory. The Chief Minister at the meeting of the National Development

Committee urged that the price of paddy be fixed atleast at Rs. 115 per quintal, if it cannot be established at Rs. 129 immediately. The present price of paddy is Rs. 85 per quintal and as noted in the last issue (page 308), the Agricultural Prices Commission has recommended a price of Rs. 90. If that recommendation is accepted by the Union government, then the paddy farmers in this state will receive Rs. 110/- per quintal.

### **Research Results**

Studies on small family farms which are divided into small plots, in each of which paddy is grown in a staggered way—transplanted in one plot, weeding and fertilising in another, watering in a third, harvesting in a fourth plot—show that such farms have a low cost element and a high annual output. The plots are small and are managed by family labour with no hired workers. There is no problem of over-production; land and labour utilisation is fully ensured, and provided there is assured year-round water supply under the farmers control and normal managerial ability, this single crop staggered paddy farming will earn the equivalent of 2,400 hours of family labour per acre. Another research study of a group of villagers shows that the paddy yield depends on the HYV technology being adapted to the particular constraints in each village and local area, and the results of these should be related to the time of planting as well as of course the varietal choice, plant protection measures, plant density and fertiliser application. Another development relates to sugarcane where chemical spraying at the stage when it is four to five metres tall to make it suit factory needs in conditions to be found in this state requires a spraying machine which can

cover the crop without a wide swath and with channels one or two metres wide. To meet their need, IIT, Madras with the help of Monsanto Chemicals has designed a motorised knapsack sprayer with a high reach which is used for foliar application of urea, micro-nutrients and plant protection chemicals on the sugarcane crop. As a result of research on dryland horticulture carried out at the Regional Fruit Research Station and the Central Arid Zone Research Institute the growing of dates (as well as *ber*, fig and pomegranate in dry areas) has been developed to the point where they are now becoming commercial crops grown all over the country in dry or semi-arid areas. Among the oil yielding crops, the oil palm which grows in heavy rainfall areas is a high yielder of vegetable oil, yielding 3 000 to 5,000 kg. of oil per hectare. It is now being experimentally grown in Kerala and can be grown in this state in the rainforest areas. ICAR's Operational Research Projects which test the research results in groups of villages or even in a block so that their large scale application can be ensured, have been reviewed and found successful in raising farm productivity and generating employment. The projects are spread over arid areas and horticulture, alkaline soils and wheat, integrated pest control in cotton areas and increased wool yield in sheep breeding areas and so on, and demonstrate the effectiveness of the technologies used. In earlier issues the ravages of the bunchy top virus to the Virupakshi bananas grown in the lower Palni hills have been referred to and also to the fact that the banana plantations in this area have been reduced from 20,000 acres to 5,000 acres (see vol. IX page 28). Even in this reduced area, the weight and size of the fruit is poor. The Tamil Nadu Agricultural University has now developed a simple technique—spraying 2,4 D over the

entire bunch soon after the opening of the last hand and the result is a 50 per cent increase in weight and size. The cost of the technology is Rs. 40 per acre, which is low in relation to its results. Another research result is the popularity of algae grown in sewage, which, besides providing nitrogen, also releases a growth-promoting substance that makes for crop development. It can also replace at little or no cost (for, the algae grows freely in temple tanks, polluted ditches and in fact anywhere that there is standing water) in supplement of costly nitrogen fertilisers. Industrialisation of algae mass culture is now possible; it can absorb any nutrients fast, its photo-synthetic efficiency is 6.7 per cent (compared to the conventional crop's 0.5 per cent) and is similar to soya-bean in its protein quality being 1,460 times more productive than rice. In regard to the various diseases that attack arecanut palm, the Aduthurai station has successfully tried improved drainage and soil conditions along with use of a mixture of copper sulphate and lime as effective plant protection action. Alternately, spraying saturated lime water on the crown of the palm has counteracted the various diseases.

### Plant Protection

A study by the Tamil Nadu Agricultural University showed that all farmers covered by the study were using pesticides since 1970 and about 30 per cent were also using weedicides. The average per acre expenditure on pesticides was highest for cotton at Rs 716-896, the share of protection cost to total expenditure being in the range of 35.47 to 42.99 per cent. Vegetables protection cost Rs. 160 per acre, forming 17.80 per cent of the total cost and was Rs. 113 per acre for paddy, being 16.49 per cent of the total. The preferred pesticides were emulsified concentrates 67 per cent of the users were

influenced by dealers and 77 per cent were brand conscious.

### Tea

The tea situation and prospects are mixed: South Indian tea production as noted in the last issue (page 315), is increasing, and the tea sales at Coonoor in June showed good demand and high prices. North Indian tea at the close of April showed a fall in production of 8 million kg., that is, at 19 million kg. compared to 27 million kg. in April 1978. This was due to droughty weather conditions in Assam and West Bengal where May seemed to continue this unfavourable weather. The world tea crop for 1979 is likely to be lower than 1978 because except for Kenya and Tanzania, all other tea producing countries report a decline in production. Tea exports however are increasing, being 17 million kg. in April, which was more than double the 1978 April exports. In fact, for the period January to May, 75 million kg. were exported compared to 57 million kg. in that five-month period in 1978. There are efforts to increase exports to Iran and the Soviet Union and the large carry over of tea stocks from last year, which because

of the time factor has deteriorated in quality, should not be exported but sold domestically as cheap tea.

### Coffee

Coffee exports from India this year are expanding and are in demand, in part to compensate for the decline in Brazilian coffee production which was hit by frost. As a result, Robusta coffee price in the London market increased in June by £ 50.

### Rubber

As forecast in the last issue, the Union government decided in early June to import 45,000 tonnes of rubber in 1979-80 to meet the gap between domestic supply and demand. Rubber users are to be given letters of authority through STC to secure direct delivery of amounts limited to 2 months actual consumption in 1978-79. The imports are to be staggered in such a way as to meet particularly the needs of the lean months which are June, August, and September, during which period, 30,000 tonnes will be imported, and later in February when a further 15,000 tonnes will be imported.

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## III Industrial Production

### Investment Flows

The RBI study, published in its January 1979 Bulletin, provides information on the flow and composition of investment as on March 1977. The indicator used is the ratio of credit plus invest-

ments to deposit and on that basis it is seen that there is a flow of bank funds from other regions to the southern region, and to a lesser extent, the northern region. The largest flow of funds is into Tamil Nadu where the ratio is 134.7 per cent followed by Karnataka (118.4 per cent),



and AP (100.2 per cent). The state from which funds flow to Tamil Nadu and the South are Punjab (48.1 per cent), Bihar (58.4 per cent), UP (59.6 per cent) and, MP (69.7 per cent). Of the state-wise investments by the banks, more than 50 per cent of the investment were in five states — Maharashtra Rs.354.4 crores (14.1 per cent), Tamil Nadu Rs.280.2 crores (11.1 per cent), UP Rs. 256.60 crores (10.2 per cent), Gujarat Rs.213.9 crores (8.5 per cent) and West Bengal Rs.205.2 crores (8.1 per cent). The break-up of major investments in state level securities was: State government securities Rs. 1,227.9 crores, land mortgage banks Rs. 193 crores, State Electricity Boards, Rs.512 crores, municipalities and port trusts Rs. 147.08 crores. State Finance Corporations Rs. 95.87 crores, Housing Boards Rs.73 crores, state industrial investment corporations Rs. 66 crores and shares and debentures of joint stock companies in the state Rs. 74.61 crores.

### **Salem Steel**

In Salem, the main cold rolling mill's structures are being erected as the largest building in the first stage of the project. It is of north light roof type and involves fabrication and erection of 10,000 tonnes of steel. It will house the major processing equipment, the sendzimir mill, continuous annealing and pickling lines and the skinpass mill valued at over Rs. 65 crores now on order. Madras and Trichi units have fabricated over 50 per cent of the steel structures for Hindustan Steel Works construction which will complete the erection work by March 1980. Civil engineering works for the building and foundations for the equipment will be completed by March 1980 by when the equipment will have arrived and will be

erected. In the first stage, Salem will produce 32,000 tonnes of cold rolled stainless sheets worth Rs. 200 crores and will go on stream in September 1980.

### **Neyveli**

The foundation laying for the second mine cut and the second thermal power station was laid by the President on July 4. The Rs. 155 crores second mine cut will produce 4.7 million tonnes of lignite to feed the second 630 MW thermal station which is also being erected at a cost of Rs. 214.37 crores. Lignite raising will be in April 1983 to synchronise with the commissioning of the first 210 MW turbo-set in the second thermal unit. Lignite extraction is to be doubled to match the intended increase in the installed capacity of the thermal station to 1,260 MW, on completion of which Neyveli's thermal generation will be 3,000 MW.

### **BHEL and ICF**

The Union Cabinet approved in June two major expansion proposals for BHEL, Trichi and Hardwar at a cost of Rs. 73 crores. One project concerns the capacity expansion of boiler manufacturing from 2,300 MW to 4,000 MW of power generating equipment at a cost of Rs. 29.83 crores which is the first stage. The second project will enable the Hardwar plant to take up the manufacture of 500 MW capacity turbo-generators, the first of which is to be commissioned in 1980-81. The first set will consist mostly of imported components and for three more years following the basic raw materials for 500 MW sets will have to be imported, after which BHEL will produce them. The Integral Coach Factory's production in 1978-79 was a record. Against a target of 750, it produced 752 coaches and electrical multiple units valued at Rs. 45.11 crores. It completed 3 export orders for Rs. 6.5 crores for

Philippines, Uganda and Taiwan, and exported spare parts to Zambia and Taiwan. Its production target for 1979-80 is 710 coaches besides more EMU formations, double deckers, air conditioned coaches and including 50 coaches to Vietnam. To achieve further improvements in quality, reduce rejection and achieve 'zero defect', it is observing the current year as "ICF quality year".

## NSIC

The National Small Industries Corporation reports that it has to date supplied 30,000 machines valued at Rs. 101 crores to 15 000 units in the small scale sector, of which the Southern region received 12,241 machines worth Rs. 27.2 crores. It opened a project office in Salem to help 32 units in Dharmapuri producing Rs. 5 crores worth of starch per annum by securing for them bulk orders by textile mills. It assisted small units in Dindigul manufacturing hand made paper to market their produce to the government and private sector. It is setting up 10 pilot plants to manufacture cement from rice husk, supply them with Rs. 2 lakhs machinery, with which 1 tonne of cement per plant would be produced. The Corporation is working with Ashok Leyland to set up small units to fabricate automobile parts in the Hosur area where Ashok Leyland is setting up its second unit to manufacture truck chassis.

## Ashok Leyland

Ashok Leyland is currently producing 10,000 trucks and has launched an expansion programme to turn out 15,000 vehicles per annum. Because the waiting period for the purchase of a Leyland truck is 24 months (for TELCO it is 18 months), the government has asked the company to plan for an annual production of 20,000. It has been proposed that this expansion

should be speedily attained and if necessary, spares and components would be permitted to be imported so that the target of 20,000 can be achieved. Here there are two problems facing Leyland. First is the heavy import duty of 60 per cent on components, which would push up the price of the vehicle. The second problem is the compatibility of the components with the Indian ones so that replacement, when it has to be undertaken, does not become a bottleneck.

## Marine Chemical Complex and Salt

The Union government, acting on the recommendation of a study group has proposed to the state government that a large marine chemical complex be established at Vedaranyam for exploitation of sea water for the manufacture of chemicals. The state government will collaborate with Hindustan Salts Ltd. and the necessary feasibility study for the project will be financed by the central salt cess fund. The study group has also recommended that entrepreneurs establishing marine chemical industries should be given grants and loans from the salt cess fund. Tuticorin is the major salt producing area in the country, its annual output of 12 lakh tonnes being 25 per cent of the country's total salt production. The ex-factory sale price is 5 paise per kg., and after providing for transport charges and profit and handling margins, it should sell at between 20 to 25 paise per kg. But from May there has been a sharp rise in price in UP, Bihar and West Bengal because of the decline in railway wagons to move the salt, 1,000 wagons per month are needed and were provided till January, after which they declined to 350 to 400 because of the prior claim of industries, thermal plants and railways for wagon movement. Salt is a basic necessity and its movement should take precedence.

## Textiles

The textile mills strike in the state has now been for over a month—all of June—and the mill owners have warned that the price roll back scheme which has been accepted might be affected. Even more serious, it has had a crippling effect on the handloom sector which was not able to obtain yarn for the looms. Already by June 1, 80 handloom units in Madurai and Sellur region had to close down, throwing out of employment 25,000 workers. The existing stocks of yarn have run out and weavers face yarn famine. The sharp increase in the price of yarn forced several weavers in the Trichi region also out of work. Yarn shortage is being felt by weavers' societies in the cooperative sector also as the benefits they enjoyed from yarn stocks from the price roll back scheme gave out. The stocks amounting to 5,000 bales of yarn have been used up and some supplies are being maintained by the mills in the cooperative and NTC sectors. But the price rise has resulted in users withdrawing from the market, for against a normal daily offtake of 100 to 150 bales (400 pounds weight), current purchases are 30-40 bales. Some supplies are coming in from Karnataka, Kerala and Andhra but the consumer resistance and the loss of supply of finer counts manufactured by this state are hitting up-country centres.

## Foundries and Electronics

300 foundries in Coimbatore and 100 in Madurai, Ramanathapuram, Tirunelveli and Kanyakumari faced a serious crisis and had to close down because of the non-supply of their raw materials—pig iron and coke. West Bengal and Bihar are the supply source for the foundries and the railways had been requested to allocate wagons to convey the 7,000 tonnes of pig iron per month and two rakes of hard coke from Dhanbad. The Tamil Nadu Electronics

Corporation, in an effort to expand the electronics industry in the state which is mostly confined to the small sector in which 185 units are operating (plus seven units in the organised sector) has identified 5 projects, namely, instruments for measuring environmental pollution, medical equipment like ECG, direct entry devices for computer systems, mini printers for electronic calculators and head gear assembly for telecommunications equipment. On these, feasibility and project reports are being readied and the industry which started with a turnover of Rs. 10 lakhs and is now producing Rs. 9 crores of goods will treble its turnover and double its current employment of 6,400 workers.

## Sugar and Soap

To help the private mills, the collection of the purchase tax and cane cess have been postponed. Sugar production in the region will for the season be the highest so far at 4.97 lakh tonnes against 4.90 lakh tonnes in the previous year. The cane crushed will be 58 lakh tonnes against 57 lakh tonnes previously. Most sugar mills in the state report that they are working to a loss this year (they also claim that this is so for the past four years for which the loss is reported as Rs. 16 crores) due to over production. The state government has advanced Rs. 3.25 crores to the cooperative and public sector sugar mills to tide over their financial stringency. As against the cost of production of Rs. 229 per quintal, the sale proceeds amount to Rs. 200 per quintal. The mills will be exporting 2.5 lakh tonnes against the national quota of 6.5 lakh tonnes. While the realisation has not been high at Rs. 196-Rs. 215 per quintal, the exports have helped to clear accumulated stocks. The release for the state will be 40,000 tonnes in June, against a May consumption of 35,000 tonnes. The new soap and detergent

production being undertaken by 400 small units are facing difficulties for want of raw materials at fair prices. Soda ash prices have trebled, caustic soda price up by 150 per cent and silicate soda by 50 per cent. This nascent industry, started in 1977, had developed rapidly because of the design and development of efficient and easily manoeuvrable hand operated mixers and extruders. SIDCO should arrange the supply of raw materials to this small but important industry.

### Handlooms

Handloom goods from this state have accumulated in Calcutta because of the decision of the West Bengal government to impose a 1 per cent octroi duty. Traders have refused to take delivery because of this and this needs to be sorted out between the two governments. In addition to this acute shortage of yarn referred to earlier, handloom weavers in the state are also suffering because of the shortage of dyes which are available in the black market at double the price. The dyes come under import curbs and as they are petrochemical products, they have become scarce with crude short supply. The Union government should ensure that actual users are really allowed to import the needed dyes.

### Leather

Leather exports which earned Rs. 330 crores in 1978-79, will pass the Rs. 400 crores mark this year. Indian hides, in particular goat and sheep, are in great demand as they are considered the world's best. Export of finished leather is fast growing. In this connection there is urgent need to improve the quality of finished leather to make it competitive internationally. This involves research into means of maintaining the quality of raw hide. In turn this means improved and scientific flaying to be undertaken by established centres.

### Private Sector Reports

Madras Aluminium Corporation's annual report for 1978 shows a net profit of over Rs. 1 crore (after many years in the red). Primary metal production was a high 23,117 tonnes, being a capacity use of 92 per cent. The diversification programme involving a) aluminium extrusions at the rate of 2,000 tonnes per annum, b) continuous cast sheets at the rate of 7,000 tonnes per annum and c) production of alumina at the higher rate of 150 tonnes per day is nearing completion. It collaborates with CECRI on R & D in the extraction of gallium.

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## IV Education, Science and Health

### Educational Situation and Reform

Examinations continue to be occasions for unrest and violence. In June the intermediate examinations of the Mithila University, Samastipur erupted in violence when unfair practices were banned and

those indulging in them expelled. The students indulged in heavy brick batting, arson, exploding bombs and opening fire at the examination premises in 2 colleges. 12 persons including 5 teacher invigilators were injured in the melee. In the SSLC (X standard) examination results in Tamil

Nadu published in June, 57.7 per cent of students were declared pass, the first two places in the general and the third place among the scheduled classes being secured by girls. Madras schools have done better in this exam (held for the first time), securing 3 out of the first 5 places — again most of whom were girls. In the last organised PUC examination results published by the Madras University 51 per cent were declared pass (as against 40 per cent last year) out of a total of 55,116 students. Of the students who passed, 9,556 got first class, which was a percentage of 17.3. PUC has been abolished after this by the University and six examinations at the rate of 2 a year will be held during the next 3 years to enable the students who have failed the exams to complete their course. As part of the educational reform movement in the state, the University and government are continuing for the coming academic year the policy of replacing linear expansion in order to concentrate on improvement and innovation. No new colleges are to be established in the coming year. As part of the improvement of higher secondary education, the introduction of the semester system is under study. Under the system of college complexes five or six higher secondary schools are to be attached to each college, which now has spare staff, lab and library facilities (with the shedding of PUC) to help upgrade higher secondary school teaching; higher secondary teachers are to be formed into study circles to suggest and implement purposeful changes in teaching and standards, and education experts and college professors will be visiting higher secondary schools to lecture and improve learning. Further, all-girls higher secondary schools are to open a home science section in their vocational stream and in preparation, teachers were given a 3 week orientation course at the Avinashilingam Home

Science College at Coimbatore. Science teaching in the higher secondary schools is to be improved, and SIDCO has been asked to fabricate Rs. 2 crores for science equipment for the schools. For the orientation of the vocational teachers a sum of Rs 20 lakhs has been sanctioned. These courses are to include one in Siddha medicine and candidates taking this course will be given preference for admission in the College of Indian Medicine. Similarly those completing the nursing home science course will be admitted into the second year of the Nursing degree course. The government announced that for the coming year, 110 high schools are being upgraded into higher secondary schools, making the total 1,042. In addition, 14 technical high schools are being upgraded into higher secondary schools. The + 2 system started well with 1.15 lakh students in the 11th class, of whom about 24,000 had taken the vocational stream. One of the advantages of this system against the PUC is the location of the higher secondary schools in rural areas serving more fully rural students. The State Council of Educational Research and Training and the Madras Station of AIR with the help of the Central Institute of Indian Languages, Mysore has started a correspondence course for Tamil teachers. Under the scheme, 1,500 selected teachers will receive 20 lessons for 10 months from SCERT, reinforced by 32 radio lessons to be broadcast between 2:10 p.m and 2:30 pm. every Friday by AIR. The programme will be subject to continuous evaluation by experts

### Non Formal Education

A study by the Indian Social Institute of non formal education programme in the city slums points certain serious defects which need attention and correction. It says that the programmes are poorly organised, they do not cater to the felt

needs of the people nor link the participants with marketing facilities or employment opportunities after they have completed the programme. The literacy programme in Madras slums was discontinued because of poor attendance, courses in tailoring not leading to marketable goods or other employment, the skills taught like handicrafts and bag making have little demand and there are no arrangements for credit, supply of raw materials or marketing. In the Delhi slums there was perception in the programme of what are the occupations which will increase family income. Hence there is need for these programmes to be planned with expert advice. What is doubtful in the study is its conclusion that the slum dwellers will be more interested in health and hygiene, education and basic literacy.

### Mass Media

New guidelines were issued in June to AIR and TV under which their programmes are to be governed by the objectives set forth in the Prasar Bharathi Bill now before Parliament (see last issue, page 318). Under this system there is to be a fair and balanced flow of information including contrasting views and presenting opposite points of view. The most important innovation, if it is acted upon, is the special attention required to be paid to the field of extension, namely, education, agriculture, health, family welfare, science and technology. This should be presented by specialists and not only by the Ministers and Government officials. That would be a real innovation.

### Technical Education

At a meeting of Technical Education administrators of the Southern region, the extent to which the steps taken by the states to streamline and execute the decisions of the 1978 All India Council

of Technical Education was reviewed. These recommendations included redesigning the engineering courses, improving the equipment and lab facilities, establishing links with industry and undertaking manpower studies. It was decided to organise manpower surveys and use to the full the Union government funds available for technical teachers development and training, refresher courses and support services. It also decided that engineering colleges should help in the upgrading of polytechnics and polytechnics would do the same for ITIs.

### Science

The major scientific event in June was the launching of the Indian satellite Bhaskara on June 7 from the Soviet Cosmodrome. The payloads for realising its mission are a television camera system for photometry and a two-frequency microwave radiometer system (SAMIR). The TV system will operate during the day when the satellite passes over India and SAMIR at night. The orbit height has been so chosen that the TV camera will completely cover the country in 2-3 weeks. Bhaskara will be monitored by Sriharikota and Ahmedabad and by Bears Lake in the USSR. The satellite which will be in orbit for a year will collect data on hydrology, forestry, oceanography and meteorology. All instruments are functioning well and correctly. The Union Ministry of energy announced in June that it is setting up a pilot plant in Gujarat to make electricity out of wood as part of the search for alternative sources of energy. The project will grow firewood plantation over 1,000 hectares to provide raw material for the experimental one megawatt station. ICAR is also examining the possibility of producing alcohol directly from sugarcane for use along with petrol as fuel. Brazil has started on this programme and an Indian

team is visiting Brazil to learn the technology. ICAR has worked out that a sugarcane — based distillery of 45 kilolitre per day capacity is economically viable and feasible and the alcohol produced will be Rs. 2 54 per litre. Using molasses whose price is controlled, the per litre cost will be 66 paise. The conversion charges of the types of distilleries are however comparable, 54 paise per litre for sugarcane based and 39 paise for molasses based. The Government is examining levying a cess for R & D in more scheduled industries. The cess will be an excise on all goods produced in such scheduled industries and will not exceed half per cent ad valorem. Different rates may be specified for different classes of goods. Research Direction Committees will be set up in each such industry, which will receive 2/3 of the cess for R & D work in that industry, the balance being credited to a Central Research and Funding Authority to be set up. On the basis of the findings of a Review Committee on the functioning of the Indian Institute of Advanced Study, Simla, which criticised the lack of proper procedure in the selection of its fellows, the Union government has decided to close down the Institute. The Institute since its founding in 1965 had awarded 152 fellowships for academics for study of different subjects, ranging from one to three years. Guest fellowships of short duration were awarded to senior academicians for study and lectures. This is an important and unique facility and it is hoped that the government will suggest procedures for

its proper functioning and not close it down. The intellectual world needs this facility in the country.

### Health

The Union Ministry of Health estimates that the national birth rate for 1978-79 at 33 per 1,000 was only a little higher than for 1977-78 at 32.9. This estimate is based on the number of births averted under the family planning programme which was 49.17 lakhs in 1978-79 compared to 50.47 lakhs in 1977-78. Since the inception of the programme upto March 1979, the ministry estimates that 34.30 million births were averted. In 1978-79 the Family Planning Programme picked up with 1.45 million sterilisations compared to 9.49 lakhs in the previous year, IUD insertions were 5.37 lakhs against the previous year's 3.26 lakhs. Tamil Nadu was above the national average on sterilisations but lower on IUD insertions. For the current year 1979-80 targets have been set. Against last year's actual of 3.6 million for conventional contraceptives and oral pills, for this year the target is 5 million for conventional contraceptives and 0.5 million for oral pills. (For the first time a separate target has been set for oral pills.) The sterilisation target is 3 million against last year's 4 million and actual as noted earlier, of 1.4 million. For IUD insertions the target is 1.1 million compared to the actual 6 lakhs last year. Para medical staff will be allowed to distribute oral pills and for this the Drugs and Cosmetics rules have been amended.

## V Employment

The Labour Bureau's survey on women's employment shows that their share of employed has increased marginally but they continue to be discriminated against. In 1971 women's work force participation rate was 28 per cent. The female work force then was 74.59 million, in 1978 increased by 11 million to 86 million and will be 95 million by 1983. While their share in the labour force is 33 per cent, their unemployment is 40 per cent of the total unemployed, 8.1 million out of 20.6 million. Women employed in factories, mines and plantations are a little more than half the women employed in the organised sector. In factory their share declined from 11 per cent in 1951 to 9 per cent in 1975 and in mines from 20 per cent to 3 per cent, though their absolute numbers have been steadily rising. The declining trend is attributed to the effect of the equal pay for equal work rule, the problem of maintaining registers and records of women workers and the very legislation which was intended to protect women workers. In plantation, women's employment has risen in 1972 and then fallen but technology here has not adversely affected women's employment. In the textile industry the decline is due

to automation, rationalisation of technology and prohibition of night duty. In jute textiles too technology replacement of jute sacks by synthetic sacks and elimination of rovi feeding in modern spinning has reduced women's employment. In food processing, women's employment is on the increase, while in mica industries the decline is due to the fall in exports. Women in production process work take mostly unskilled jobs and their share of skilled jobs is low due to lack of education, nonavailability of on-the-job training and their preoccupation in the household duties. As in all agrarian economies, most women workers in agriculture, hunting, forestry and fishing are which employ 37 per cent of women. In mining and quarrying 10 per cent and in manufacturing 10 per cent are employed. There is need for expansion and diversification of education and training facilities for women, elimination of all bias about their job suitability, promotion of occupations in which women are preferred and more reasonable cooperative and commercial bank credit to be made available to women entrepreneurs and workers to promote their employment.



## VI Other Items

### Director's Section

It is gratifying to note that the *Manual of Sources of Data on the Tamil Nadu Economy* has been enthusiastically received by the academic community and by the public at large. The Institute is currently engaged in a similar project to aid research relating to Tamil Nadu. It is part of a National project sponsored by the Indian Council of Social Science Research to compile bibliographies of social science research materials relating to different regions in the country. The Institute was invited by the ICSSR to do this work for Tamil Nadu and we have accepted the responsibility.

The aim of the project is to compile a bibliography of published and unpublished materials relating to social sciences in any language pertaining to Tamil Nadu giving also the information as to where the material would be available for reference. The information relating to each work is to be put on a separate card. Thus when the project is completed there will be a card catalogue of all works of social science research pertaining to Tamil Nadu in Tamil, English and other languages, particularly South Indian languages. The cards are being prepared in duplicate so that one set can be housed in the Institute and the other at the documentation centre of the ICSSR. This project was started in April and by the end of July some 450 research pieces have been located and entries made. It is expected that the project will last for about two years. The project is being supervised by the Librarian and the Director and is funded by the ICSSR.

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### UGC Review

The fourth meeting of the Committee set up to review the functioning of the UGC

during the Fourth and Fifth Plans met in New Delhi in early June. The Committee had before it reports from 8 missions which had been sent to visit and study how UGC aid in IV & V Plans was used, how far they have or have not resulted in UGC being able to fulfil its statutory function of maintaining standards through its various programmes of general and special subject, development of Universities and colleges. The missions went to 3 Universities and 3 or 4 colleges in each of the four regions and their conclusions were presented by the chairman of each commission and a first discussion of the reports resulted in a decision to draft a report of the committee on this part of its mandate and review and finalise it at its next session in July.

### National Board of Adult Education

A meeting of the National Board of Adult Education was held in early June at which the state of NAEP at the end of its first year of operation was reviewed and decisions made as to the second year when the operation will have to be doubled. It was noted that in some states the voluntary organisations were effectively carrying out the programme and in one, a quick survey carried out by a social science institute showed how successfully the agencies were carrying out the programme and what difficulties and limitations they face. The danger that the programme faces is that it is in danger of sliding into a straight literacy programme. The importance of the programmes for women and scheduled castes and scheduled tribes was once more underlined and special efforts to develop them in the coming year was stressed. The reports of the committees on voluntary agencies and follow-up literacy programmes were also

reviewed and their recommendations accepted.

## ICAE

The seventh meeting of the Board of International Council of Adult Education was held in second half of June in Helsinki, Finland. The Council programme was reviewed and the many programmes being undertaken by the regional bodies of Adult Education in Africa, Asia, Europe, Caribbean, North and Latin America were reviewed and decisions made to strengthen them. The full membership in the Council of the 4 Scandinavian countries was welcomed and the preparations made for welcoming USSR and Eastern Europe and China into the Council were noted with satisfaction. The Council adopted a new constitution, under which the general assembly was established as the supreme governing body which elected the officers and the executive committee of 23 members. After 6 years a new set of officers was elected with Robert K. Gardina (Ghana) as President, Budd Hall (Canada) as Secretary-General, Chris Duke (Australia) as Associate General Secretary and Roby Kydd as Treasurer. Julius Nyerere (Tanzania) is being succeeded by Olay Palme (Sweden) as Patron.

## Kungalv Seminar

The Helsinki meeting was followed by a seminar on Adult Education and Development in Kungalv, Sweden. Attended by 100 social scientists and adult educators from all over the world, the seminar first reviewed the Dar-es-Salaam conference decisions and then proceeded to work out the strategy of Adult Education for Development in the Third Development Decade and draft a research programme in Adult

Education so that the lag in research in this field which is exploding into action will be covered within the next 5 years. The Adult Education strategy is to gear the programme to the local, national and international effort to reduce poverty and unemployment and enhance the quality of life everywhere.

## UNESCO

In late June, discussions were continued with UNESCO, Paris about the International Symposium on the Role of Adult Education in the fight against inequality and for professional and cultural promotion which will be held in January 1980 in Madras University. It was agreed that 4 basic papers will be written by specialists on the theme of Inequality and papers also by the regions — Africa, Asia Arab States and Latin America. Some 40 persons from all regions will attend the symposium.

## July Development Seminar

The paper for July Seminar "Towns around Madras city" by Prof. Josef James together with a summary of the discussion on the paper at the Seminar held under the Chairmanship of Mr. G. Dattatri appears as the first article.

## Second Article

A paper "Dar-es-Salaam in perspective", appears as the second article.

## Book Review

A review by Prof. U Sankar of Madras University of the MIDS publication, "A Manual of Sources of Data on the Tamil Nadu Economy" appears in the Book Review section.

# Towns Around Madras City

By

JOSEF JAMES

The fifty eight towns in the Madras Standard Urban Area<sup>1</sup> is the subject of this paper. The study of towns in an area must be based on an understanding of the region in which the towns are found. But no prior and independent regionalisation is done in this paper. The region, in this study, is often inferred from the characteristics of the urban nodes and that is an important qualification of the present study. It is understood informally though, that the area involved is constantly and heavily influenced by the Madras city, the core city of this standard urban area. But the study makes no explicit reference to the city and that is another serious restriction. The chief reason for the restrictions is the size and variety of information needed, which is beyond the effort made, even if such information can actually be found. Finally, the study does not arrive at any model, nor even does it isolate a clear hypothesis. It merely tries to give a picture with some detail.

"Most of the conurbations of Madras were no more than a collection of villages interspersed with agricultural land, which have been linked together for administrative convenience", writes an observer of 19th century Madras.<sup>2</sup> "Madras in

1600, was formed by scattered settlements separated by long distances. Each settlement grew around a nucleus of a temple and has its own history".<sup>3</sup>

"The ring and the radial development has created green wedges, the edges of which, in some cases, penetrate into the city itself".<sup>4</sup> These descriptions have in common, a scheme of multiple nuclei, around temples anciently, around transport corridors in recent times. Subsequent infilling coalesces to yield an urban region. This process of scatter of urban nuclei and their infilling appears to be broadly confirmed, in respect of the 58 towns around the city. This probably has been noted already.<sup>5</sup> The present study adds only some details of the pattern around the broad historical scheme.

The fifty eight towns are initially divided into those which showed high growth of population and those that showed low growth in the decade 1951-1961. 20% growth is taken to be normal in both decades.<sup>6</sup> It is then found that those towns that grew slowly in the earlier decade showed a notably high mean growth rate in the succeeding decade than those which had grown faster than them in the previous decade. In order to look at this (Table I)

Table I

Town Groups	Mean growth Rate in 1961-71
High growth in 1951-61	52.8
Low growth in 1956-61	104.00

in some detail the area was divided into four sub-areas. The division was suggested by the scatter and cluster of towns. The southern sub-area consists of the Tambaram, Alandur and Pallavapuram groups, the northern sub-area consisting of the Ambattur, Madhavaram and Thiruvottiur groups, the western, of Avadi and Poonamallee group and a central group of towns around the periphery of the core city. This shows that the observation goes down to the individual sub-area level, except for the western sub-area where the difference in growth rates are negligible. (Table II)

Table II

Sub-areas	1961-71 Mean growth rates	
	51-61 High growth	51-61 Low growth
Southern	78.63	127.84
Western	22.52	25.23
Northern	57.05	69.93
Central	110.33	353.20

The Avadi-Poonamallee group shows the lowest rate of growth in 1961-71 irrespective of how the towns had grown in the previous decade. This is discussed later. What is of immediate interest is the fact that most of the towns in the high 1951-61 growth-group are found along the radial transport corridors in the larger metropolitan area. This is particularly true of the southern and the northern sub-areas.<sup>7</sup> This could be taken to mean that most of the population

increase in the decade 51-61 in this area was accommodated in towns along the main transport corridors. Considering the fact that most of the old towns in the area (towns in 1961) are found along the radial transport corridors<sup>8</sup>, it could be said that the old towns accommodated good part of the additional population and grew fast in the decade 1951-61. The rise in population can be presumed to be related to the growth of industry around the city during the decade.<sup>9</sup> This has been considerable but the population effect of it was probably not aggravated by the migration factor during this period.<sup>10</sup> The new towns that came up in the next decade, forty three of them, mostly away from the radial transport corridors must then be thought of as symptomatic of the subsequent infilling process.

The slow growing nodes in the stretches between radial transport corridors in the decade 1951-61, turning into fast growing towns in the next decade fits into the infilling part of the general scheme of urbanisation and is discussed later on. But the fast growing old towns are also found to continue growing fast in 61-71, although at a mean rate lower than the outlying towns in the same period. This can be observed when towns are grouped according to population size classes<sup>11</sup> and the class means compared. (Table III) The old towns, with four exceptions<sup>12</sup> are all found in the two highest size classes: 10,000-20,000 and above 20,000. In these two classes there are no towns other than these. The slow-growing nodes (in 51-61) which were villages until 1971 can be thought of as belonging to the lowest size class.

Table III

Town size classes	Mean growth rate	
	51-61	61-71
Above 20,000	49.48	112.00
10,000 — 20,000	9.36	58.66
5,000 — 10,000	26.52	60.69
2,000 — 5,000	34.56	73.11
Below 2,000	24.36	124.84

The table then shows that the relatively fast growing old towns continue to grow fast in 1961-71, but the outliers as a group grew faster.<sup>13</sup> It is then not the case that the (old) towns along the radial corridors have in any sense slackened their growth in the next decade. As the outliers who have been dormant in the earlier decade start up and grow fast, the old towns continue to grow fast and intensify.

The old towns in the metropolitan area must be viewed in two roles. Their large size and their situation along the transport corridors from the Madras city make them the prime receivers of the core city's influence. Secondly, their status as minor core towns themselves in the town groups outside the city area make them conveyors of the urbanising influence to the small towns around them. The ability of these towns to handle the traffic depends, presumably, on their service infrastructure, particularly market and transport. This is a difficult thing to establish directly but some overall stability may be taken to indicate the adequacy and/or capability of the service infrastructure. One indicator of that may be the low variability among these towns of their growth performance. (Table IV). It is generally observed that with the increase in growth rates (Table III) the variability among the towns in each group declines. The lowest variability

in 1961-71 is realised by the two top-size classes which, it has been pointed out, consists entirely of old towns. As these towns grow faster they become homogeneous with each other, with respect to

Table IV

Town size classes	Coefft. of variation of growth rates	
	1951-61	1961-71
Above 20,000	0.45	0.43
10,000 — 20,000	2.76	0.46
5,000 — 10,000	1.18	1.21
2,000 — 5,000	2.08	0.79
Below 2,000	1.82	1.54

their growth performance which makes them stable as a type. Can this be taken to indicate a certain stability of service infrastructure? If so, it should apply to the 2000-5000 size class also. And that should give us at least one, possibly two types of towns.

The forty three fast growing villages which became towns in 1971 cluster around the large, old, stable towns. They form seven town groups in the metropolitan area: Tambaram, Pallavapuram and the Mount-Pallavaram Alandur town groups in the south, the Madhavaram, Thiruvottiyur and the Ambattur town groups in the north, the Avadi and Poonamallee groups in the west and a central group of towns around the periphery of the Madras City. With these groupings it is possible to break the growth performance of the entire area in one more way and sharpen results. (Table V) The two southern town groups, Tambaram and Pallavapuram, show the highest mean growth rate in both the

Table V

Town groups	Mean growth rates	
	51-61	61-71
Tambaram	58.29	123.25
Pallavapuram	45.44	117.70
Mount-Pallavaram- Alandur	22.35	85.66
(Anakaputhur Subgroup	24.09	95.09)
Madhavaram-Thiru- vottiyur	22.33	78.50
Ambattur-Villivakkam	18.89	90.05
Poonamallee	17.23	44.32
Avadi	7.30	50.28
Central	27.61	251.71

decades.<sup>14</sup> One reason for this is the fast growing towns along the Beach-Tambaram and the GST road. And then the fact that over 60% of the new towns that had come up on either side of the transport corridor are fast growing industrial towns.<sup>15</sup> This does not extend to the Mount-Pallavaram-Alandur group but it holds for a small subgroup within it consisting of Kunrathur, Anakaputhur, Polichalur and Pammal.<sup>16</sup> Another interesting feature of these town groups that form the southern region is the noticeable increase in service population in almost every town in this area.<sup>17</sup> In fact all the towns which are service towns according to 1961 functional classification are found in this area and the central region. If that can be taken to indicate service infrastructure of some capability, it can be said that this region as a whole is industrialising, increasing in population and stabilising. It is well on its way towards coalescing into a contiguous urban area.

The two northern town groups Madhavaram-Thiruvottiyur and Ambattur-Villivakkam are already heavily industrialised. When many of the outlying villages

(Mathur, Kathirvedu, Naravarikuppam etc.) became towns in 1971, industry had already come into them. The many villages into which industry had freshly entered in 61-71 together with the earlier group of villages and both of these together with the industrially intensifying Thiruvottiyur render the whole northern region industrial. Its growth rate however has not been as high as in the southern region because these areas are not served by a service population and are not residential as the southern region. This area needs for stability an appropriate service infrastructure.

*The western town group:* Poonamallee and Avadi, show the poorest growth performance in both the decades. Two main roads (the Madras-Poonamallee road and the Madras-Thiruvallur road) pass through this area. Along the latter there is a heavy concentration of factories.<sup>18</sup> But, apparently, very little has spilled over, because none of the new towns around Poonamallee and not many around Avadi, are industrial. In fact, all the new towns that have come up in this area are primary producing towns. They all show, however quite a high proportion of industrial workers in the population increase that has taken place between 1961 and 1971.<sup>19</sup> All this gives towns of this area the nature of a rural fringe to the Madras standard urban area.

The general picture of multiple nuclei and infilling assumes in the case of the Madras standard urban area, the scheme of a radial system of towns balancing the Madras city on the one hand and the neighbouring rural area on the other. The posture, it is noted, gives rise to certain imbalances in the resultant standard urban area around the city. While the southern part of this area appears to be on its way towards a spatially consistent urban formation, the north, with the intensification

and spread of industry appears to be held back due to inadequacy of service infrastructure. And the west stays quiet and mostly rural in nature. There is, perhaps,

some complementarity relationships among these areas which might help to resolve and unify the picture. The paper stops short of looking for them.

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## Notes and References

1. General Population Tables, Census of India 1971, Series 19, Part II A, supplement.

2. David Washbrook, 'Emergence of Provincial Politics.' Cambridge, p. 130.

3. Structure Plan for Madras Metropolitan Area, Interim Report, 8.2

4. ital 8.17

5. ital 8.2

6. The attempt was to fix the natural rate of growth of population as the norm. But the natural rate for the state was found to be widely different (11.85% and 22.01%) for the two decades. Keeping in mind the controversy about the rate of increase of population in the two decades, a figure less than the 61-71 rate and higher than 51-61 rate, 20% was decided upon.

7. According to the table the difference is most marked for the central region. But this must be discounted because the 353.20% growth for that zone is because of the phenomenal growth of 952.63% registered by Kodambakkam, one of the towns in the group.

8. Total number of 1961 towns in this area is 17. Those on the radial transport corridor are 13. Towns that are not on these corridors are: Madhavaram,

Kunrathur, Anakaputhur and Pallavapuram.

9. Taking employment as a measure, between 1951 and 1961, it went up by 89% in manufacturing industry in this area. The industries where the increase had been prominent are, car and truck assembly, manufacture of automotive parts, railway wagons and coaches, heavy electricals and fertilisers. See Urban Development of Greater Madras.

10. Migration into the city in 1951-61 is the lowest, 100,000 except for the decade 1931-41 when it was only 78,000. See Structure Plan. 2. 19

11. Classification according to 1961 population. The mean growth of towns in each of the size classes is computed for the two decades.

12. The exceptions are Erukkancheri, Nerkundram, Meenambakkam and Trisoolam.

13. The result is strictly true only in relation to the largest, above 20,000 and the lowest below 2,000. The group, 10,000-20,000 is problematic. They are old towns but unlike the towns that make the highest size-class, they do not show high growth in 51-61 and relatively low growth in 61-71. They show

relatively low growth for both the decades. The towns are Madhavaram, Pallavapuram, Mount Pallavaram, Villivakkam and Kunrathur. It happens, three out of these five, Madhavaram, Pallavapuram and Kunrathur are not in the transport corridor. See note 8. That restricts high 51-61 growth and relatively low 61-71 growth almost entirely to towns in the transport corridor.

14. Tambaram group: Tambaram, Vengavasal, Perangalattur, Varadarajapuram Mudichur, Peerkankarani, Thiruneermalai, Chitlapakkam. Pallavapuram group: Pallavapuram, Thiruneermalai, Chitlapakkam Pallikarnai, Trisoolam. Note: Thiruneermalai and Chitlapakkam appear in both groups. This happens when the town groups are adjacent.

15. Ten of the fifteen towns in this region.

16. Two new towns in this group Pammal and Velachery are both industrial.

17. Increase in service population as a percentage of increase in total population was computed. The increase is not reliable because it is known that workers as a category are overestimated in the 1961 census. Taking this into consideration, if the ratio is still positive, it is concluded that there has been an increase in service population. If not, no conclusion is drawn.

18. Structure plan for Madras Metropolitan Area, Interim Report 4.31

19. The procedure explained in note 17 was used to determine this.



## July Seminar

### Summary of Discussion

The July Seminar featured the paper "Towns Around Madras City" by Prof. Josef James. Mr. G. Dattatri, Chief Urban Planner of the Madras Metropolitan Development Authority chaired the seminar.

In his opening remarks, the Chairman appreciated the awareness of the participating group of urban problems. He stated that since public participation in planning had generally been declining in the last few years, groups such as the one he was addressing could, in a large way, make the government's programme more meaningful. He was also appreciative of the choice of subject for discussion and the clarity with which the characteristics of the towns around Madras had been exposed in the paper.

Presenting the paper, the author observed that most of the old towns had developed along the radial transport corridors. The growth of new towns had taken place in the stretches between the transport corridors. Dividing all towns into those which showed a high growth of population and those which showed a low growth of population in the decade 1951-61, it was noted that those towns that grew slowly in the decade 1951-61 showed a considerably high mean growth rate during 1961-71 than those which

had grown faster than them in the previous decade. In addition, it was found that when towns were grouped according to population size classes and the class means were compared, the outliers as a group grew rapidly during 1961-71. However, the old towns continued to grow fast even during 1961-71. Further, classifying all towns in 1971 into groups, the author noted that the southern group recorded the highest growth rate: this he attributed to the fast growing (mainly industrial) towns along the transport corridors and the increase in service population in this area. Although comprised of industrial towns, the northern region's growth rate was not as high as that of the southern region. The western group's growth was the poorest, for, although two main roads passed through this area, the new towns which sprang here were primary producing towns. The author related the stable position enjoyed by the south chiefly to the existence of service infrastructure, which was wanting in the other areas. He felt that this imbalance in development could be reconciled perhaps in terms of some complementarity relationships which existed among these areas.

During the discussion of the paper, the absence of the initial thrust of housing emerged as the cause for many of the

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1. It was clarified during the discussion that the census defined a town as industrial on the basis of the residential industrial population in it, and not on the basis of existence of industries in that town.

complex urban problems faced today. The existence of wide disparities in the growth of different town groups, it was felt, was related to a large extent to this factor. The inadequacy of efforts at providing massive housing on the part of the government and the failure of industries to abide by their initial intentions of providing housing to their workers to avoid long-distance commuting was highlighted.<sup>2</sup> At this juncture, the case of a textile mill set up during the early phase of industrial development in the Northern area was cited: a large section of workers in this establishment were unskilled and had settled down near the factory despite the virtual absence of housing and basic consumer facilities. In contrast, in the case of some of the newly established industries, the workers, most of whom were skilled, had settled in residential areas and preferred to commute a long distance to their factory. The convenience offered by the transport system, it was thought, permitted long-distance commuting. As a result of these problems, there was a feeling among participants that many of the imbalances and complex urban problems experienced today had their solution in creating housing and other service facilities in towns which housed the industries.

Some interesting facts regarding migration patterns were pointed out during the discussion. It was stated that migration has always been *direct* — from the rural areas/villages to the core city. Vast migration of mainly unskilled labourers had taken place from Chingleput, North Arcot and Cuddalore into Madras city. The slumps in the city, containing the kinsmen of these migrants, served as receptacles. However, the city, being unable to

absorb this population into its employment fold, pushed out the population into the fringes. It was therefore realised that only planned intervention could prevent such migration into the core city. In this connection it was stated that MMDA's approach to urban development was two-fold: slum improvement and provision of low cost housing in the peripheral areas which though not urbanised, would still be close enough to the urbanising influence of the city. It was pointed out that removal of slum dwellers to the peripheral areas enabled the accommodation of the population migrating into the city in the slums and to that extent solved the immediate problem of housing this additional population.

An interesting question raised was whether the future development of towns could be predicted. The answer to this, it was speculated by a participant, could perhaps be sought by first looking at the migration trends. (The migration of large numbers of unskilled workers into the southern region explained to a large extent the service capability in it.) The push-out factor also had to be considered. (Small entrepreneurs were highly prone to this factor.) It was this participant's feeling that given the migration and push-out factors, and considering that the southern region connects Madras city to Kancheepuram — an important business centre — the future growth of towns would take place in the Southern area rather than elsewhere.

Comparisons of growth rates of town groups by classifying them according to population, it was indicated, were strictly subject to the validity of the 1961 census of population of Tamil Nadu since it is generally believed that the census figures

2. It was stated that some large industrial houses had found it to be to their advantage to bear their employees' transportation costs rather than provide housing facilities for them.

are gross underestimations. It was therefore possible that a higher degree of underestimation in the case of towns which grew at a slower pace in 1951-61 would indicate a higher growth rate for them in 1961-71. The incidence of the statistical error would thus be different for different areas. In addition, it was pointed out that in the paper, the consistency in relation to growth rate observable when towns were divided on the basis of population growth (Table II) was absent when they were classified by size classes (Table III), though of course there was an overall increase in growth. Responding to this, the author said that the relationship was consistent for the largest and smallest size classes, if not for those in between. It was however pointed out by another member that the two criteria were not strictly comparable.

Moreover, owing to the spectacular increase in population in Madras city (1961 - 17 lakhs, 1971 - 24 lakhs and 1978 - 34 lakhs) and its peripheral areas over the last few decades, it was felt that the scale of population in terms of which analysis was conducted needed to be specified. Another view was that the consideration of population per sq km. in each cluster rather than the total population per cluster was important.

Furthermore, it was pointed out that the computation of growth rates in percentage terms was misleading. For instance, as the author himself had pointed out in the paper, the central region would register the highest growth rate but for the fact that the phenomenal growth of Kodambakkam (belonging to the central group) of 952.63 per cent

is discounted. It was therefore suggested that all calculations be also in absolute terms.

One of the aspects that had been overlooked in the paper, it was felt, was the definition of the central area and an explanation for the high growth of this area. It was also felt that the study could include the socio-economic aspects of urban development and explore the possibility of defining towns on the basis of infrastructure available, awareness of family planning, etc. since a town, simply by virtue of being defined as a town, did not imply the existence of these facilities. It was suggested that the MMDA prevent future expansion in the central area, encourage movement into the rural fringe and be the sanctioning authority for any expansion activity within the CBD.

A participant observed that it was necessary to review the policy towards development of towns, i.e., whether towns should be allowed to develop in the conventional manner or whether satellite towns should be developed. Preference was shown for the latter course by this participant and it was suggested that each satellite town could cover four or five clusters; this would help bring a degree of interdependence between clusters.

Concluding the session, the Chairman suggested that the seminar group devote some attention to the issue of dynamics of growth of the city and its surrounding regions and offer concrete recommendations on the manner in which the much-needed infrastructural facilities can be brought within the reach of all areas.

# Dar-es-Salaam in Perspective

The (past, present and future) Role of Adult Education in Development

## Background

The 1976 International Conference on Adult Education and Development resulted in a Design for Action which concludes with the decision "that before 1980, regional and international meetings (will) be called to appraise the results of implementation of the Design for Action and to plan for future action". The Scandinavian Adult Education Association accordingly organised an international seminar on Dar-es-Salaam in Perspective at the Nordic Folk High Schools Academy, Kungälv, Sweden from June 26-28, which was attended by over 100 adult educators and social scientists from all over the world.

## Dar Decisions

Dar-es-Salaam made four sets of decisions on Adult Education and Development.

*First, it redefined Development in terms of Man, all of Man, whole of Man, what India has defined into the new concept, Antyodaya. Development is what happens to the last Man.*

Second, that redefinition meant reducing the growing international and intranational inequalities: the achievement of "social,

*economic and political justice, that leads to the liberation of mankind" in the language of the Design.*

Third that commitment involved the decision to push forward the New International Economic Order with its multipoint agenda covering food security, expansion and multilateralisation of trade, the building of buffer stocks in eleven key commodities as a means of ensuring stable incomes to countries and peoples and the attainment by developing countries of the 20 per cent target of world industrial production by 2000 AD, aid target fulfilment and debt rescheduling, and international monetary liquidity.

Parallely at the national level, the basic needs strategy was adopted involving the attainment of minimum income, employment generation, water and housing facilities, health and education restructuration, and the launching of a programme of redistributive justice which will make available to the mass of people the quantity and quality of life which is their due.

As a complementary counterpart, attending to the ills of affluence was agreed upon. These issues revolve around

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\* Extract from the talk at the International Seminar on Dar-es-Salaam in Perspective at Kungälv, Sweden from June 26-28, 1979 by Dr. Malcolm S. Adiseshiah.

environmental degradation, use and misuse of science and technology, sharing the riches of the seas while conserving its major contribution to photosynthesis, and curbing the runaway armaments expenditures now surpassing \$ 250 billions.

Fourth, these commitments require the recognition of the centrality of Education and particularly of Adult and Continuing Education to all of Development, involving the integration of Adult Education into the Educational system, which in turn must be integrated into the National Development Plans; the developing of integral and interdisciplinary nature of Education in place of the uni-dimensional and mono-disciplinary nature of Education; the growth of decentralised adult education structures in place of centralised educational hierarchies; the building in of participatory mass adult education methodologies instead of elite oriented leadership; the conception of education as a continuum which conserves democratic values, and our pluralistic cultures in the place of education limited by time and space and marked by political and cultural irrelevance; and the recognition of the revolutionary potential of Adult Education as a purveyor of change against status quoism and as a promoter of emerging new values alongside of nurturing the traditional ones.

### Balance Sheet

Three years have elapsed since these decisions were made at Dar-es-Salaam. Where do we now stand? What have we accomplished and not accomplished as we near the end of Second Development Decade?

### Pluses

Internationally, we have recorded substantial achievements in World Food Security, with the security information net

work, world food stocks and the setting up of the International Fund for Agricultural Development; we have made a start with agreement on the buffer stocking of five commodities, its funding and the opening of the second window; we have had the third replenishment of IDA, the agreement on IMF gold sales and creation of the Fund for meeting the balance of payments problems of the poor countries, the growth of UNDP as a major multilateral pre-investment instrumentality, and the emergence of OPEC as a spectacular ODA contributor with 3 per cent of its GNP; we have agreement in principle on a compensatory mechanism in relation to the brain drain phenomena; and a number of positive developments that have intervened including the UNESCO Recommendation on Adult Education, the World Bank statement on Education, the Alma Ata Declaration on Primary Health Care, the Buenos Aires Declaration on TCDC and the emergence of the International Council of Adult Education with Scandinavian participation and participatory research network. All this needs to be seen against the backdrop of SALT II and the Israel-Egypt peace treaty, about which there is a question mark which only the future will answer.

Nationally, the achievements include at the political level the strengthening of democracy through the government changes in Afghanistan, Iran, Nicaragua and Uganda; planning in terms of Basic Human Needs, Employment Generation and Redistributive Justice; replacing linear expansion in education by making room for the reform and innovation movement; the priority to primary and adult education given by India and Kenya in addition to Tanzania; and the growing interaction between formal and non formal education and the development

departments and sectors, and the increasing response of Adult Education to the new and emerging needs of workers and workers' movements.

### Minuses

The triennium since Dar-es-Salaam has also recorded serious setbacks. The international gains are token. The national advances are verbal.

Internationally, the New International Economic Order is still a partially supported slogan rather than a committed international programme. The gap between the industrialised and developing countries is still growing; the complete deadlock at UNCTAD V in Manila which has sharpened the North-South conflict to a crisis level, the stalemate covering the Multilateral Trade Agreement with which the Tokyo Round culminated (the developing countries supply only 1 per cent of the manufactures consumed by the OECD countries but their trade deficit with OECD countries amounted to \$ 18 billion in 1977), and the deadlock on the fulfilment of the ODA aid target, on debt rescheduling, on technology transfer and international monetary reform and on restructuring the international economy generally. To these must be added the lack of progress after four rounds in the UN Law of the Sea conference and the growing arms expenditures. (The Stockholm Institute calls attention to the annual arms trade today of \$ 20 billion and of the increased arms spending of the developing countries which has spurted from 3 per cent of total world arms spending in 1955 to 18 per cent in 1977, which is three times more than the Official Aid they received.)

Nationally, the World Bank Atlas tells us that the majority of people in the developing countries still live in poverty which is a function of growing inequality. The educational system is still mainly formal,

essentially centralised and disturbingly elitist. Adult Education is still to be integrated into the Education system and in the National Development Plans. An unbridged gap still yawns dividing scientists and society, thinkers and doers, the normative and positive, and the analysed and unanalysed categories of thought and action programmes.

### Futures

What then of the Future of the role of Adult Education Development in the Third Development Decade?

My answer is: (a) let us return to the decisions of Dar-es-Salaam; (b) let us turn those decisions into acts

For adult education, this would mean that:

the themes of Adult Education in the Third Development Decade are themes that beset the human condition today: peace, poverty, pollution and population, and the immediate and perceived problems of individuals and groups, whether those individuals and groups are in rural India or industrialised Gothenberg, the discriminated women or displaced workers resulting from the container revolution or the so called third world revolution;

the methods of Adult Education are non formal which includes its interdisciplinary, interdepartmental nature; in fact all of education should be non formal for that is the only way of ensuring that Adult Education deals with real life themes;

one of the most urgently needed methods is Research, which has to make up for its lack and lag in Adult Education compared to the research built up in formal education, and whose

inventory includes areas about which we know little of nothing, such as what makes for political commitment, the frightening demographic dimension, the various necessary but baffling linkages between motivation for Adult Education, the potential of awareness the methods, methodologies and monitoring and evaluation demands, all of which call for Research, which at the vertical level (from the bottom up), has to be participatory, at the horizontal level has to be spreading out in even widening circles (covering all cross disciplinary and sectoral research in the social, natural and physical and human sciences), and at the circular level has to be feeding back into plans projects and programmes ;

another area on which studies are needed is in the communication area, covering the old mass media like the press film TV and radio as well as the new perspectives opened up by satellite communication for Adult Education. Adult Education has a special responsibility for the soft-ware facets of such communications media ;

a critical area facing us is the involvement of political leadership of the country in Adult Education. The role of Adult Education in Development begins with and is decided by political commitment.

Hence parallel to the emergence of IAEA, which will be completed by the entry into it of the USSR and China, as the International Adult Education catalytic

agent, I end with two further action proposals.

First, each country should set up the Adult Education structures that we decided upon in Dar-es-Salaam, governmental, para government and non governmental. As the Design declares, "The agreement in the UNESCO Recommendation is that each country should have an appropriate mechanism for bringing together on a regular basis those most responsible for education to determine national commitment, decide on allocation of resources, and design sound policies and coordinated programmes for adult education for Development. Such a coordinating body would involve government departments (such as health, agriculture, economic production, cultural services, education) ; universities and colleges, organisations concerned with workers, rural development, trade unions, women, the aging, ethnic minorities, managers and professional personnel, broadcasters and publications."

Second, let us, during the Third Development Decade, make the Adult Education movement a cadre-based movement—cadres committed to the Adult Education ideology and comprising industrial workers, agricultural labourers, scientists, students, doctors, nurses, engineers, managers and politicians. Then and only then will Adult Education be equal to the challenging tasks which Development opens up to it.

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## Book Review

# A Manual of Sources of Data on the Tamil Nadu Economy

Compiled and Published by Madras Institute of Development Studies,  
Madras 600020, 1979, PP 92, Rs. 10-00

In the Foreword to this Manual, Dr. C.T. Kurien, Director of the Institute, attributes the underdeveloped nature of research into the economics of the states to two factors: (1) non-availability of data in certain areas, and (2) lack of information on the existence and availability of published data. By listing in a systematic manner sources of data and some empirical studies on the Tamil Nadu economy available in 49 institutions in Madras, the Manual aims to fill the information gap.

The Manual consists of three parts. In part I the data sources have been arranged thematically under 10 sections: (1) Agriculture, (2) Industries, (3) Subsidiary Occupations, (4) Consumer Expenditure, (5) Internal and International Trade, (6) Population and Demographic Features, (7) Public Finance and Social Welfare, (8) Employment and Unemployment, (9) Scheduled Castes and Tribes, and (10) General Economic Data. For each source, the listing contains information relating to the author, title of publication, publisher, date of publication, and where obtainable, the period covered by the work. Relevant National Sample Survey publications have been added at the end of each sub-section.

Part II deals with data sources covering a large number of sub-fields such as the *World Agricultural Census-Tamil Nadu*, *Annual Statistical Abstract, Tamil Nadu: An Economic Appraisal*, *Statistical Handbook-Tamil Nadu*, and *District Statistical Handbooks*.

Part III deals with the *Census of India 1961, Volume IX, Tamil Nadu and Census of India 1971, Series 19, Tamil Nadu*. The contents of these publications have also been recorded.

The Manual will be of immense value to researchers, planners and others seeking information on the nature and sources of data on the Tamil Nadu economy. Even though the existing data base is not adequate to construct regional plan models at the state and district levels, a number of sectoral studies can be undertaken using time series or cross section data available at the state level. The Agricultural section alone contains 300 listings. We hope that the next edition will cover data sources located in places other than Madras city and contain separate listings of data sources at the state and district levels.



MIDS has an ambitious long-term project to study the data base of the Tamil Nadu economy. The Institute can be a catalyst in establishing a close rapport between suppliers and users of data to identify data needs, to improve the quality of data and to make data accessible for research use. This rapport is necessary to improve the quality of empirical research on Tamil Nadu's economic problems.

Unlike physical and natural scientists, economists are seldom associated with problems of generation of economic data and its classification and evaluation. Few of us pay serious attention to relate theoretical constructs to empirically observable measures; instead we often use whatever secondary data is available without worrying about conceptual and measurement problems and other limitations of data. It may be that it is difficult or very costly to conduct experiments and generate data, but economists can help statistical agencies in planning a survey, in clarifying conceptual issues, in devising methods for measuring variables and in suggesting a suitable basis for grouping data. By closer association, they can understand and appreciate the methodology of data collection, presence of measurement and sampling errors and other limitations of data. After all, the

quality of any research output depends, to a large extent, on the quality of data input.

Most census or survey data are published only in group form. If the researcher has no access to the original data, he must carry out estimation and hypothesis testing on the basis of grouped data. There is some loss of information in the grouping process. Estimates of parameters in economic relationships based on grouped data are less precise (have large sampling variances compared to estimates based on ungrouped data) and often sensitive to the manner in which data is grouped. Sometimes the aggregation bias could be so serious that the estimates of parameters based on grouped data may have no relationship to the parameters of micro-relations. Further, the coefficient of multiple correlation computed from grouped data can be much larger than the coefficient of multiple correlation from ungrouped data. These considerations suggest that information retrieval (the systematic recovery of data from files or tapes) for research use is very useful. It is possible to evolve procedures to preserve the anonymity of individual units and make micro-data available to research workers.

U. Shankar

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