

Tamil Arasu

JUNE 1973

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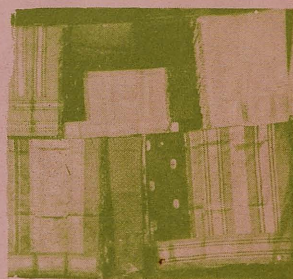
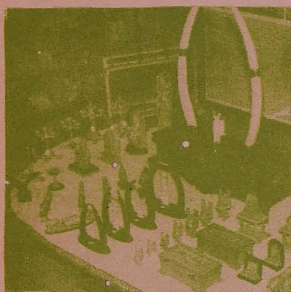
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Tamil Arasu

Vol. III

JUNE 1973

Issue 14

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The Chief Minister celebrated his 50th Birthday on 2-6-1973 with donations to the Fund for rehabilitation of rickshaw-pullers affected by elimination of hand-rickshaws.

A sum of over Rs. 20 lakhs was handed over to the Tamil Nadu Chief Minister, Dr. M. Karunanidhi for the Cycle Rickshaw Fund on the occasion of his 50th birthday.

The fund will be utilised for the elimination of hand rickshaws and supplying cycle rickshaws free of cost to all rickshaw pullers in the State.



A school started in Richardson Park, Saidapet by a dedicated social worker for the benefit of the children of nomadic communities hit the headlines in newspapers and magazines all over the country last year. The school obtained the inevitable image of lacking in everything but the spirit of dedicated service and indomitable courage against heavy odds.

Silently without fan-fare the Prosperity Brigade (a disciplined organisation of voluntary

workers formed by the late Dr. Anna) sprang into action to provide one of the essential needs of a school for children of nomadic communities—a hostel. This hostel is to receive inmates from the next academic year and as befitting such a noble venture in the constituency of the Chief Minister—Saidapet, it is being declared open on 5th June, as part of the Birthday celebration of Dr. M. Karunanidhi.

The school had enrolled last year 120 pupils, all belonging to communities known for their nomadic mode of life, like narikkoravars, soothsayers and bairagis. It is run by one Ragupathy who has himself married into one of the nomadic communities and is helped by other voluntary unremunerated but qualified teachers including one B.T. Assistant.



O. Anver

OFFER A HUNDRED SALAMS to KARUNANIDHI

Who is it that has brought name and fame to
Tamilnadu

Thou only KARUNANIDHI.

Great Administrator, Statesman, an upright Judge,
defender of the helpless, all tolerance and grace

Thy name is KARUNANIDHI.

When Urdu lovers were in despair wailing and
weeping their lot, who is it that turned their
tears into tears of joy

Thou only KARUNANIDHI.

Now for lovers of Urdu, a new hope, a new life

Now for them a forward march

Age for them no longer a bar

Doors of education no longer closed

Now look to this down of a new era

O. Anver

Offer a hundred salams to KARUNANIDHI.

Translation of Urdu Poem published in the
daily Urdu newspaper "The Musalman" dated
31st March 1973 in praise of DR. KALAINGAR
M. KARUNANIDHI, Chief Minister of Tamil-
nadu, Moulana Moulvi Abul Barkath Saheb
Anver, Muslims, Religious Leader (aged 80) on
the announcement of Urdu Muslims as Backward
Class.

(Translated by Dr. Md. Maqdoom, Anna Salai,
Madras-2.)

THE CHIEF MINISTER FREE EYE CAMP CAMPAIGN COMPLETES ONE FULL YEAR

On the occasion of the 49th Birth Day of Dr. M. Karunanidhi, a separate fund designated as "The Chief Minister Eye Camp Fund" was constituted for the purpose of giving free eye treatment and spectacles and collections from the public commenced on and from 3rd June 1972. The money thus collected has been deposited in a Special Deposit Account opened in the Reserve Bank of India, Madras.

An Advisory Committee to advise the Government in administration of the above Fund was set up consisting of Minister for Health as Chairman, the Secretary, Health and Family Planning Department, the Director of Medical Education, Madras, and the Director of Health Services and Family Planning, Madras as members, the Deputy Secretary to Government, Finance Department as Member-cum-Treasurer and the Deputy Secretary to Government (Health), Health and Family Planning Department as Member-cum-Secretary. Apart from those mentioned above, four more non-official members were nominated to the Committee whose term is for three years. The duty of the Committee has all along been to suggest ways and means for collecting funds. The Director of Health Services and Family Planning is placed in overall charge of the eye camps, while the Director of Medical Education is expected to render necessary assistance for conducting the camps.

On the first day of its inauguration, i.e., 3rd June 1972, the total collection swelled to the figure of Rs. 9 lakhs. The contribution consisted of the amount of Rs. 5 lakhs given by a Committee headed by the Sheriff of Madras City, Thiru M. A. M. Ramasamy and a contribution of Rs. 4 lakhs by the visitors who called on the Chief Minister at his residence on his birth day itself. The latter sum included in it the contribution of Rs. 2,02,049 by the temples in the State. Among the notable contributors on the occasion, mention must be made of Rs. 49,000 contri-

buted by the State Electricity Board and Rs. 25,000 made by Messrs. Anjham Pictures for story and dialogue written by the Chief Minister himself. Now the total contribution to the Fund has swelled to more than Rs. 50 lakhs.

MOBILE UNITS.

For the purpose, five Mobile Ophthalmic Units were set up, two under the direct supervision of, Dr. J. E. Abraham, Superintendent, Government Ophthalmic Hospital, Madras and three under the control and guidance of Dr. G. Venkataswamy, Vice-Principal, Madurai Medical College, Madurai. Both are noted specialists in their profession in Tamil Nadu.

Each Mobile Unit consist, apart from the head surgeon, of 4 Assistant Surgeons, 12 nurses, one Head Nurse and other medical attendants and assistants in requisite number. Each Mobile Unit is allotted to a specified area. Accordingly, the Mobile Unit one is to conduct camps in Madras, Chingleput and South Arcot districts; the Mobile Unit two is allotted to the districts of North Arcot and Dharmapuri; the Mobile Unit three is to camp in Thanjavur, Tiruchirappalli and East Ramanathapuram districts; the Mobile Unit four is to look after the areas in Coimbatore, Salem and the Nilgiris districts and the Mobile Unit five is put in the medical relief service in the districts of Madurai, West Ramanathapuram, Tirunelveli and Kanyakumari.

Each Mobile Unit is provided with a bus and two Jeeps and other medical paraphernalia worth about Rs. one lakh. Apart from this, the two specialists entrusted with the task of supervising the Mobile units are provided with an Ambassador Car each. Besides these, the conveyances of medical services are taken now and then for use by these units as the need arises.

Each unit is expected to camp at two places every month in its allocated area conducting at least

500 operations in each camp. It was the target fixed at the outset. But the target has been exceeded in some camps such as the camp conducted at Tiruvarur, etc.

So far 94 eye camps have been conducted all over the State at a total cost of Rs. 26 lakhs. Among them, 66 eye camps were conducted at different places in the State such as Tiruvarur, Kumbakonam, Cobi-chettipalayam, Palani, Tiruchendur, Kallakkudi, Nagercoil, etc., by the group of doctors under the supervision of Dr. Venkataswamy and 26 eye camps by the set of medical units under the control of Dr. J. E. Abraham.

Apart from this, an eye camp hospital was set up in C.S.S.W. Mill Marriage Hall at Coimbatore on 24th September 1972 and this camp was continued for a six months period attending to the need of the eye ailment patients in the surrounding areas. For this camp hospital a sum of Rs. 25,000 was allotted and as on 13th November 1972 as many as 588 cases of eye ailments were operated upon. So also a continuous eye camp was conducted at the Government General Hospital in Tiruchirappalli from 21st October 1972.

A record has been made in the Eye Camp at Kallakkudi in Tiruchirappalli district where as many as 1,218 operations were done in a single day. This is a creditable achievement to-date in the annals of Medical History and this record was possibly created only with the selfless, sacrificing service rendered by the local units of Women's Association, Lion's Club and the local colleges.

This campaign is to be continued for four more years in the State and if need be, as the Chief Minister said in his speech at the last camp conducted in Madras in April 1973, this campaign will become a continuous one even after the lapse of four years in the interest of the public at large. The Free Eye Camp Scheme has so far given treatment to 287,931 persons at 92 Camps, as follows :-

ACHIEVEMENTS UNDER FREE EYE-CAMP PROJECT.

Serial number and name of the place where Free Eye-Camp was conducted.	Eye-Camp period.		Total number of out-patients treated at the camp.	Cataract operations done.	Refractions done.	Minor operations done.	Advance amount sanctioned for the camp.
	From	To					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A. Achievements made by the three units which are under the control of Dr. Venkataswamy.</i>							
RS.							
1 Thiruvavur	2nd June 1972 ..	10th June 1972 ..	15,013	2,035	1,678	120	1,16,630
	24th June 1972 ..	10th July 1972 ..					
2 Kumarapalayam	22nd July 1972 ..	31st July 1972 ..	5,048	1,051	1,618	24	72,918
3 Gobichettipalayam	15th July 1972 ..	7th August 197 ..	10,693	2,102	2,581	49	2,01,938
4 Palani	3rd August 1972 ..	12th August 1972 ..	4,650	847	696	27	81,000
5 Thiruchendur	16th August 1972 ..	23rd August 1972 ..	4,699	320	..	..	59,760
6 Kallakkudi (Dalmiapuram) ..	19th August 1972 ..	28th August 1972 ..	14,328	2,167	493	..	39,006
7 Nagercoil	2nd September 1972.	9th September 1972.	1,451	151	467	20	54,000
8 Thiruppattur	12th September 1972.	23rd September 1972	6,948	778	488	30	50,004
9 Ootacamund	11th September 1972.	20th September 1972.	4,715	306	939	..	55,000
10 Coonoor	13th September 1972.	23rd September 1972.					
11 Mayavaram	19th September 1972.	28th September 1972.	3,576	1,770	151	63	1,03,860
12 Podinaickanoor	23rd September 1972.	2nd October 1972 ..	8,317	848	512	54	51,174
13 Melur	30th September 1972.	8th October 1972 ..	6,626	940	1,134	..	1,08,000
14 Velur-Paramathi	21st October 1972.	6th November 1972.	4,165	768	502	..	36,000
15 Pudukottai	28th November 1972.	7th December 1972.	4,778	548	802	..	36,000
16 Pollachi	13th December 1972.	19th December 1972.	2,428	374	369	12	28,800
17 Paramakudi	21st December 1972.	30th December 1972.	4,387	534	879	..	28,800

18	Usilampatti	..	..	..	23rd December 1972.	3rd January 1973	..	11,293	1,229	885	14	36,000
19	Karur	..	..	..	26th December 1972.	4th January 1973	..	5,324	592	176	42	18,000
20	Udumalpettai	..	..	..	28th December 1972.	Do.	..	1,250	265	551	16	28,800
21	Kulithurai	..	..	..	Do.	Do.	..	379	54	227	3	7,200
22	Virudhunagar	..	..	..	Do.	6th January 1973	..	2,907	412	423	16	18,000
23	Sivakasi	..	..	..	30th December 1972.	8th January 1973	..	4,157	351	390	11	18,000
24	Erode	..	..	..	2nd January 1973	9th January 1973	..	5,849	634	307	..	28,800
25	Thirukarangudi	..	..	..	4th January 1973	10th January 1973	..	3,843	432	243	12	25,200
26	Mettur	..	..	..	19th January 1973	28th January 1973	..	2,465	457	477	31	18,000
27	Tuticorin	..	..	..	20th January 1973	29th January 1973	..	1,325	310	464	2	25,200
28	Musiri	..	..	..	26th January 1973	4th February 1973	..	4,625	615	1,859	..	18,000
29	Sankarankoil	..	..	..	27th January 1973	5th February 1973	..	5,236	507	419	13	25,200
30	Dindigul	..	..	..	9th February 1973	16th February 1973	..	5,520	562	533	8	36,000
31	Kutralam	..	..	..	12th February 1973	19th February 1973	..	3,785	296	477	..	25,200
32	Manapparai	..	..	..	24th February 1973	5th March 1973	..	1,851	149	495	3	18,000
33	Mannargudi	..	..	..	14th March 1973	23rd March 1973	..	6,676	570	537	22	36,000
34	Athur	..	..	..	16th March 1973	25th March 1973	..	4,326	554	298	33	36,000
35	Ootacamund	..	..	..	17th March 1973	26th March 1973	..	1,292	51	381	..	36,000
36	Coimbatore	..	..	..	24th September 1972	31st March 1973	..	10,535	1,398	1,041	..	31,000
37	Tiruchirappalli	..	..	..	21st October 1972	31st March 1973	..	2,175	386	87	..	14,400
38	Vaigai Dam	..	..	..	6th April 1973	18th April 1973	..	1,606	160	480	7	27,000
39	Jayangondam	..	..	..	16th April 1973	25th April 1973	..	1,495	397	247	3	18,000
40	Aruppukkottai	..	..	..	16th April 1973	25th April 1973	..	3,141	274	151	10	18,000
41	Thaccalai	..	..	..	19th April 1973	26th April 1973	..	2,020	37	337	..	5,040
42	Mettupalayam	..	..	..	21st April 1973	3rd March 1973	..	Achievement particulars included in Coimbatore.				

Serial number and name of the place where Free Eye-Camp was conducted.

Eye-Camp Period
From To

Total number of out-patients treated at the camp.

Cataract operations done.

Refractions done.

Minor operations done.

Advance amount sanctioned for the camp.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
							Rs.
43 Cumbum	23rd April 1973	3rd May 1973	4,474	292	446	11	36,000
44 Thiruppur	23rd April 1973	2nd May 1973	1,548	186	187	..	18,000
45 Thirumayam	27th April 1973	6th May 1973	2,954	277	14	..	18,000
46 Dharapuram	26th April 1973	4th May 1973	1,153	232	178	14	18,000
47 Thazhaiuthu	30th April 1973	8th May 1973	2,057	363	330	4	18,000
48 Sathiyamangalam	29th April 1973	7th May 1973	1,120	117	69	..	18,000
49 Pattukkottai	28th April 1973	10th May 1973	8,149	827	1,319	15	25,200
50 Rasipuram	7th May 1973	16th May 1973	..	371	..	..	18,000
51 Nattham	5th May 1973	15th May 1973	547	144	185	2	18,000
52 Sivaganga	8th May 1973	17th May 1973	1,710	200	142	2	18,000
53 Thiruchengodu	10th May 1973	19th May 1973	..	509	..	..	18,000
54 Nagalapuram	12th May 1973	21st May 1973	184	484	191	..	18,000
55 Salem Town	14th May 1973	26th May 1973	..	1,014	..	..	36,000
56 Thanjavur	14th May 1973	26th May 1973	..	666	..	..	25,200
57 Kottar	16th May 1973	21st May 1973	..	31	..	..	5,400
58 Sathur	18th May 1973	27th May 1973	637	149	193	5	18,000
59 Kulithalai	19th May 1973	28th May 1973	..	350	..	..	18,000
60 Kovilpatti	21st May 1973	30th May 1973	558	808	188	25	18,000
61 Annur	21st May 1973	29th May 1973	..	218	..	..	7,200
62 Rajapalayam	23rd May 1973	1st June 1973	..	455	..	..	18,000

63	Gobiehettpalayam	..	..	25th May 1973	..	3rd June 1973	..	..	279	..	..	10,800
64	Ambasamuthiram	..	..	25th May 1973	..	3rd June 1973	..	..	473	..	..	18,000
65	Srivaikundam	..	..	27th May 1973	..	5th June 1973	..	..	..	..	..	18,000
66	Kumbakonam	..	..	27th May 1973	..	8th June 1973	..	..	..	..	..	18,000
	Coimbatore	..	..	1st April 1973	..	Continuous Camp.		674	292	124	..	18,000
	Tiruchirappalli	..	..	1st April 1973	..	Do.		190	21	8	..	18,000
Total								2,20,852	34,981	28,368	723	2,123,730

B. Achievements made by the 2 Units which are under the control of Dr. Abraham.

67	Anakaputhur	..	..	3rd June 1972	..	12th June 1972	..	1,325	89	165	..	2,000
68	Chidambaram	..	..	21st June 1972	..	5th July 1972	..	4,624	433	1,497	31	2,000
69	Vridhachalam	..	..	13th July 1972	..	26th July 1972	..	4,735	537	1,235	14	29,070
70	Ambattur	..	..	14th August 1972	..	28th August 1972	..	2,442	403	610	..	27,000
71	Krishnagiri	..	..	28th August 1972	..	9th September 1972.		3,930	333	1,896	8	27,500
72	Vellore	..	..	13th September 1972.		25th September 1972.		3,314	513	627	5	18,000
73	Villupuram	..	..	27th September 1972.		11th October 1972.		3,985	492	687	..	18,000
74	Dharmapuri	..	..	6th October 1972	..	18th October 1972..		4,139	512	1,015	..	27,216
75	Nungambakkam (Madras)	..	..	20th October 1972..		3rd November 1972.		2,776	162	267	..	27,000
76	Cuddalore	..	..	26th October 1972..		8th November 1972.		1,971	362	509	..	18,000
77	Kancheepuram	..	..	8th November 1972.		22nd November 1972.		2,834	525	717	2	36,000
78	Pennadam	..	..	20th November 1972.		2nd December 1972.		1,295	169	398	..	18,000
79	Gummidipoondi	..	..	6th December 1972.		18th December 1972.		1,628	423	201	..	25,200
80	Thiruvannamalai	..	..	23rd December 1972.		3rd January 1973	..	3,698	541	574	3	18,000

—R.N.—

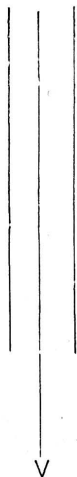
BRIEF SYNOPSIS OF FREE EYE CAMP FOR ONE YEAR ENDING MAY 31st 1973.

1 Number of eye camps so far conducted	94
2 Number of persons treated as out-patients	2,93,653
3 Number of cataract operations	44,681
4 Number of persons issued free spectacles	43,260
5 Number of minor operations done	786
6 Number of refractions done	44,928
7 Amount of advance so far sanctioned by the Government of Tamil Nadu	Rs. 29,50,876
8 Donation received as on 11th May 1973	Rs. 46,91,497.51

BRIEF REPORT OF BEGGARS' REHABILITATION SCHEME.

1 Number of centres already opened—6	(1) Paranur (Chingleput)—2nd October 1971. (2) Ulundurpet (South Arcot)—22nd January 1972. (3) Burgoor (Dharmapuri)—18th June 1972. (4) Pudukkottai (Tiruchirappalli)—17th January 1973. (5) Manaiyeripatti (Thanjavur)—17th February 1973. (6) Pudupatti—(Madurai). Vinnampalli—(Coimbatore)—Not formerly opened but functioning from 15th February 1973.
2 Number of centres to be opened—1	
3 Number of centres under construction—3	(1) Thiruvannamalai. (2) Devikurichi. (3) Selliampatti.
4 Amount sanctioned by the Government for the above 10 centres.	Rs. 96 lakhs.
5 Donation so far received	About Rs. 1,06,00,000.

DRIP IRRI- GATION AN ADVANCE IN IRRI- GATION SYSTEM



Prof. R. K. SIVANAPPAN,
College of Agricultural
Engineering, Tamil Nadu
Agricultural University,
Coimbatore.

Of the various arts involved in the Agricultural production, irrigation has been rated older and of greater importance than other arts. It is true from the historical and archeological findings that the irrigation has been a major instrument in the advancement of ancient civilization. However, it is surprising to note that though there are immense advances in all walks of life, irrigation was left behind in a stagnant position. It is also true that many irrigation practices used to-day (especially in India) are almost identical with those practiced thousands of years ago. Practically there is no difference between the irrigation in ancient time and to-day in our country.

But in advance countries like United States of America, Europe, Israel and Australia improvement was made in the surface methods of irrigation to find out the optimum length and width of the field to be irrigated in furrow and border strip irrigation. Even this cannot be attributed to a great advancement. Sprinkler irrigation has been practiced in a relatively small scale for about 30—40 years back in the western countries but this has undergone a great change now. In Israel almost all crops are irrigated and over 90 per cent of them

by sprinklers. In United States of America, sprinkler irrigation is replacing the surface irrigation method mainly to save labour and large areas have been brought under sprinkler. In recent years, the Israeli scientists have developed a new method of irrigation which is known as drip irrigation or trickle irrigation or daily flow irrigation. This is going to be the real advance in the science of irrigation in the world.

In the 1930's Dr. Symcha Blass, then a water works consultant in Israel observed that one tree near a friend's house was outgrowing all nearby trees. Blass noticed that there was dripping steadily from a leaky water pipe which ran close to the tree. At that time, he discarded the idea because he felt it was too expensive. With the advent of inexpensive plastic pipes, a system became feasible and Dr. Blass began serious work on drip irrigation for field use in 1959. Meanwhile, another Dr. Blass in England in 1947 introduced the drip irrigation for the glass house watering. The system underwent many changes for underground installation to placing the pipes on soil surface. This idea has spread all over the world and, much work is going on in the drip irrigation research especially in Israel, Australia, South Africa, United States of America. But research is undertaken in India only at three

Plastic pipes drip water near roots of each plant.





FIG.1. AREAS WATERED BY 3 METHODS OF IRRIGATION

places namely at Hissar (Haryana), Indian Agricultural Research Institute (New Delhi) and Tamil Nadu Agricultural University (Coimbatore) and among the three places substantial work has been done and is in progress in Coimbatore.

How it works

The irrigation method is based on the conveyance of water with little pressure (4'—6' head) until it reaches points of dispersal and whereupon the water leaves the system through drip nozzles or holes with socket under no pressure. Drip irrigation generally wets a much smaller volume of soil than surface or sprinkler method and causes plants to have swaller root systems. The areas watered in the three main types of irrigation system are illustrated in the pictures above.

Two conditions help compensate for this. The smaller root zone is kept at a higher soil moisture level so that rapid absorption can help balance the smaller absorbing area of root system. It is also reported that in some cases drip irrigation produces faster than the outer methods.

Drip irrigation wets only part of soil surface and the crop is located in this wetted area. The width of the wetted area is a function of the soil type and the depth of wetting is a function of the ratio between rate of water application and evapotranspiration and of the soil type. The discharge of the regular drip nozzles of holes ranges from 1 to 10 litre per hour. The arrangement of drip irrigation is shown in Fig. 2.

Position in Israel

The position at present in Israel is that all bananas are now grown under drip irrigation and it is stated that they are getting twice the crops with one tenth the amount of water. Results from field trials with tomato using saline water (EC-3 mhos/cm) they get a production of about 26T/acre. They are also getting spectacular success with brinjal, stawberries, cucumbers, etc. with the drip irrigation method.

The work done at Tamil Nadu Agricultural University, Coimbatore on tomato, has proved that by using only $\frac{1}{2}$ to $\frac{1}{3}$ of the water utilised by the conventional method (surface) we can raise these crops and at the same time the yield is also increased by 20—30 per cent. The Fig. 3 shows the arrangements of the system in the field.

The drip irrigation is an important advances in the world of agriculture. The results surveyed in various places indicated that there are not only savings of water consumption on drip irrigation but also increase in yields than the surface irrigation methods. The design of drip irrigation unit has not reached its final stage and there are still problems. It is encouraging to note that the evaluation of different designs are still in progress not only at Tamil Nadu Agricultural University, Coimbatore but also in other parts of the world. It is clear that the trickle irrigation can play a considerable part in the nation's agricultural economy and at the same time help us to use our limited water resources more efficiently.

Panchayat Raj in Tamil Nadu

The National Institute on Community Development undertook a study in the Tamil Nadu, Gujarat, Andhra Pradesh and Madhya Pradesh to find out the impact of Panchayat Raj Administration towards Agricultural Development. The Study has revealed that about 68 per cent of the Agriculturists have the benefit of improved agricultural practices in this State as against 34 per cent in Gujarat. As many as 71 per cent of agriculturists have approached the Panchayat Union Councils in this State for assistance and guidance in agricultural development as against 39 per cent, 19 per cent, 1 per cent in Andhra Pradesh, Gujarat and Madhya Pradesh respectively. 91.6 per cent of the agriculturists are aware that agricultural production was the goal of Panchayat Raj Institutions. It will thus be seen that the present system in Tamil Nadu is working well as compared to other States.

INDUSTRIAL GROWTH IN TAMIL NADU

Tamil Nadu is one of the highly industrialised States in India. The industrial production relates to automobiles, sugar, cement, textiles, as well as machinery for production of these times, structurals, boilers, cycles and a variety of other industrial and consumer materials. There are a number of Steel Rolling Mills engaged in the production of roads and sections, though primary raw materials for most of these industries being ferrous and non-ferrous metals, are not mined in the State. The State uses about 15 per cent steel produced in India. The only basic metal industry is the Aluminium Plant at Mettur. The other major metal producing industry envisaged is the Salem Steel Plant which is expected to go into production by 1976.

Till a few years ago, the only industry of importance in the State was Textiles, comprising largely of spinning mills. This industry is mostly concentrated in and around Coimbatore though a few big mills exist in Madras, Madurai and other centres. The growth expansion and diversification of different types of industries in the

new lines of manufacture as well as in the production of many sophisticated items, have been one of the remarkable features in the industrial history of the State during the last few years, actually creating new frontiers for the State in this respect.

The number of industrial licences issued for industries other than textiles up to December 1972, bears eloquent testimony to the new frontiers of the industrial sector in the State. Out of a total of 897 licences for the 10-year period up to December 1972, as many as 292 were for mechanical engineering industries, 141 for metallurgical industries, 126 for fertilizers and chemicals, 105 for agro-based industries and 233 for different enterprises such as paper, soaps, cement, timber products, etc. Both private sector as well as public undertakings have played a vital role in the new orientation given to the industrial progress of the State.

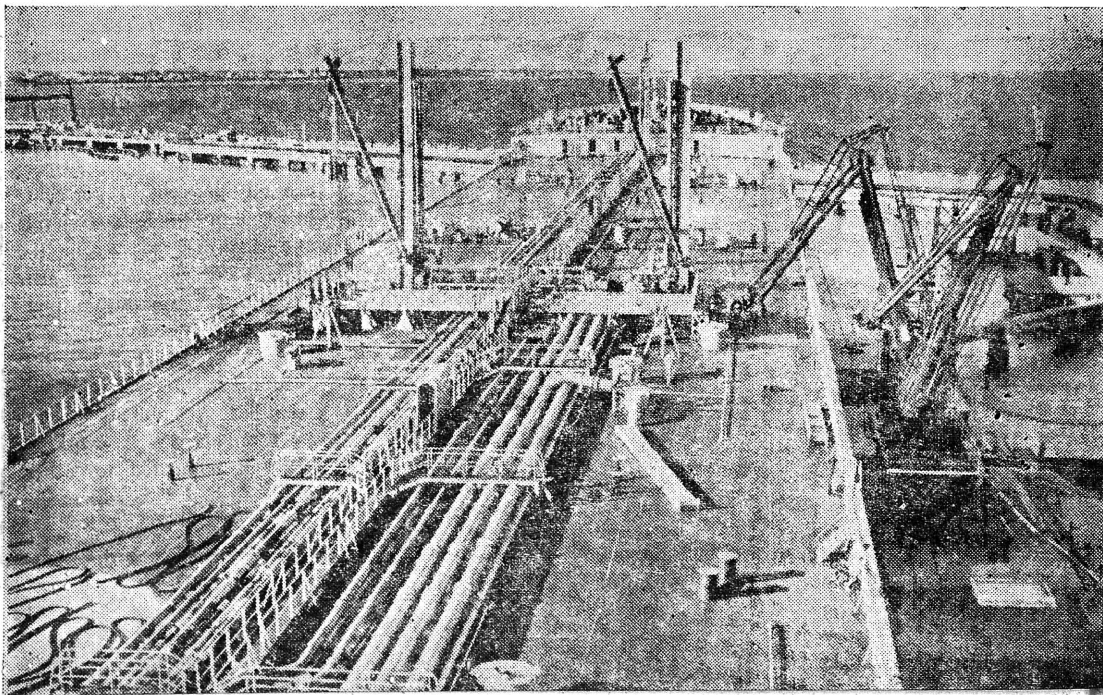
Some of the new products of this State which have made a mark on the industrial scene in the recent past are agricultural tractors, paper, castings (Steel and Cast Iron), forg-

ings, pipes and tubes, plastic manufactures, automobiles, and cycle tubes and tyres, electrical and electronic items.

Dr. C. N. Annadurai, the first non-congress Chief Minister of the State, decried the over-emphasis given to private sector in the process of industrialisation. Since 1967, therefore, the State Government started embarking on its own for the first time in the development and the promotion of large-sized industrial units. One such venture is the Continuous Casting Steel Plant at Arkonam which has been completed in its first stage with an outlay of Rs. 8 crores, and the capacity is proposed to be doubled to one lakh tonnes of billets. The Alangulam Cement Plant is another State Government venture with an initial capacity of one lakh tonnes in operation and the capital cost so far is Rs. 4 crores. The capability of this unit is to be doubled first to 2 lakh tonnes and subsequently to 4 lakh tonnes per annum.

The State-owned Textile Corporation with an authorised share

The new Oil Berth in Madras Harbour inaugurated by Dr. M. Karunanidhi, Chief Minister of Tamil Nadu on 4th February 1973.



capital of Rs. 5 crores is running successfully 14 textile mills taken over for providing re-employment to the labour. The Corporation would also take other incidental steps such as the establishment of processing facilities, new textile mills as model undertakings, management development programmes and labour welfare activities. The modernisation of the sick textile mills taken over by the State owned Textiles Corporation has made satisfactory progress and the Plan allocation of Rs. 2 crores has been found inadequate. The actual expenditure is likely to be Rs. 2.15 crores up to the end of Fourth Plan and the spillover to the Fifth Plan is likely to be more than Rs. 3 crores. The various mills are at different stages of modernisation and results can be assessed only on completion of the programmes. However, it is worth mentioning here that in respect of one unit, viz., the Cambodia Mills which has nearly completed its modernisation scheme, the results are already very gratifying.

A proposal to establish a model textile mill utilising the latest available technology is under consideration. This is likely to be located near Uthirapatti in Madurai district.

The Joint sector, comprising the State and private sector, has made a very good beginning in Tamil Nadu with the formation of the Petrochemical Complex at Tuticorin, which is expected to be in operation almost by the end of the Fourth Five-Year Plan, i.e., 1974 at a total cost of Rs. 73.5 crores. The Joint Sector has witnessed the emergence of a professional managerial class unfettered by the whims of the investor who take charge from the planning stage and control the creation of plant with ruthless efficiency and eliminate wasteful time lags.

Thus, the Fourth Plan has witnessed a significant beginning in three different aspects of the State's industrial progress. Firstly, in reducing the predominance of the textile industry, secondly in the State's entry as owner of new and manager of sick industries for the benefit of the labour and to ensure modernisation and thirdly in respect of the rise of the joint sector for developing industries in the core sector. The Tamil Nadu Industrial Development Corporation and

the State Industrial Promotion Corporation of Tamil Nadu are having numerous schemes on hand which will be implemented in the coming years. The latter organisation has also successfully encouraged the promotion of new industries in backward areas in the State.

Thus the new twist given to Tamil Nadu's industrial economy in the sixties has enabled the State to emerge as one of the foremost states in the country having a well-knit and dispersed industrial base. In fact, it is occupying the third place among States which have promoted new and sophisticated industries and if the momentum is retained the pace of development in the coming years can be such as to induce self-generating growth and help also further impressive progress on an intra-regional and even national basis. A significant contribution has been made by industrialists of Tamil Nadu in negotiating and locating new industries in the neighbouring countries of South-East Asia, Africa and Middle East with a good use of available entrepreneurial and technical skills through the promotion of well conceived joint sector overseas projects.

Infrastructural Facilities :

The most gratifying feature of recent industrial history are the accordance of proper priorities for the creation of infrastructural facilities, the parallel growth of ancillary industries in the private and joint sectors, with continued encouragement for viable well conceived new schemes and a good use of the entrepreneurial skill. With the present stage of development it is envisaged that per capita income would be doubled in the next 12 years.

The creation of infrastructural facilities has been taking place on ambitious lines for some time past and Tamil Nadu can boast of a vast and integrated network of transmission and distribution lines for electricity with effective development of river water resources and also tapping of underground water resources and the well-developed road system, as also a very fine network of roads and new bridges. The road intensity in State is highest in India at 8.60 k.m. per square k.m. of its territory and 2.32 k.m. per 1,000 of population.

In spite of the fact that Tamil Nadu has been in the vanguard of the development of power resources and its per capita consumption of electricity has increased more than five-fold in the past two decades, there is an unsatisfied demand for power and dependence has to be resorted to on purchase from neighbouring States.

Raw Materials

With a rising level of production and growing responsibilities any difficulty in obtaining supplies of raw materials and components regularly will have serious consequences on the health of the economy besides resulting in heavy loss of production. To obtain best results the State Government is creating a joint Stock company which will buy and keep raw materials for issue to industries. This will render the role of wholesalers and intermediaries superfluous.

The State's industrial economy in the years to come will become more broad-based and integrated with an increase in the stature of the petro-chemical industries while the mechanical and electrical industries will undertake the manufacture of more sophisticated items. The mechanical engineering industries particularly will gain special momentum with the completion of the Salem Steel Plant by the end of the Fifth Plan. While there is virtually unlimited the scope for the growth of electrical and electronic equipment industries, industries are coming up for effective use of the vast salt resources in the State with the expansion of capacity for caustic Soda, Soda Ash and other items.

The approach adopted by the Government during the last 6 years has been to study the gaps in the pattern of production of the State, identify the necessary schemes to fill up these gaps, encourage Private entrepreneurs to take up new schemes and to enter themselves in those fields where private sector appears to be shy. The field of assistance by the Government to Industrialists has been extended considerably and includes assistance to secure licence, infrastructure facilities like land, water, power and technical knowhow, institutional finance and supply of essential raw materials. Realising that Government's direct assistance may have its own limitations, the

State Government sponsored various corporations like... Tamil Nadu Industrial Development Corporation, State Industries Promotion Corporation of Tamil Nadu, Tamil Nadu Small Industries Corporation, Small Industries Development Corporation, Tamil Nadu Textile Corporation, etc., with a view to facilitate the industrial activity. The promotional activities of the Government have been mainly responsible for the spectacular growth of industries in the recent years. The industrial indices set out below bear ample testimony to the fact of commendable progress in the industrialisation of this State.

The number of registered factories in the State as well as the number of persons employed in the registered factories are increasing year after year as may be seen from the Table I.

Growth of Registered Companies :

The industrial growth is also capable of being deduced from the increase in the number of companies registered under the Indian Companies Act in the State. Roughly 10 per cent of Companies working in India are located in Tamil Nadu. The following Statement in table II illustrates the marked increase in the number of companies registered during the last five years.

The Table III indicates the number and amount of capital issues permitted in this State Vis-a-vis, other States which conspicuously brings out the fact that this State is keeping a high rank in the whole of the country both in respect of the number of capital issues floated and the quantum of capital raised :

TABLE I.

	1969.	1970.	1971.	1972 (as on 30th June 1972).
(1)	(2)	(3)	(4)	(5)
Number of Factories registered in the State.	6,218	6,365	6,412	6,488
Number of Workers employed.	3,92,558	4,22,040	4,32,488	4,42,738

TABLE II

Year.	Public Companies Registered.	Authorised capital.	Private Companies Registered.	Authorised capital.
(1)	(2)	(3)	(4)	(5)
1967-68 ..	9	2,66,50,000	83	3,14,74,000
1968-69 ..	4	1,66,00,000	90	2,68,93,000
1969-70 ..	13	51,14,90,000	103	14,21,94,000
1970-71 ..	12	16,15,50,000	127	8,44,69,900
1971-72 ..	27	36,86,00,000	141	12,26,55,000

The Central Government in its public sector undertakings in Tamil Nadu stood at more than Rs. 377 crores. These industries have an annual turnover of about Rs. 90 crores and employ about 50,000 persons.

The undertakings are :-

1. Neyveli Lignite Corporation Limited, Neyveli.
2. Intergral Coach Factory, Perambur, Madras.
3. Surgical Instruments Plant, Nandambakkam, Madras.
4. Hindustan Teleprinters Limited, Guindy, Madras.
5. Hindustan Photo Films Manufacturing Company Limited, Ootacamund.
6. High Pressure Boiler Plant, Tiruverambur, Tiruchirappalli.
7. Madras Fertilizers Limited, Manali.
8. Madras Refineries Limited, Manali.
9. Heavy Vehicles Factory, Avadi, Madras.
10. Ordnance Factory, Tiruchirappalli.
11. Indian Oil Corporation Limited, Madras.

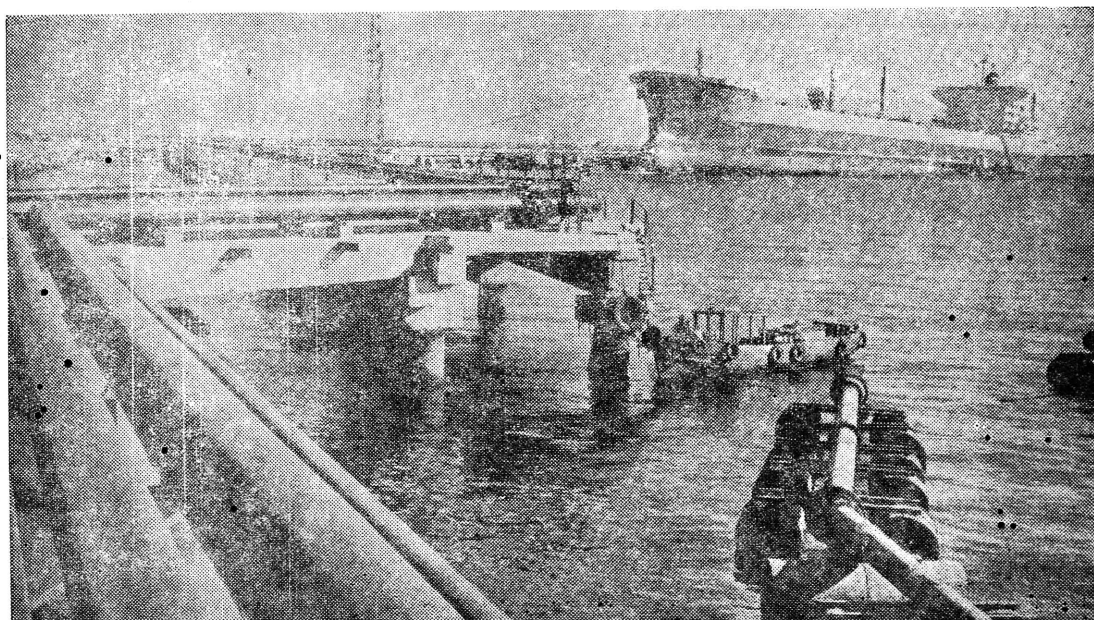
The Industrial undertakings in the Central Sector have been helpful in strengthening the regional economy and some units have expanded their activities considerably. The high pressure boiler plant at Tiruchirappalli has been steadily increasing its production and boilers of bigger capacities are being planned in order to meet new demands. The teleprinter unit in Madras has been functioning profitably and the teleprinters required for the export markets are being specially manufactured. The Neyveli Lignite Corporation is playing a pivotal role in power generation though due to technical and other difficulties, the full use is not being made of the thermal stations capacity, or the fertilizer units capability. There is urgent need for making arrangements for raising the output of lignite so that the integrated project can also make the full contribution in the shape of larger supplies of electricity chemical fertilizer and lignite bri-

quettes. The surgical instrument unit in Madras and the photo film unit at Ootacamund are also finding it difficult to use their capacity fully though latterly efforts have been made to overcome technical problems. The integral coach factory is of course doing good work at and with export orders, the output is being raised continuously. The petro-chemical complex in Manali has made much headway in the current plan period. The Madras Oil Refinery has been functioning efficiently and efforts are being made to raise the throughput with the removal of bottlenecks in some directions. The Indian Oil Corporation has been constructing additional facilities at its installation for handling a larger volume of petroleum products while a lending plant has been established in the Manali Complex for producing different kinds of lubricants. The giant fertilizer unit in the same complex has got over with its teething troubles and after commencing commercial production in November 1971, the output of fertilizers has been rising substantially. The heavy vehicle factory at Avadi is turning out tanks at the stipulated rate and there are also proposals for undertaking the production of other items of equipment. The Ordnance Factory at Tiruchirappalli is also meeting the requirements of the defence service in the form of rifles.

TABLE III

States.		Number of consents in 1972.	Number of issues in 1972.	Amount consented.
(1)		(2)	(3)	(4) (RUPEES IN LAKHS)
Andhra Pradesh	.. ..	7	7	426.60
Assam	.. ..	..	..	..
Bihar	.. ..	2	2	1,112.00
Delhi	.. ..	13	13	1,008.31
Goa	.. ..	..	..	..
Gujarat	.. ..	23	24	1,931.68
Haryana	.. ..	1	1	100.00
H.P.	.. ..	..	..	..
Kerala	.. ..	4	5	209.07
M.P.	.. ..	6	6	310.89
Mysore	.. ..	9	9	1,570.99
Maharashtra	.. ..	90	95	7,396.70
Orissa	.. ..	1	1	113.00
Punjab	.. ..	6	6	321.77
Rajasthan	.. ..	1	1	30.67
Tamil Nadu	.. ..	29	29	1,922.51
U.P.	.. ..	11	11	765.52
West Bengal	.. ..	36	38	2,131.01
		239	248	19,350.72

Crude being piped from ship to shore makes Madras the first harbour to have this facility.



Growth of Medium Industries.

The State is also not lagging behind in promoting medium industries. The number of medium industries registered with the Directorate-General of Technical Development during the year 1972 is 50 as against the figure of 82 for six years from 1966 till the end of 1971, showing the recorded rate of increase in the number of medium industries registered. These companies have proposed to produce items like road rollers, cranes and winches and many other engineering goods including electric typewriters.

Small Scale Industries.

Tamil Nadu has been one of the pioneers in the country in encouraging the growth of small scale industries from 3,000 small scale units in 1961, it has grown up to 23,208 units by June, 1971. A survey conducted by the Directorate of Industries and Commerce, Madras, reveals that the total capital invested by 11,800 registered units in the State at the end of 1967 was about Rs. 64 crores, employing 1.86 lakhs persons. On an average a small scale unit employs 16 workers; a Small Scale unit invests as an average about 45 percent of its total investment on machinery alone. About 30 per cent of the units in the State do not use power [e.g. safety

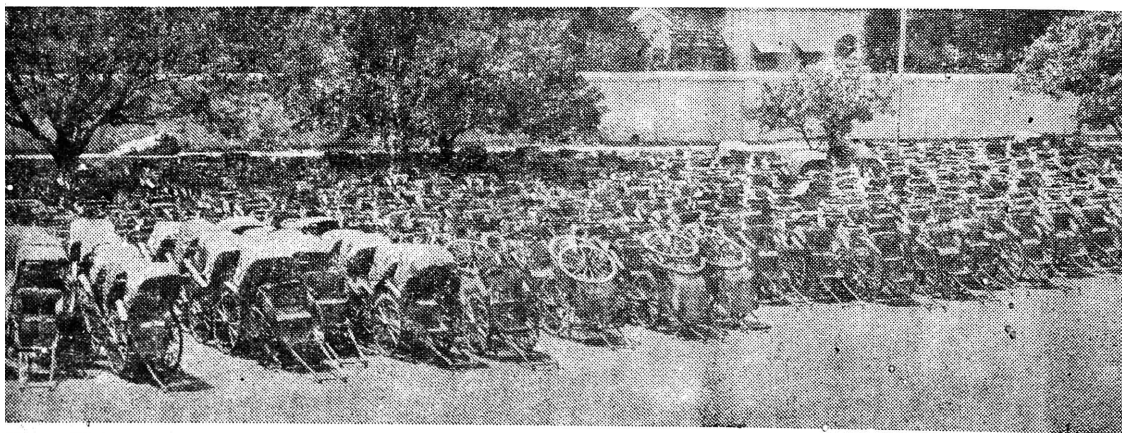
matches, leather utensils, (non-ferrous) agricultural implements, bricks, bakery and confectionery units]. For uplifting the economic prosperity of rural population and for dispersal of job opportunities, it is essential that small scale industry is promoted considering districtwise development, the highest share of the total investment in plant and machinery is in Madras (27.1 per cent) followed by Chingleput (24.3 per cent) and it varies from 0.18 per cent to 12.2 per cent in other districts. It is also seen from the development of the industry in the past, that apart from Ramanathapuram where a higher percentage of persons are employed, Madras City and Chingleput have larger percentage of Small Scale Industries, the Cottage Industries around Virudhunagar and Sivakasi have contributed to the industrial activity of the Ramanathapuram district which is one of the industrially backward districts.

Power-loom development is a sphere where the small scale section can play a considerable role. There is good demand in foreign countries for goods of artistic value. A number of agro-industries too can be developed in the Small scale sector. As the economy of the State is largely based on agricultural resources, the food processing industry has significance. Vegetable processing, fruit processing, grain processing, etc., could also

be adopted. There is quite a good scope for small scale industries, utilising the available raw materials, on food processing line both of plant origin and animal origin, marine, poultry and dairy based. The natural coast line of Tamil Nadu extending to 1,000 Kms. offer scope from different types of raw materials like fish, prawns, seaweeds, etc.

Assistance to Small Scale Industrialists is available in different forms such as technical advice, improved utilisation of equipment and tools, provision of credit facilities, supply of raw materials, supply of power at subsidised rates, provision of service facilities, through common facility workshops, general purpose of model production units. The Government have set up the Tamil Nadu Small Industries Corporation Limited with a capital of two crores to formulate plans to develop small scale industries and to actively assist them with finance, raw materials and marketing. The industrial estates established by the Government of Tamil Nadu have contributed considerably towards the development of industries in the State. These estates provide on a rental basis factory accommodation and other basic common amenities to group of small entrepreneurs who would otherwise find it difficult to secure these facilities at reasonable rates.

GONE, GONE ARE THE DAYS OF HAND - PULLED RICKSHAWS



The hand-pulled rickshaws surrendered at the Police Commissioner's Office. In lieu of them cycle rickshaws were distributed to them free of cost on the occasion of the 50th Birth day of the Chief Minister Dr. M. Karunanidhi.

URBAN DEVELOPMENT AND TOWN PLANNING

IN TAMIL NADU

The process of urbanisation has been very rapid in Tamil Nadu during the 1961-71 period and as a corollary the number of towns has increased from 339 in 1961 to 443 in 1971. The number of Class I towns having population one million and above has increased from 9 to 17 in the 10 year period.

* This rapid growth of urban centres has taken place without a concomitant increase in facilities for healthy life, which call for heavy investment of capital. This problem of rapid growth without the provision of capital intensive social amenities is not confined to the cities but is equally pronounced in all the urban centres of the State. The Government have therefore ordered the constitution of the Urban Development Fund comprising 50 per cent of the proceeds of Urban Land Tax and the entire surcharge on General Sales Tax and Motor Spirit Tax collected in Madras City and its environs and the Madurai Corporation and the municipalities of Tiruchirappalli, Salem and Coimbatore.

Financial assistance in the form of either grant and/or loan will be made available from the fund to the local bodies to enable them to implement specific schemes of importance and value to their areas.

The Rural Development and Local Administration Department will administer the fund in accordance with rules to be laid down from time to time.

The growth of population in general and urban population in particular in Tamil Nadu since Independence has been striking and its attendant problems have been quite severe in the Corporations of Madras and Madurai and the Municipalities of Tiruchirappalli, Salem and Coimbatore.

Financial resources now available with these local bodies will be inadequate for the proper planning and organisation of urban development programmes.

It is interesting to trace the history of Planning Administration in Tamil Nadu during the past century. The initial step towards tackling the problem of insanitation of towns commenced with the nomination of the Royal Sanitary Commission by British Parliament in 1859 recommending the appointment of Sanitary Commissions with the object of gradual introduction of sanitary improvements. Accordingly Sanitary Commissions were appointed in 1864, in the then three Presidencies of Madras, Bengal and Bombay for giving advice and assistance in all matters relating to public health and sanitation and also to advise on the sanitary improvement of native towns and prevention and mitigation of epidemic diseases. The Sanitary Commission of Madras consisted of a President and four members, one of whom acted as Secretary was functioning till 1886. Thereafter the duties of the Commission were passed on to a Sanitary Commissioner who was in charge of health and sanitation of the Presidency. In 1890, a Sanitary Board consisting of the Sanitary Commissioner and a Sanitary Engineer was set up for the purpose of planning or executing any particular sanitary work or works in the districts. In 1896, the Board was reconstituted with the Chief Engineer, Public Works Department as President and the Surgeon-General and a Member of the Civil Service as Members, the Sanitary Commissioner and the Sanitary Engineer being made the advisers of the Board in their respective professional capacities. Municipalities appointed Sanitary Inspectors to look after the roads, construction of houses, collection of revenues,

and other sanitary matters. Subsequently as a result of the recommendations of the Public Service Commission and of the introduction of the Government of India Act, 1919, sanitation and public health became a transferred subject and the Sanitary Commissioner was replaced by the Director of Public Health.

Prior to 1884, the legal enactments providing for improvements to Municipal Towns and towns in rural areas were the Madras Local Funds Act, 1871 and the Madras Town Improvement Act, 1871. In 1884, these Acts were superseded by fresh Acts namely the Madras Local Boards Act, 1884, the Madras District Municipalities Act, 1884 and the Madras City Municipal Act, 1884, under which the principles of Local Self Government were first introduced in the Madras Presidency. These Acts were again replaced by another set of Acts in 1919 and 1920, namely the Madras Local Boards Act, 1920, the Madras District Municipalities Act, 1920 and the Madras City Municipal Act, 1919.

A widespread movement in favour of better ideals of Civic life developed among the upper class of Indian society as a result of spread of education and desire for higher standard of living and safe-guarding against the havoc caused by epidemics such as plague. The Government of India came forward in 1908-1909 to assist Provincial Governments with special grants for promoting sanitation and for projects of isolated town extensions and town improvements. The All India Sanitary Conference held in 1911 in Bombay and in 1912 in Madras served to focus and intensify for the first time the interest in Town Planning matters taken by officials, by Local Authorities, as well as by the public generally. With a desire to awaken special interest in the subject of Town Planning in relation to Civic administration and health conditions of life, the Government invited Professor Sir Patrick Geddes, a Town Planning expert of the United Kingdom, to visit the

province and to advise Government and Local Administration on Town Planning. In 1915, he visited many towns and delivered series of lectures on various concrete problems of Town Planning and his reports were published by the Government. Later on, in the next year Government appointed Mr. H. V. Lanchester, another Town Planning expert of the United Kingdom as Town Planning Adviser to the Government for a short period of time. He too visited a number of places and delivered lectures and held classes in the Madras College of Engineering. His lectures and recommendations for the general development of the Madras city were published by the Government. He laid stress on the need for a Madras Town Planning Act and indicated the lines on which such legislation might be framed. In 1912, the Government of India impressed upon the Government of Madras, the need for regulating and controlling the growth of their towns and sought their views on the legislation. The Government of Madras, however, finally decided to have a Town Planning Bill for the province and sent a draft Bill framed on the lines of the British Housing and Town Planning Act, 1909, only adopting the provisions relating to Town Planning. The Bill was subsequently amended with reference to certain suggestions from the Government of India and final approval of the Government of India was obtained in 1917. But, due to war and other causes the Bill was not finally passed and placed on the Statute Book until 1920.

STATUTORY RECOGNITION

Town Planning secured statutory recognition for the first time in the legislative history of the province of Madras in 1920 (The Madras Town Planning Act, 1920) and the Local bodies were empowered to prepare and implement Town Planning schemes relating to development of land in towns. This Act provided for appointment of a Director of Town Planning for the Province. Town Planning being a highly technical and intricate matter, with its wide ramifications into all problems concerning the physical growth, development and improvement of our cities, towns and villages, could be dealt with only by the organisation of specialised departments of Town Planning, both at the Provincial centre and Local areas. The principal and subordinate tech-

nical officers and staff should necessarily be men qualified and trained in Town Planning. In 1921, Government appointed Mr. Reginald Dann, qualified technical expert recruited from England as Director of Town Planning for rendering such advice and direction to the local authorities on planning and improvement of towns and villages. It was observed that there had been limited technical staff and the local authorities too suffered from finances to adopt progressive town planning policy, but in spite of the handicaps, certain progress had been made in the field of planning. Mr. Reginald Dann relinquished his office in March 1936 and was succeeded by Mr. R. D. N. Simham, the then Personal Assistant to the Director. In 1938 the Government issued orders abolishing altogether the post of Director of Town Planning and allotting his function to the Inspector of Municipal Councils and Local Boards as Ex-officio Director of Town Planning. This combined office was held by an officer belonging to the Indian Civil Service; the present Indian Administrative Service. During 1944-45, Government permitted the Local authorities (Municipalities) to employ separate Town Planning staff.

EXPANSION OF DEPARTMENT

Government in G.O. No. 3578, Public Health, dated 29th October 1947, appointed the Provincial Town Planning Enquiry Committee to make recommendations for improving town planning activities in the State. The Committee (headed by the then Minister for Health, Thiru Karanth) had elaborately dealt with the subject and expressed its opinion that the order of the Government abolishing the post of Technical Director further retarded the progress of Town Planning in the Province. The recommendations of this Committee had not been implemented.

There had been expansion of the department of town planning during the Five Year plan periods. Till 1956 there had been only two Gazetted Technical posts in the Department. From 1956 there has been overall increase in planning activity of the State and the establishment and staff position gradually expanded along with increased responsibility for preparation of Master Plans, Regio-

nal Plans and Metropolitan Plans. At present there are 54 Gazetted Technical posts in the department.

REGIONAL UNITS

At present there are eight Regional Units set up with their respective headquarters at (i) Madras, (ii) Vellore, (iii) Salem, (iv) Coimbatore, (v) Tiruchirappalli, (vi) Madurai, (vii) Sivaganga and (viii) Tirunelveli. Each region comprising of district and part or whole of adjoining districts differs from the Revenue Administrative district in the State.

There are two Corporations and 94 Municipalities in the State. In all Municipalities, except the recently constituted ones, there is separate Town Planning wing functioning under the overall control of the respective Executive Officers. Most Municipalities have Town Planning Officers of various grades (I to III) as heads of the wing or section.

RESEARCH IN URBAN DEVELOPMENT.

Urban Planning has been gaining importance throughout the World on account of the rapidly increasing population and consequent urbanisation trends. Migration from Rural areas into Urban centres is a significant occurrence of the era encouraged by employment potential and industrialisation in cities and towns. Such inflow of population creates serious problems affecting safety and comforts of human race residing in cities. It results in straining the existing services such as water-supply, drainage, transport apart from lowering standards of sanitation, certain of slums in haphazard manner and overcrowding. All these undesirable and unhealthy trends will continue to increase in future; therefore it becomes a matter of vital and urgent importance to control and regulate growth of urban centres with a view to minimising the evil effects and to ensure safe, healthy and comfortable living for the citizens.

Cotton textiles, which clothed almost everybody not long ago, today face a growing threat to its dominant position from man-made fibres.

Though the production of cotton textiles in India continues to increase year after year, non-cotton textiles show a greater rate of increase.

This is a disquieting trend for the cotton textile industry, which is the largest single industry in India today.

To meet the challenge of the synthetic apparel, research institutions associated with the cotton industry work on a war-footing to improve the quality of the cotton fibre.

One such institution is the South India Textile Research Association (SITRA) of Coimbatore. As a first step, scientists at SITRA are currently engaged in a study to understand the properties and characteristics of the cotton fibres.

The five-year project at SITRA is supported by a U.S. Government grant of about Rs. 2.5 lakhs. Thiru K. N. Seshan, Senior Scientific Officer, SITRA, leads a team of scientists working on this project.

The quality of cotton varieties according to the varieties of cotton. In fact, it differs from plant to plant. "Even on the same plant," Mr. Seshan observed in a recent interview, "there is variation from ball to ball. We find that even in one cotton seed the fibres are highly variable. There can be variability within a fibre itself".

The quality of the fibre depends upon the properties of the fibre, he added.

Elaborating, Thiru Seshan noted that the seed hairs are distinct from any man-made fibres. "There is a gradual decrease in the thickness of the fibre from one end to the other whereas in man-made fibres, the cross-section is uniform throughout its length," he pointed out.

Although the existence of taper has long been known an accurate method for estimating taper, its relation with gross physical properties, and its technological importance have not been fully investigated.

BETTER COTTON MAKES BETTER TEXTILES

As far as is known, no research of this nature is underway anywhere in the world. The U.S. Department of Agriculture (USDA) chose SITRA for the project for its laboratory facilities. Further, the Coimbatore institution is well equipped for conducting research and for carrying out tests under controlled conditions of temperature and humidity.

Thiru Seshan and his associates concentrated on measuring the taper of many kinds of cotton varieties to determine its influence on the physical properties of the fibres.

USDA furnished samples of several commercial varieties of seed cottons grown under different environmental conditions in the U.S. for the study. In addition, samples of representative Indian grown varieties were included in the project. So far about 30 varieties have been studied including six from the U.S.

The SITRA investigation revealed that when the fibre had a great degree of taper, the variation increased. Correspondingly, the variations decreased when the degree of taper was less.

Answering a query how these findings will help the textile industry, Thiru Seshan remarked: "The cotton breeder can take up the task of breeding uniform cotton fibre. Further, the physicist and the chemist could work together to improve the uniformity in cotton fibre".

SITRA'S success may mean a bright future for the cotton textile industry, which provides employment for nearly ten million handloom weavers. The mill industry provides direct employment to nearly 7,59,000 workers. The value of the annual textile output amounts to Rs. 800 crores.

Striking a note of optimism, Seshan notes that "the joint efforts of the botanist, physicist and chemist will soon provide the cotton industry with a fibre to match, if not excel, the synthetic fibres of today".

COTTON IMPROVEMENT IN TAMIL NADU.

Cotton is one of the chief commercial crops of Tamil Nadu, the normal area and production being respec-

tively 3-6 lakh hectares and 4-00 lakh bales accounting for nearly 7-5 per cent of the country's cotton production. At present two commercial varieties Cambodia belonging to species *G. Hirsutum* and Karunganni belonging to species *G. Arboreum* are grown in the State. The Cambodia cotton was introduced in the State in 1905.

The research work on cotton in Tamil Nadu was initiated in the year 1901 with the establishment of the Agricultural Research Station at Kovilpatti and further work was intensified from the year 1924 with the appointment of a full-time cotton specialist. Since then, much progress has been made in the improvement of cotton both in yield and quality. In arboreum cotton, the seed cotton yield was increased from 300 kg. to 470 kg. ha. the ginning outturn from 28 per cent to 36 per cent, the staple length from 20 mm. to 24 mm. and spinning from 16 counts to 36 counts. The crop duration was reduced from 210 days to 195 days. In hirsutum cotton, substantial improvement has been effected by stepping up the average yield of seed cotton from 850 to 1,350 kg./ha. The ginning per cent was improved from 32 to 37, the staple length from 21 mm. to 29 mm. and spinning capacity from 24 to 70 counts. The crop duration was brought down from 200 to 165 days.

Based on seasons of cultivation, species of cotton grown and agro-techniques followed, the cotton cultivation in Tamil Nadu is classified under six different sub-zones. A distinct strain covers one or two zones. In general, MCU. 5 is recommended for Winter Cambodia Zone, MCU. 4, for Summer Cambodia zone, MCU. 6 (Bharathi) for rainfed Cambodia zone, K. 7 for rainfed black soil arboreum zone, MCU. 7 for long rice fallows and PRS. 72 for short rice fallows. Of these, MCU. 4 and MCU. 5 represent outstanding land mark in the history of cotton in India. Both are extra-long staple cotton varieties with a staple length of 1-3/16" (29 mm.) and are suitable for spinning 70's yarn unsurpassed by any other American variety under commercial cultivation in India. MCU. 5 has also shown its adaptability to certain localities in the States of Mysore, Andhra Pradesh and Maharashtra. An improved variety, MCU. 7 is useful for rice fallows in the State and has been released recently.

This strain is particularly recommended for Tiruchirappalli, Thanjavur, Chingleput, North Arcot and South Arcot.

In arboreum cotton, the present cultivated strain K. 7 has not only unified the entire Karunganni tract, but also is the best superior quality cotton among the arboreum varieties grown in the country. A yet superior cotton in arboreum strain K. 8, is to be released shortly.

An extra-long staple barbadense strain christened as "Sujata" spinning about 90 counts is being introduced in the State of Tamil Nadu. Trials are in progress to evolve a *barbadense* strain with shorter duration and higher ginning.

In recent years, a new wilt disease was found spreading on irrigated Cambodia crop in parts of Coimbatore district causing serious damage to the crop. Investigations revealed that the disease was caused by the fungus *Verticillium albo-atrum*. Studies on the control of the disease are in progress and initial findings indicate that application of 0-1 per cent wet ceresan by soil drenching or burning trash and exposing the soil before sowing cotton would prove to be effective prophylactic measures.

Agronomic investigations have demonstrated the possibility of obtaining considerable increase in yield of irrigated cotton through close planting, timely weeding especially in the early stages of the crop, application of N and P at appropriate time in required quantities, judicious regulation of irrigation and proper plant protection. It is significant to note that as a result of these, the average lint yield of cotton which was 113 kg. in 1955-56 has risen to 196 kg./ha. in 1970-71 in this State. Each of these improved practices has been estimated to yield 150 per cent to 175 per cent increase over the local method and the combined application of all the departmental recommendations to the extent of 280 per cent over the traditional method.

Additional Cotton Area :

The State Planning Commission has envisaged that an additional 15,000 hectares could be brought under the crop in Parambikulam-Aliyar project area, another 15,000 hectares under the new wells scheme in Coimbatore, Salem and Dharmapuri districts.

In the rice fallows of Thanjavur, it is estimated that, by 1974, additionally 10,000 hectares could be brought under cotton and another 10,000 hectares in Tiruchirappalli and Tambaraparani basins.

About 10,000 hectares had been projected under the inter-cropping programme with groundnut in Coimbatore, North Arcot and Chingleput districts.

The wide fluctuations in the market for cotton has been quite a puzzle, because the State produces only 4 lakh bales against a demand of 12 lakh bales.

The Tamil Nadu Textile Corporation, a wholly-owned State Government undertaking, has formed a Cotton Division to encourage and develop cultivation and procure cotton for use by mills.

The Cotton Division will directly buy kapas from the agriculturists in addition to purchase of cotton from the trade and abroad. Such a step is aimed at remunerating the cotton growers sufficiently and at the same time procuring the right quality and quantity of cotton required by the mills in the public and co-operative sectors in the State.

The Cotton Division has proposed to start procurement centres in Tiruppur, Pollachi, Dindigul, Theni, Rajapalayam, Kovilpatti, Thanjavur, Salem, etc., in a phased manner.

The Corporation has already been entrusted with the management of 13 textile mills in the State. There are also 12 Co-operative Spinning Mills under the control of the Director of Handlooms and Textiles. All these mills purchase cotton to the tune of Rs. 25 crores annually.

Speaking at a Cotton Seminar, the State Agriculture Minister Thiru Anbil Dharmalingam suggested to cotton-growers to start ginning factories on co-operative basis and assured assistance from Government.

He admitted that there was shortage of chemical fertilisers and the Government had urged the Centre to allot more fertilisers to the State.

He also called upon the State Agricultural University to suggest a crop insurance programme for cotton and other crops.

EXCAVATED ANTIQUITIES

With many antiquities that are excavated quite a few get crumpled in no time. An antiquity is in a state of equilibrium with the surrounding when it is buried for a long time. When excavated, it is brought to a new climate, the equilibrium is upset and the object suffers damage. This is especially true in the case of organic materials which absorb moisture or lose moisture giving rise to dimensional changes. Such dimensional changes manifest themselves in swelling or shrinking and warping.

An object excavated from a damp soil should not be dried quickly. It should be allowed to dry gradually to the new climate above ground. The sudden loss of moisture make cause shrinkage and severe distortion in the case of organic materials. Crumbling may take place in the case of stone and pottery. Such deterioration can be prevented by keeping the object in a cool place out of the sun and allowing it to give up the moisture slowly.

The problem is serious in objects such as wood, bone and ivory when they become waterlogged. The object can be treated by one or other standard process in the laboratory after transportation from the site. The object is immersed in water until such time as they can be packed in wet clothes and transported to the laboratory. No amount of re-soaking will help to restore the original shape and the cellular structure may damage if dried quickly.

The problem is doubled in the case of an object which is buried in salty ground as it is exposed not only to moisture but also to the action of salts dissolved in the ground water. When such materials are excavated, the water evaporates and the salt crystallizes. In the process the object is weakened and the surface often disrupted. In this case what the laboratory technician has to do is to wash out the salts with distilled water (free from salts) before crystallization takes place.

Corrosion ceases in the case of a metallic object buried in salty ground after a time when it attains a state of equilibrium with its surroundings. But on being excavated and brought

to the new conditions above the ground, the corrosion starts afresh. Therefore it should be given proper treatment and preserved.

Museum Materials may suffer deterioration by exposure to ordinary everyday atmospheric changes. For example, easel paintings are very sensitive to changes in the atmosphere and in particular to varying relative humidity. When a painted panel is subjected to variations in relative humidity, the wood undergoes dimensional changes which impose rhythmical strains on the painting ground (gesso) and the paint layer. As a result, cracks and blisters are developing and the paint flakes off.

Continuous recording of temperature and relative humidity is taken out-of-doors. At the same time it is also recorded continuously indoors.

S. THANGAVELU.

Government Museum Madras.

The records obtained are compared with the record taken inside the show case at the same time. It is interesting to note that the change of temperature and relative humidity is minimised in indoors when compared with the outdoor climate. The record taken inside the show case is nearly constant and there is no much fluctuations of temperature and relative humidity when compared with the other two records. Therefore it is always better to keep antiquities inside the closed show case or frame which are not susceptible to moisture changes.

Control of climate conditions.

The only effective way of fully preventing the deterioration due to climatic conditions is to control the temperature and the humidity of the atmosphere. During the war, the collections of the British Museum and Victoria and Albert Museum were housed in a air-conditioned repository (at 60 per cent R.H. and 16° C). In this collection, there was no record of deterioration. Number of evidences could be brought forward to illustrate the paramount importance of maintaining tempe-

ture and atmospheric relative humidity constant at an appropriate level in Museums and picture galleries. Under such conditions there is no longer any risk of damage by atmospheric pollution and soot. In the circumstances, it is safe to remove glasses from frames so that pictures may be enjoyed without the complication of specular reflections. But the installation and maintenance costs are very high and therefore only few institutions could afford. It is therefore usual to try to obtain an optimum relative humidity which specialists consider to be between 50 and 60 per cent.

Temperature and relative humidity are inter-dependent. In a museum gallery the choice of temperature will be predetermined the suit the comfort of visitors, 16 to 25° C. Within this temperature range, the limit of relative humidity that can be considered safe for the collections have to be established. The limits are determined by observing how the most susceptible materials are affected by exposure to extreme conditions and variations of relative humidity.

Taking into consideration the susceptibility of all organic materials to damage by desiccation; the lower limit of relative humidity should be fixed at 50 per cent. The greatest danger that can arise from an excessively high humidity is the tendency for moulds to grow on many materials that can provide nutrient, such as glue, leather, paper. The presence of mould growth is a warning that the atmospheric relative humidity is above the limit of safety. By keeping the upper limit of relative humidity at 65 per cent, the mould growth can be prevented. This relative humidity optimum is, very often impossible to obtain. In most climates where museums are built of solid materials, the screen provided by the thick walls prevents relative humidity in the galleries oscillating more than 50 and 70 per cent, even when the figures for outside range between 30 and 90 per cent. The fluctuations is even slighter when the museum contains regularizing materials such as tapestry which absorb moisture or when objects are kept in water tight cases. In this last eventuality, fluctuation hardly exceeds 10 per cent.

AUTONOMOUS CORPORATION FOR CONSTRUCTION OF SCHOOL BUILDINGS

Preservation of antiquities in all climates

During the dry summer months khas curtains can be used to introduce extra humidity or certain water-evaporators known as water-coolers. Water sprayers that spray water in a fine atomised form in the room have also been found useful in dry conditions.

For lowering relative humidity, inexpensive apparatus is now available based on the refrigeration principle or the use of silica gel (with indicator). The first type of apparatus consists in the main of a finned refrigerator with ventilator, the water being collected in a container placed beneath the apparatus. The second method uses a ventilator with a reservoir containing a large quantity of humidity absorbing silica. Silica gel is an artificial product having the same compositions of natural silica (sand or quartz), but containing like a sponge, innumerable fine pores. Thus it can absorb large quantities of water. The remarkable property is that it can be used again and again after saturation, if it is heated to above 100°C.

Thus we find that not only light biological agents, soluble salts, atmospheric gases and impurities and physical agencies but also the atmospheric changes are responsible for causing deterioration on antiquities. Everything possible could be done actively in conserving the vast and rich cultural patrimony of our country.

In spite of the efforts taken by the Government it was found not possible to provide funds for the construction of school buildings both for the elementary and higher elementary schools, in rural areas. Out of 22,140 Panchayat Union Schools, 16,123 Schools are accommodated in their own buildings, 1,160 school buildings are reported to be under construction. With a view to complete the construction of schools buildings in a phased programme, the Government have drawn up a comprehensive programme for the construction of school buildings for both the Elementary and Higher Elementary Schools. The proposal is to approach the Life Insurance Corporation of India for financial assistance for covering all Panchayat Union Schools. By this programme it is proposed to construct 7,377 Elementary School and 1,112 Higher Elementary School buildings at an estimated cost of Rs. 13.83 crores spread over a period of three years. In order to get the Life Insurance Corporation of India's loan assistance the Government is considering the question of constituting a Rural Development Board on a statutory basis so that the rural Development Board can draw loans from the L.I.C. and pass them on to the local bodies and later recover them and repay to the L.I.C. In addition to this, the Government are providing assistance out of the Tamil Nadu Special Welfare Fund from out of the Tamil Nadu Raffle Scheme for the construction of School buildings. In the School buildings constructed out of the special fund they bear a tablet to the effect that it has been constructed out of the aid received from the State Raffle Scheme.

The Government have revised the ceiling of Government grant from Rs. 4,000 to Rs. 8,000 in the case of Elementary School Buildings and Rs. 7,000 to Rs. 13,000 in the case of Higher Elementary School Buildings maintained by the Panchayat Union. A minimum contribution of Rs. 4,000 and Rs. 6,000 have to be collected in respect of Elementary and Higher Elementary School Buildings respectively.

In the Budget Estimate 1973-74 a sum of Rs. 92.27 lakhs has been provided for the construction of school buildings as against Rs. 52.60 lakhs hitherto provided in view of the importance of the programme of construction of school buildings.

ELEMENTARY EDUCATION

The entire responsibility of management of Elementary Education in Panchayat Union areas has been entrusted to the Panchayat Unions on a mandatory basis. There are about 27,830 Schools (Elementary and Higher Elementary) in the Panchayat Union areas, of which about 22,140 are run by the Panchayat Unions and the rest are aided institutions. The number of Teachers employed and the number of pupils receiving instructions in these schools are 1,24,100 and 42,00,000 respectively. The expenditure on this account is shared by the Government and the Panchayat Union in certain ratio.

The Government have accepted the recommendations of the Panchayat Education Finance Enquiry Committee for the revision of payment of grants to the Panchayat Unions for Elementary Education. Consequent on this, the Panchayat Unions will be getting an additional sum of Rs. 7.00 crores from 1972-73 over and above the allotment they were getting before revision.

TAMIL STUDIES IN LENINGRAD

Leningrad has long been known for its traditions in the study of Indian languages, Academician A. Barannikov, who is rightfully regarded as the founder of Modern Indian Philology in the Soviet Union, lived and worked there.

Up to the '50s, the three modern Indian languages, Hindi, Urdu and Bengali were taught at the Oriental Department of the Leningrad University. At present, in the early '70s the India Chair of the Oriental Department has Hindi, Urdu, Marathi, Tamil and Telugu sections. In the near future, it is planned to open Oriya and Malayalam sections. The courses of the Indian languages, study aids and grammars were part of Leningrad Indologist's independent, original research work.

Development of Soviet Dravidology

The development of Soviet Dravidology in general and Tamil studies in particular, is closely connected with Samyon Rudin, a talented Leningrad scholar.

Samyon Rudin graduated from the Oriental Department of the Leningrad University, Hindi being his special line. Among his teachers were academician A. Barannikov, V. Beskrovsay, a prominent lexicographer, who had compiled the first Hindi-Russian dictionary in the Soviet Union.

Upon graduation, Rudin was on the staff of the Chair of Indian Philology, where he began to teach Hindi and Urdu. He also studied Hindi dialects prepared and was the first to start lecturing an introductory phonetic course of Hindi.

After some time, the question of the need to start teaching Dravidian languages was raised at the University. Frankly speaking, this task was not an easy one. The Dravidian languages had never before been systematically studied at Soviet higher educational establishments. And Dravidology as a science had, indeed, been a blank spot on the map of Indian linguistics in the Soviet Union.

Being well versed in the history of the culture of both North and South India, Samyon Rudin decided to



Samyon Rudin

tackle the study of the Tamil language, one of the most developed Dravidian languages in India. The young Leningrad scholar had to study Tamil independently, making use of any possibility of familiarising himself with the Tamil press and literary and colloquial Tamil.

"Among the Russian Indologists", Samyon Rudin says, "it was A. Hervart who engaged in serious studies of the Tamil language." The '30s saw the publication of his "Grammar of the Tamil language". Unfortunately, he had no disciples. When I was offered to take up the study of the Dravidian languages, I had to start working practically from scratch.

"K.S. Krishnan, the well-known Indian physicist, who worked in the Soviet Union for some time, was", Samyon Rudin recalls, "one of my first Tamil teachers. This association with the scientist enabled me to grasp the structure of Tamil to pick up its colloquial form."

Later, in 1955 for the first time in the Soviet Union, the Tamil language began to be taught at the Oriental Department of the Leningrad University by S. Rudin. The publication of Tamil-Russian and Russian-Tamil dictionaries, compiled with Rudin's active participation, was a notable event in Soviet Indology.

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By

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Staff workers of the Chair of Indian Philology recall with sincere gratitude the invaluable assistance rendered them by the Indian Professor M. Audilakshmi in organising the teaching of the Dravidian languages in 1958-62, when she worked at the Oriental Department, the first students specialising in Tamil studies successfully completed the course of instruction. The study of Telugu, another Dravidian language, was also started.

Communist Literature Translated into Tamil

Today, graduates of the Tamil and Telugu sections are successfully applying their knowledge in various institutions. They work at Radio Moscow, which for several years now has been conducting broadcasts both in the North Indian and Dravidian languages. In the progress publishing house, they translate into the Dravidian languages works of Karl Marx, Friedrich Engels, V.I. Lenin, classical Russian literature and books by Soviet authors. For example, the publishing house has recently put out in Tamil Engels, "The Origin of the Family, Private Property and the State" and "Diamilya", along short story by Genghiz Aitmatov, a prominent Soviet Kirghis writer.

Nikite Gurov specialising in the Telugu Philology, regards Samyon Rudin as his teacher. At present Gurov is successfully working on a most interesting problem—the deciphering of the proto-Indian inscriptions in Mohenjodaro and Haryana, the language of which, according to some scholars, is close to the Dravidian languages in its structure. In his research working he is making use of data not only in Telugu and Tamil, but also in other Dravidian languages.

Istvan Major, a student from the Hungarian People's Republic, also studied in the Tamil section of the Oriental Department. Today he is one of the leading Dravidologists in Hungary.

Samyon's Visits Tamil Nadu

Samyon Rudin happened to visit India twice. In 1966, he had practical training in Madras University,

where he studied dialects of the Tamil Language and toured the State of Madras extensively. In 1968, Samyon Rudin attended the Second International Conference—Seminar of Tamil studies, held in Madras.

The Leningrad scholar is well known in India, in Tamilnadu in particular. Samyon Rudin keeps in touch with many Indian Philologists. Thesis on Dravidian linguistics are sent to him in Leningrad from India for reviewing. Currently, for example, Rudin is reviewing P. Kodandharaman's work "Constructive Analysis of Tamil and Telugu (Transformation Approach)" and J. Subbay's work "Descriptive Grammar of Kota language".

Study of Tamil Grammar

Samyon Rudin's scientific interest lies mainly in the sphere of the grammar of the modern Tamil language. A few years ago, he successfully presented a thesis on the subject "Morphological Structure of the Tamil language". The year 1970 saw the publication of his book on the same subject. In recent times, Samyon Rudin has been working on the problem of the syntax of the Tamil language.

The Leningrad scholar is also paying much attention to translations from Tamil. In 1971, for example, a collection of short stories by Tamil writers "Light in a Temple" was published as part of the "Modern Eastern Novelette" series. Most of the short stories included in the collection were translated by Samyon Rudin and his disciples. Incorporated in the collection are works by the prominent Tamil authors Pudumaittitan, B. C. Ramiah, K. B. Jagannadan and others. Still another collection from the "Modern Eastern Novelette" series is now being prepared for print in Leningrad. It will include works by short story writers of the whole of South India.

Samyon— A Polyglot

Samyon Rudin is not only a talented scholar. He may be justly called a polyglot. He knows several European languages and practically all major Indian languages. speaks fluently Hindi, Bengali and Tamil. During his stay in India, Samyon Rudin's Indian colleagues referred to him as *Senbiyan*. Under that name he is known to many people in Tamilnadu, with whom the Leningrad scholar used to talk in their native language.

Research work in Tamil poetry in Moscow

Tamil studies are now conducted in the Soviet Union not only in Leningrad, the birth place of Soviet Dravidiology, but in Moscow as well. Dravidian languages are taught at Moscow University and at the Institute of International Relations. Alexander Dubyansky, a young Moscow scholar, is doing research into the ancient Tamil poetry. In 1972, Mikhail Andronov, a scholar specialising in Tamil studies, presented a D.Sc. thesis at the Institute of Oriental Studies in Moscow, which he based on the world's first standard grammar of the modern Tamil language. Early this year, Mikhail Andronov's "Grammar" won him prize from the Tamil Nadu Government as the best work in the field of Tamil linguistic in recent years.

Tamil studies, which were started in Leningrad, have now come to hold an important place in Soviet Indology, and the research work done by Soviet scholars specialising in Tamil studies has won well-deserved recognition both in India and in many other countries.

ENTREPRENEURSHIP — OLD AND NEW CONCEPTS

An important aspect of entrepreneurship is the necessity to adopt new responsibilities. To do this more effectively the management sector has to grow far ahead of times. Further, the developed economical achievements in the shape of technological progress presents challenging opportunities for the developing economies. To achieve a higher rate of economic growth the developing countries should strive to make the best use of these opportunities, besides making a dent on the concept of entrepreneurship.

The achievement of immense technological progress attained by the developed economies presents challenging opportunities for the developing economies. It is for us to make the best use of these opportunities for achieving a higher rate of economic growth. This, however, is not possible if we do not make a dent on the concept of entrepreneurship.

New responsibilities for entrepreneur

An important aspect of entrepreneurship is the necessity to adopt new responsibilities. This is particularly important in view of the dynamic nature of old theories and concepts. At one time theories and concepts were written for a period when the authors were influenced by the effects of the inventions of their age. But with the passage of time and with the advent of newer sources of power, the concepts have to be so modified as to meet the requirements of a different and altogether new environment. It is because of this snag that we have not been able to make the best use of new challenges and situations. The traditional handicrafts worker was a designer, worker, salesman—all put together and this concept was no longer suitable for the next stage, namely the stage of cottage industry. The concept of cottage industry itself had undergone a change on account of the transformation that has occurred in the use of the different sources of power. They produce now a wide variety of goods for a large market. The small cottage industries of to-day require such facilities as research centre, marketing organisation, sales service, co-operative credit, etc. Thus, in order to keep itself abreast of times, even the cottage industry has to avail of all these techniques of organisation. To do this more effectively, the management sector too has to grow far ahead of times. It must have a growing characteristic, a dynamism, and all alertness to adopt the changes that ultimately pose a challenge. If this is

so with the cottage sector, the position in regard to the large-scale sector will be much more so and they may need more specialised assistance. So, when we plan for large industries, we have to plan for a "dynamic manager" too.

Captains of Industry

Managers of to-day have to adopt themselves to new circumstances. Apart from this, they must have the calibre to tackle new situations. Real growth depends not merely on the putting up of plants with larger and larger capacity but also on the provision of the right type of men to man them. Adaptability to new circumstances, the urge for improvements and the leadership to man 'big projects' are all qualities that could not be got in a day or two. Great 'Captains of industry' are men of born genius. Occasionally, right

Prof. C. S. MAHADEVAN.

training could make them too. The urge to do new things with the existing resources is the one single factor which could serve as a test on the capacity of these pilots of industry.

According to Solow, who tried to measure the effectiveness of technical change on the economy in U.S.A. within a period of 40 years (1709-49), gross output per man hour doubled with 87.5 per cent of the increase being attributable to technical change while only a balance of 12.5 per cent was attributable to increase in the use of capital. The question here is not so much as to how this could be done in India but as to who will do it? Where are these men? Do we have a large supply of these men? Are these great Captains of Industry 'born' or 'made'? And it is here that management training has a very useful role to play.

EXPANDING TECHNOLOGY

What is needed for a developing nation like ours is the creation of specialists who will easily adjust themselves to an expanding technology. This is so with every aspect of industrialization. The need is there in every industry and it is the lack of these men, having some elasticity, which has considerably effected our industrial growth. An examination of certain industries will show that this is the need of the hour.

(a) *Steel*.—Let us first take the case of the Steel. At a time when U.S.A. is producing 120 million tons of steel ingots and U.K. making 70 million tons of steel ingots, we are not even in a position to produce 10 million tons of steel ingots per annum. The reason for this low progress is accounted by the inability of the Management Sector to show with the growth of production techniques. For instance, what was economically feasible in steel production some twenty years ago was a 2.5 lakh tons capacity, and the standard capacity some ten years ago was 5 lakh tons, while to-day a capacity of one million tonnes has not only become feasible but also “economically sound.” Naturally, with the growth in economic feasibility of such big projects, the need for transport, raw material, personnel, etc., have also grown. But all these have not simultaneously expanded and consequently, there is a gap between personnel and technique and this gap can be met only by making management technique more dynamic.

(b) *Transport*.—No other field calls for better management as the transport sector. This sector has a significant role to play. We are living in the jet age. Fast movements are the order of the day. Unless movements are quick, there will be bottlenecks in marketing the products. The quick movement of raw materials to plants also calls for the presence of a quicker means of communication. When the people world over are living in the jet age, we are still in the ‘bullock and cart stage’. To effect a revolution in the means of communication again, what we require is the presence of men of the order of the ‘great Railway Masters of England’. It is only these people who could keep ahead of times.

(c) *Textiles*.—The Textile Industry, to-day, is badly in need of modernisation. Apart from the fact, our spinning mills and weaving mills have become outmoded, there is the big obvious trend in consumption which shows that the tastes of consumers have changed and no amount of effort at modernisation can succeed if we ignore this factor. People have a preference for cloth made out of synthetic fibres. Hence, our mills have to adopt changes in such a way as to hasten the manufacture of synthetic yarn and synthetic cloth. For this research in chemical technology has to play a useful role. Advancement in technology means “more of men” belonging to that sphere of activity. The mill manager of to-day has to be an expert in all aspects of technology beginning from spinning and ending with the finishing process. Higher output at lower cost, nearer varieties for all classes of consumers, and the ability to manage the newer aspects of production and sale, etc., will require people with a lot of dynamism. In short, what is needed is an expansion in management technique.

(d) *Cement and Sugar*.—In such industries as Cement and Sugar, the problem of management has become much more significant than it was some thirty years ago. The feasibility of a Cement Plant some ten years ago was only a capacity of 60,000 tonnes and this first moved up to one lakh tonnes and then to two lakhs tonnes and to-day it is possible to establish Cement Plants having an annual capacity of four lakh tonnes. Similarly, in the case of sugar industry, an economic unit in 1935 was only a crushing capacity of the order of 400 to 500 tonnes daily and this moved up to 600 to 800 tonnes and then to 1,250 to 1,500 tonnes and to-day economists feel that 4,000 tonnes per day is a sound proposition for any unit.

These changes in technique and technology calls for a simultaneous growth in management talents to cater to the needs of new situations. The manager of tomorrow has to be more capable, more intelligent, and more dynamic. A better class of managers will be required to deal with the new situations. The question is as to whether we have succeeded in producing “such men”.

Five talents for Effective Executive

According to Peter Drucker, the author of “The Effective Executive” five talents are essential to build effectiveness in an entrepreneur. These are management of time, choosing what to contribute for a particular organisation, where and how to apply one's strength, right priorities and effective decision making. To us, who have been conversant with the philosophy of Valluvar, these ideas are not strange. On the concept of management of time, verse 483 in the Kural says “If a King with adequate resources carefully chooses the proper time for action, is there any task which he cannot achieve”. What holds good for a King is applicable to an entrepreneur. What the King is to a country so is an entrepreneur to an industry. An efficient manager will cut back unproductive demands on his time. He will consolidate his discretionary time in such a way as to concentrate on big tasks that will really make a contribution.

Three Step Process

Prof. Drucker recommends a three-step process and they are recording time, managing time and, consolidating time. Time use can be made to improve with practice. We have to find out the “non-productive, time-wasting activities” and get rid of them one by one. This will imply turning the torch within and asking certain question of a diagnostic nature. First, one has to identify and eliminate the things that need not be done at all things that are purely waste of time without any results whatever. The next step is to find out which of the activities on his time lag could be done by somebody else just as well, if not better. Time wasting defects such as over-staffing, mal-organisation or mal-functioning can sometimes be remedied fast. The fruits of such efforts will be in terms of time gained.

Valluvar shows the way

All these ideas could be found reflected in Kural 516 and 517 which show that Valluvar was far ahead of his times.

Proper Management

Kural 516 says :

"Let the King first determine who is the person fit to do the work by natural aptitude and ability, and then what is the nature of the work, then the proper time to begin it. After clear idea about these three he must start the work. After all a modern captain of an industry is more or less like a King. His functions relate to these of the King of ancient time. It is in his choice of a proper management cadre depends the ultimate success of his business. The qualities outlined by Valluvar focus on the same objectives to which the qualities stressed by Drucker also focusses.

Again Valluvar says :

"If after deliberation the King comes to the decision, that a particular man is fit to do a particular work according to a definite Plan then let the matter be left entirely in the hands of the Officer" (517). This is suggestive of the choice of the right type of managers who will observe to the conditions laid down by Drucker. If the choice is right, he will not waste time. Once the choice has been made there should not be interference from the higher level."

Right Type of Entrepreneurs

The right type of entrepreneur is the one who knows what to contribute to a particular organisation. Kural 511 may be examined in this context. The fertile idea contained in it stresses :

"Who examines carefully the merit and demerit of a particular work, who gladly accepts the good means to execute the work and who bears a good character, only him the King shall employ to execute that work. Only such a person can contribute something original to an organisation. Every entrepreneur cannot contribute to innovation. Certain qualities are essential to do so. Only the captain of the industry has these qualities he can function very effectively.

Stress on progress

Valluvar stresses on progress. He wants the executive to remove all impediments to progress. This idea, which is similar to those of Dr. Schumpeter, who stresses on 'progress', can be seen in Kural 512 which says : "Who increases the revenues, promotes the prosperity of land, removes all the impediments to progress, let him be entrusted with the execution of the work". Removal of impediments to progress and increasing of revenues are essential for any business. The one is dependent on the other.

Shortage of competent managing staff

Shortage of competent managers has been a continuing problem and this has not only affected the growth of industry but also its efficiency. The problem has two aspects ; the immediate, which consists of increasing the supply of 'talented managers' in specific fields ; and the more fundamental one of improving the quality of the existing managers in order to enable them to cope with new situations.

While all efforts necessary to create facilities for training personnel to man industry should undoubtedly continue, special emphasis must be given to improve the overall competence of existing managers. It is on this no less than on the construction of heavy and basic industries that the acceleration of the process of industrialisation rests. The role of a highly qualified competent managers will be two-fold, it will be in the first place directly assist industrialisation, and, in the second place, by making industries more efficient, it will facilitate exports which in turn would promote faster industrialisation through enlarging foreign exchange earnings. Thus, what is required is a leadership of a high calibre.

AIR STRIP FOR OOTY UNION MINISTER'S SUGGESTION.

Thiru Om Mehta, Union Minister of State for Works, Housing and Parliamentary Affairs, said that India should strive hard to attract more number of international tourists, as the tourist traffic to India on comparison to other countries is negligible. Considering the importance of Ootacamund as a Hill Station, he hoped that the Civil Aviation Ministry would seriously consider the desirability of constructing an air strip at Ootacamund. He made this observation while declaring open the Additional Block of Tourist Bungalow built at a cost of Rupees Ten Lakhs by the Tamil Nadu Tourism Development Corporation Limited at Ooty in the Nilgiris, on 8th April 1973.

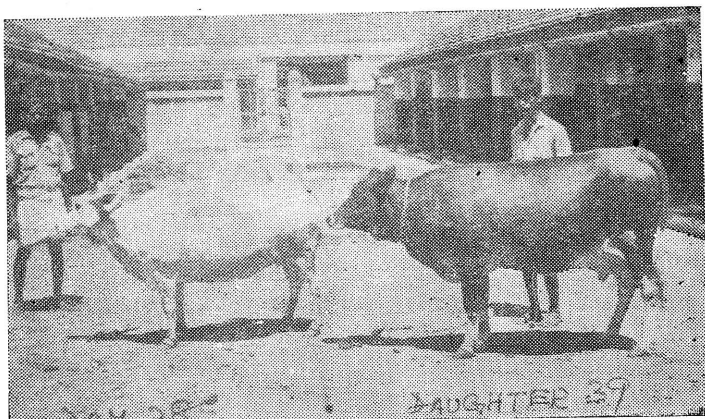
Thiru K. Rajaram, Minister for Tourism, Government of Tamil Nadu, while welcoming the Union Minister stressed the need for wide publicity for tourist potentialities in Tamil Nadu in foreign countries.

Thiru A. V. P. Asaithambi, Chairman of the Tamil Nadu Tourism Development Corporation Limited said that a rope way between Doddabetta Peak and Ooty Botanical Gardens is under active consideration of the Government. He hoped that the Government of India will come out with generous financial help for this project.

Thiru M. S. Sundara, Chairman and Managing Director, India Tourism Development Corporation, New Delhi said that Ootacamund, being a cosmopolitan tourist centre of national importance, moderately-priced accommodation and other infrastructure should be provided to attract more number of tourists.

Thiru A. S. Ahluwalia, I.A.S., Managing Director of the Tamil Nadu Tourism Development Corporation Limited said that with the construction of the Additional Block, the number of beds available at the Tourist Bungalow Complex, Ooty had been increased from 1972 to 235 beds besides a Conference Hall and a big dormitory for holding conventions and seminars.

Role of Cross Breeding and Grading in Augmenting Milk Production



DAM COW No. 28
NON DESCRIPT.

DAUGHTER No. 39
NON DESCRIPT JERSEY.

Note the effect of crossing with Pure Exotic Sire on the Body size.

A dairy cow to be economical should have high yield, mature early, breed regularly and have a short dry period. A non-descript cow lacks these traits. The average annual milk yield of a Desi cow is only about 204 kg. A good exotic cow like Jersey or Brown Swiss breed is beyond the reach of the common man. Under the existing circumstances the only way of infusing economic traits in indigenous cattle is to cross them with exotic sires of high merit. The above object can be achieved by grading or cross-breeding. With a view to study the above, two non-descript cows, Nos. 28 and 29 and three Sindhi cows, Nos. 1, 2 and 3 from the college dairy field laboratory were used.

Performance of Jersey non-descript graded cows.

The cows 28 and 29 were weighing 140 and 141 kg. respectively. By proper feeding and management in the college dairy field laboratory their weights increased to 152 and 187 kg. respectively.

These animals were inseminated with Jersey semen and their progeny were studied. Of the ten calves born so far, 5 were bull calves and 5 were heifer calves. The calves had an average birth weight of 19.57 kg.

The heifer calf 25 of cow 29 attained a weight of 175.5 kg. at sexual maturity in 14 months and gave birth to its first calf just within two years (721 days). The milk yield of daughter was 1,062 kg.

as against its Dam which was only 472 kg. The heifer calf 39 of cow 28 weighed 201 kg. at sexual maturity in 11-1/2 months. It gave birth to its first calf in 619 days (21 months). The lactation yield of the daughter 39 was 1,142.5 kg. as compared to its Dam 28 which was only 420 kg.

The milk production of the daughters in the Jersey non-descript grades (50:50) was more than double (245.91 per cent) as compared to their Dams.

The first generation Jersey non-descript (50:50) grades are again crossed with Jersey to produce second generation Jersey non-descript (75:25). The experiment is being continued.

Performance of Sindhi-Jersey crosses.

Three Sindhi cows were used as foundation stock. They were crossed with Jersey and the following parameters were studied in the resultant first generation Jersind (50:50) crosses such as age at maturity, lactation yields, number of days in milk, intercalving period.

Results :

The Sindhi have calved at an average age of 51 months and the crosses at 21 months with clear advantage of 30 months for the crosses.

Lactation yield.

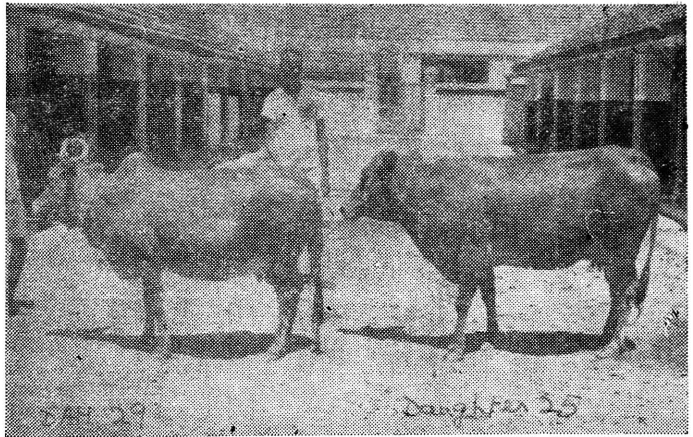
The 300 days yield for the first lactation was 1,712 kg. for the crosses and 1,062.7 kg. for Sindhis with an advantage of 649.3 kg. for the crosses which is 61 per cent increase over Sindhis.

Number of days in milk :

Sindhis averaged 303 days and the crosses 335.5 days.

Calving interval :

The interval between the first and the second calving was 397.7 days for the crosses and 559.3 days for the Sindhis with an advantage of 161.6 days for the crosses.



DAM COW No. 29.
NON DESCRIPT.

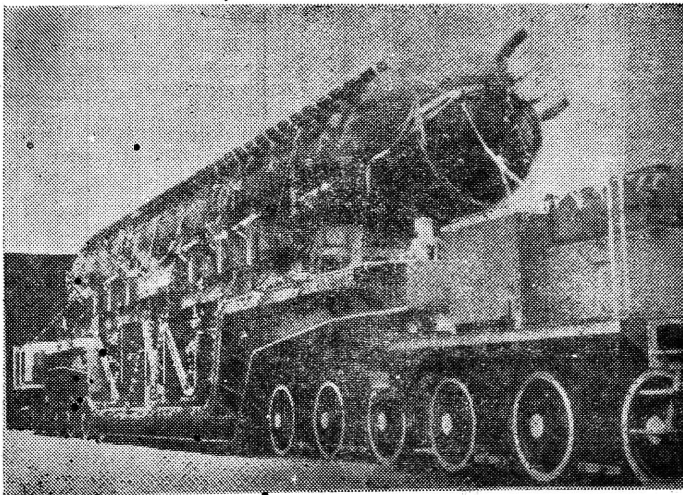
DAUGHTER No. 25.
NON DESCRIPT JERSEY.

Note the effect of crossing with pure exotic sire on the body size.

Summary :

1. There is an increase in the birth weight of calves in both pure bred and non-descript crosses with bulls of exotic breeds.
2. There is a greater increase in the gain of body weight in both the crosses.
3. The above crosses matured early.
4. The length of lactation is also found to be greater in cross breeds.
5. The crosses had a short dry period.
6. The calving interval is also reduced.
7. The milk production in the crosses is considerably increased.

In view of the above advantages farmers are advised to get their cows inseminated artificially with Jersey semen and increase the milk yield of their cows.



Big Leap in Indigenous Technology

The boilers produced at the Bharat Heavy Electricals have acquired a world-wide market. The Picture is the 200 M.W. capacity boiler-the biggest one of its kind ever produced in this factory and the country as well. Ten more boilers of this size are to be produced soon in this factory.

ACTIVITIES OF THE NATIONAL EMPLOYMENT SERVICE DURING FEBRUARY 1973

An overall review of the various Employment Exchange activities during the month of February 1973 showed an upward trend in placements and vacancies filled. On the other hand, slight decrease was noticed in the number of registrations and in the number of vacancies notified. Compared to January 1973 placements, vacancies filled and Live Register have increased by +6.5 per cent and +5.4 per cent and +1.3 per cent respectively, whereas registrations decreased by —17.5 per cent.

There was no change in the ratio of vacancies notified to registration. The Employment Officers in Tamil Nadu registered 28,700 applicants during February 1973, a decrease of —6,091 or —17.5 per cent over the previous month. Placements effected were 2,683, an increase of +163 or +6.5 per cent over the previous month. The number of vacancies notified to the Employment offices was 4,077 a decrease of 196 or —4.8 per cent over the last month. The Live Register at the end of February 1973 stood at 4,94,564 an increase of 6,395 or +1.3 per cent over the previous month.

Shortage of manpower were reported in the following occupations :—

“A” Class medical practitioner in Siddha and Ayurvedic, pharmacist in Siddha Medicines, Pharmacist (Scheduled Caste), Maths B.T. trained 1970 or earlier, Registered Maternity Assistants, trained Tamil Pandit (Women), Malayalam Pandit, Kannada Higher Grade Teacher, Librarian, B.T. Assistant (S.C.), Field Surveyor (S.C./S.T.), Technical Assistant (S.C./S.T.), Moulder Instructor with not less than 3 years experience (S.C./S.T.), Sanitary Inspector, Air Compressor Operator, Laboratory Technicians, Salesman with experience, Air Craft Mechanic, Armourer, Boiler Attendant, Air Craft Finisher and Junior Scientific Assistants (B.Sc. Physics and Chemistry, (S.C./S.T.).

The Special Employment Officer for Physically Handicapped applicants at Madras registered 35 (Blind 2, Deaf-Mute 4 and ortho 29) and placed 6 orthopaedically handicapped applicants during February 1973. At the end of the month, there were 1,217 (Blind 132, Deaf-Mute 127 and orthopaedic 958) applicants on the Live Register of this office.

Occupational Information Unit

In the occupational information unit attached to the Directorate of Employment and Training, the work in connection with the special industry occupation survey, preparation of occupational outlook, career literature, revision of career pamphlets and translation of career pamphlets were in progress.

The Vocational Guidance units in Tamil Nadu gave group guidance to 7,878 applicants and individual guidance to 334 youths during February 1973. Eight individually guided registrants were placed in job during the month. The number of persons who received individual information during February 1973 was 460.

Stipend to repatriate trainees

In the Employment Liaison, unit stipend amount to repatriate trainee and institution fee in respect of repatriate trainee were paid to the Institute of Catering Technology and Applied Nutrition, Adyar, Madras-20. Arrangements were made to pay a sum of Rs. 160 being the examination fee in respect of 8 repatriates undergoing in training in Cookery and Water's Course. Particulars of 21 repatriates were forwarded for consideration for training in Farm Machinery utilisation service at Tractor Training and Testing Station, Budni (M.P.). The officer on special duty, D.G.E. & T., New Delhi selected 2 of these repatriates for this training course commencing on 1st March 1973 and these two candidates were despatched by the Collector of Madras on 6th March 1973 for the training at Budni.

Lt.Col. Prasad, the officer in-charge, Technical Training Centre, Mana Camp visited this State and as a result of his interview, selected 66 repatriates, 7 at Madras, 23 at Madurai and 36 at Tiruchirappalli for admission to the Heavy Vehicle Mechanicum-driver's course. Of these, 63 repatriates, were despatched to the Technical Training Centre, Mana on 6th March 1973 with the assistance of the Collector of the district concerned.

Welfare Measures To Improve The Facilities To Teaching Staff In Tamil Nadu

There are at present about 2-34 lakhs of teachers working in the schools in Tamil Nadu and their salary bill runs into Rs. 70 crores. With a view to enhance the facilities available to the teaching community who are the torch-bearers of enlightened knowledge to the society as a whole, ever since the introduction of free education in schools up to the school final stage, the Government who bear the entire expenditure on the emoluments of the teachers, both in Government and in aided schools, have become responsible for, and come forward to share in a major way the expenditure for the welfare and improved service conditions of the teachers in all the schools in the State. The salary bill of teaching staff has gone up from Rs.55 crores in 1970-71 to about Rs. 70 crores in 1973-74 accounting for about 86 per cent of the entire expenditure on school education in the State. These steps should prove an incentives for attracting the best talent to the teaching profession.

Scales of Pay.

In common with other categories of State Government Servants, the teachers (those in Government service as well as those in Aided and Local Body service) have been allowed substantially higher scales of pay

from 2nd October 1970 on the implementation of the recommendations of the Second Tamil Nadu Pay Commission as modified by the One Man Commission. Selection Grade has been introduced for the first time for the various categories of teaching staff under all kinds of managements. House Rent Allowance and City Compensatory Allowance are also given to Aided and Local Body teachers from 2nd October 1970 at the same rates as for Government servants.

During the past few years, 24,500 Secondary Grade Teachers working in Higher Grade posts have been allowed Secondary Grade scales of pay by upgrading their posts into secondary grade ones. Orders for upgrading 5,000 more posts with effect from 2nd October 1973 have been issued.

Pension to Teachers in Non-Government Service.

The pension rules for teachers in non-Government services (i.e., Aided and Local Body Schools) were successively liberalised in the past few years and the culmination of this was the momentous step of bringing those teachers also, with effect from 1st June 1970, under the Liberalised Pension Rules and Liberalised Family Pension Rules applicable to State Government

The Governor Thiru K. K. Shah distributed the State Award to Elementary and High School Teachers in a function held at the World University Service Centre, Egmore, under the presidency of Dr. V. R. Nedunchezhiyan, Minister for Education on 18-2-1973.

Picture shows the Governor distributing the prize to Thirumathi Ilamuru Porselvi.



Servants. Tamil Nadu is perhaps the first State to achieve parity in retirement benefits between teachers in Government and non-Government services. From 1st April 1972 even the non-teaching staff in aided schools have been granted the same pensionary benefits as State Government servants.

B.T. Assistants and Headmasters who retired before 1st July 1960 were eligible to get only a maximum pension of only Rs. 30 to 35 per month. These maxima have been raised to Rs. 60 to 75 per mensem with effect from 1st April 1972.

The terms of family pension admissible to teachers in non-Government educational institutions, in respect of cases arising before 2nd October 1970 have been liberalised during 1972-73.

National Foundation for Teachers' Welfare

Assistance is given from the National Foundation for Teachers' Welfare Fund to the teachers in service and to retired teachers. The State Working Committee of the National Foundation sanctions recurring, monthly and lump sum grants to deserving teachers from out of the funds allotted. Monthly grants ranging from Rs. 10 to Rs. 100 are given to needy and indigent retired teachers and widows of deceased teachers and to dependents of teachers. In some cases lump sum grants up to Rs. 1,000 are given for medical expenses, etc. A sum of Rs. 12 lakhs has so far, been disbursed to 2,100 teachers who needed such help.

Other Benefits

State Awards are given to teachers of elementary and high schools in each of the 47 educational districts. In each educational district, two elementary school teachers and two high school teachers are given State Awards every year. Each awardee gets a certificate of merit, a silver medal and a cash prize of Rs. 200.

Teacher's Home

In 1970-71, a Teacher's Home was established at Vellore to serve as a centre of educational activities and as a home to serve the needs of teachers visiting the District Headquarters. The State Government gave a grant of Rs. 50,000 to supplement the collections raised voluntarily by the teachers. A grant of Rs. one lakh has been sanctioned for constructing a Teachers' Home at Ootacamund and the question of sanctioning a grant for a Home at Kodaikanal is under consideration.

Other Measures

The Government have in recent years removed a number of long-standing grievances of teachers of Aided Schools. In 1968-69, the leave rules of aided high school teachers were liberalised. Recently teachers in aided schools have been allowed the same leave facilities as teachers in Government service, including that of encashing leave.

In 1969-70, a Committee was constituted to go into all questions relating to teachers of aided schools. In pursuance of the Paul Committee Report, the Government have introduced a Comprehensive Bill for protecting the conditions of service of teachers of Aided Schools.

Concessions to aided School Teachers

From 1970-71, a number of concessions have been extended to aided school teachers, viz., (i) House Rent Allowance, Winter Allowance, Hill Allowance, etc., in specified localities; (ii) Festival Advance; (iii) Advance for purchase of Handloom Cloth; (iv) Marriage Loans; and (v) Free medical attendance in Government Hospitals. In 1971-72, free medical attendance was extended to non-teaching staff also of aided schools. When a teacher of an aided school migrates from one school to another, his past service is taken into account for purposes of weightage in increments. In respect of teachers of aided high schools transferred from one category to another, service in identical scales of pay is reckoned for purposes of fixation of pay.

Relief to unemployed

The Government are concerned about relieving unemployment among trained teachers. During the past six years, about 33,000 additional posts of teachers were sanctioned, apart from 1,800 posts during 1971-72 and 1972-73 under the Central Unemployment Relief Scheme. During 1973-74 about 1,475 additional posts of teachers is to be sanctioned under the State Plan Schemes and about 900 additional posts under the Central Unemployment Relief Scheme and the question of sanctioning more additional posts under a special scheme is being examined. Further, under the Apprentice Teacher Scheme in force from October 1970, employment was provided to about 5,746 teachers in posts of apprentice teachers, and nearly all of them have since been absorbed in regular vacancies.

Teaching has come to be very respected profession in Tamil Nadu and the lot of the teacher is much better in Tamil Nadu than in any other part of the country.

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Tamil Nadu Education Budget Crosses Rs. 100 Crores

In 1973-74, the last year of the Fourth Five-Year Plan, the proposed outlay under Demand Expenditure on Education is likely to be Rs. 100 crores, which represents 21 per cent of the entire Revenue Budget of the State (Rs. 465 Crores) and is the highest single component in the Budget for 1973-74.

The outlay for Primary Education is Rs. 4,440 lakhs and that for the Secondary Education is Rs. 2,890 lakhs. The outlay on Collegiate Education is Rs. 932 lakhs and that on Technical Education including Industrial Training Institutes is Rs. 578 lakhs. The balance amount includes allotments for the development of Archaeology, Museums, and for Government Examinations.

The above figures of expenditure do not include the expenditure on Harijan Welfare and Backward Class schools and hostels, scholarships to Scheduled Caste and Tribe and Backward Class students, and on a few other items such as approved schools, etc. The total of these miscellaneous items is about Rs. 14 crores.

The Budget makes separate allotments for Medical, Agricultural and Veterinary Education under the respective departments of about Rs. 5 crores in 1973-74. If the expenditure under those two items (Rs. 14 crores plus Rs. 5 crores) is also taken into account, the total outlay on Education in the Budget Estimate for 1973-74 will be Rs. 122 crores.

1973-74 being the last year of the Fourth Plan, it will be appropriate to take stock of the work done so far in this State in the field of Education and assess the nature and magnitude of the problems that have to be tackled during the next five years. In the matter of literacy and in the matter of investment in Education, Tamil Nadu is one of the leading States in the country. In the matter of fulfilling the Constitutional directive of providing free primary education up to the age of 14 for all children, this State is also ahead of most of the other States in

the country. The main feature of educational development after independence has been the phenomenal quantitative increase in all sectors of educational activity—Primary, Secondary, University and Technical. The number of pupils in schools in this State went up from

In College Education also there has been a vast increase in the number of students and colleges. The number of colleges has increased from 59 in 1961-62 to 176 in 1972-73. The number of students in colleges increased from about 45,000 in 1961-62 to about 2 lakhs in 1972-73.

“In the matter of literacy and investment in Education, Tamil Nadu is one of the leading States in the country. In fulfilling the Constitutional directive of providing free primary education up to the age of 14 for all children, Tamil Nadu is also ahead of most of the States in India. The number of pupils in schools in this State has gone up from 32.91 lakhs in 1956-57 to 74.36 lakhs in 1972-73 along with the increase in teaching staff from 1.08 lakhs in 1956-57 to 2.34 lakhs in 1972-73. The number of educational institutions in this State has also registered a phenomenal increase. The number of high schools has increased from 894 in 1956-57 to 2,763 in 1972-73 and that of colleges from 59 in 1961-62 to 176 in 1972-73. A good number of schemes are also in the implementation stage to effect qualitative improvement in educational set-up and system alike.”

32.91 lakhs in 1956-57 to 74.36 lakhs in 1972-73. Similarly the number of teachers increased from 1.08 lakhs in 1956-57 to 2.34 lakhs in 1972-73. The number of schools has also increased phenomenally from 894 high schools in 1956-57 to 2,763 in 1972-73.

The Education Budget as a whole has gone up from Rs. 15 crores in 1956-57 to about Rs. 100 crores in 1973-74 (rate of increase* being 45 per cent per annum).

This rapid increase in numbers, though necessary and inevitable,

has naturally created problems in respect of the quality of the instruction given in schools and colleges. Hence one primary concern for future plans should be greater emphasis on factors which influence quality.

Minimum Needs Programme.

In order to ensure qualitative improvement in educational institutions and in order to keep pace with the requirements of the expanding population in the school going age, a "Minimum Needs Programme" for the Fifth Five Year Plan is now being drawn up. It will be a statement of the State's basic needs in terms of the financial requirements for adequate school buildings, adequate equipment for schools, for the additional teachers required during the Fifth Plan so that the State can achieve cent per cent enrolment of all children up to 14 years, for teacher training facilities and for incentives to pupils in the form of midday meals, free books and free uniforms.

It is proposed to take up the question of Central Aid for the minimum needs programme with the Government of India, emphasising the fact that Central assistance should not be weighted against comparatively advanced States like Tamil Nadu in the name of removing regional disparities.

The Task Force on Education set up by the State Planning Commission, which was entrusted with the work of drawing up a Perspective Plan for Education for the State has submitted its report to Government. Working groups and sub-groups have been formed to examine and finalise the sectoral plans for Elementary Education, Secondary Education, Collegiate Education and Technical Education. These groups will draw out detailed schemes to be included in the Fifth Five Year Plan.

The Pattern of Education.

It now takes fifteen years of study at school and college to obtain a degree in this State. This is in line with the All-India pattern of fifteen years. However, the structuring of these fifteen years (whether it should be 10 or 11 years at school, followed by a two year or one year Pre-University Course and a 3 year degree course) is a question which

has been under discussion for some time. The State Planning Commission, in its Task Force Report, has recommended a 10+2+3 pattern. The other three Southern States have also adopted this pattern.

Nationalised Text-Book Committee.

The Tamil Nadu Text-Book Society which was set up in March 1970, has been taking vigorous steps to implement the policy of Nationalisation of Text-Books. The programme of Nationalisation of Text-Books at the school level was almost completed in the academic year 1972-73. The only books which remain to be nationalised are (1) the Text-Books for the Elective subjects, Algebra, Geometry, Physics, Chemistry and History in Tamil medium for Standards X and XI, (2) the Text-Books in Minority languages like Telugu, Malayalam and Urdu for various subjects and (3) the Text-Books for language subjects in Minority languages.

The Tamil Nadu Text-Book Society printed and distributed about 260 lakhs of copies of text-books for use in 1972-73 and it will be printing about 300 lakhs copies for use in 1973-74.

The direct sale of the text-books to schools and retailers by the Society was extended during 1972-73 to the Chingleput Revenue District in addition to Madras City. In the other districts, the Society appointed 55 taluk stockists and 595 retail dealers during 1972-73. A new feature of the system of distribution during the year was that three Consumer Co-operative Societies were appointed as Taluk Stockists for the Society's books.

To handle the large volume of printing, the Society proposes to acquire a Text-book Press solely for its use. Negotiations in this respect are under way with the Government of India.

Production of Children's Literature.

Under the scheme for the award of prizes for children's literature in Tamil, 10 prizes not exceeding Rs. 500 are awarded every year. Besides this, under a scheme sponsored by the Government of India for the conduct of a prize competition for Children's Literature, a cash award of Rs. 1,000 is also given for the best work in Tamil.

INTERNATIONAL INSTITUTE OF TAMIL STUDIES.

The Institute was formally registered as a Society under the Societies Registration Act in October 1970. The principal object of the Institute is to promote in all possible ways research in all aspects of Tamil Studies and allied fields with the active co-operation of international scholars interested in such studies. The Institute is publishing from 1972 a half-yearly International Research Journal—the Journal of Tamil Studies—containing articles written by scholars all over the world.

It is also proposed to have a language laboratory and audio-visual equipment to promote research on Tamilology and to prepare standard works on Tamil literature and language. The Institute is now carrying out its projects in collaboration with the Government of Tamil Nadu and the Indian National Commission for co-operation with UNESCO.

For the present the Government of Tamil Nadu are meeting the entire expenditure of the Institute of the order of Rs. 70,000 per year.

COMPRE- HENSIVE HEALTH CARE SERVICES IN TAMIL NADU



Sophisticated health care is made available in all District H. Q. Hospitals.

Health is not merely absence of disease. It is a state of complete physical, mental and social well-being. Every individual should be assured reasonable opportunity to maintain his health at the highest possible level so that he can contribute his best to the society by his productive efforts. Towards this aim, the Government of Tamil Nadu have taken steps to provide various community health services for the promotion of community health care including maternal and child health, the improvement of nutritional status of people, prevention and control of communicable diseases, the registration of vital events and the spread of health education among the people and the promotion of environmental sanitation.

PRIMARY HEALTH CENTRES

As nearly 70 per cent of the State's population live in rural areas, it is the Primary Health Centre that caters to these people. The Primary Health Centre is an institution which offers a package of services to the people living in its jurisdiction which is usually the area covered by a block (now Panchayat Union). Primary Health Centres have been established in all the blocks except two. Thus there are 377 Primary Health Centres in the State.

The services rendered by a Primary Health Centre include general medical care, improvement of

maternal and child health, family welfare planning, improvement of environmental sanitation with emphasis on sanitary disposal of excreta, safeguarding drinking water sources, control of communicable diseases by immunisation with suitable vaccines, and by surveillance to detect the occurrence of communicable diseases like small-pox, cholera and malaria, nutrition education and control of nutritional diseases, collection of vital events of births and deaths and health care and education of school children.

For the purpose of medical care, every Primary Health Centre has an out-patient department and an in-patient section with 6 beds. At the out-patient department, the patient is examined and given appropriate treatment. In the conventional dispensaries and hospitals, while the services stop sharp at the level of dispensing drugs, at the Primary Health Centre, further services extend from these patients to their contacts who are given appropriate treatment both preventive and curative. The patient and the contacts are educated about the nature of the disease, its mode of spread and about the methods of disinfection of infective materials. The average annual attendance at all the Primary Health Centres is about 15 million. The average daily attendance of out-patients per Primary Health Centre is 70 new

cases and 40 old cases. The average attendance per day at all the Primary Health Centres is about 42,000.

Second Primary Health Centres for all Blocks.

The Government of India have recommended that in order to serve a larger section of the rural people a second Primary Health Centre may be established in each block. The State Government are examining the question of establishing second Primary Health Centres in the blocks in a phased manner, the blocks having a population of one lakh and more being selected for the establishment of second Primary Health Centres in the First Phase.

The total amounts allotted for the Primary Health Centres for the last two years, the current financial year and for the year 1973-74 are as follows :—

Year.	Amount. (IN LAKHS.)
1970-71	127.57
1971-72	177.10
1972-73	176.48
1973-74	181.15

Maternity Centres.

In maternity and child health services the emphasis is on ensuring the birth of a healthy child to a healthy mother and safeguarding the health of mother and child thereafter. For this purpose, at present mothers, when they are in the 5th month of pregnancy, are enrolled for ante-natal care. The ante-natal registration is done at the Primary Health Centres as well as at more than 3,800 maternity centres in major villages of each block.

Every would-be mother is given health check-up especially to detect any abnormality in her or in the lie of the foetus. Special emphasis is given to detect anaemia, signs of toxæmia and mal-nutrition in the pregnant woman. She is given proper advice on the diet to be taken and on her personal care during pregnancy. She is educated on infant feeding, immunisation



Families of workers receive E. S. I. health care.

schedule and childhood diseases and on family planning methods.

Natal services are mainly domiciliary. The Auxiliary Nurse Midwife visits the home of the expectant mothers at the time of delivery and conducts delivery by aspective techniques. She follows the infant for ten days after birth.

The Health Visitor supervises the work of Auxiliary Nurse Midwives and also takes active part in conducting ante-natal clinics at the various maternity centres. She refers such cases requiring further attention to the Medical Officer of the Primary Health Centre. She advises the mothers regarding prophylactic immunisation and actively participates in D. P.T. immunisation.

As per the Tamil Nadu Panchayats Act, 1958, it is the responsibility of the Panchayat Union Councils to open and maintain Maternity Centres. At present, Maternity Centres are established at the rate of one per ten thousand population. The total number of Maternity Centres as on 1st January 1972 is 38,770. The centres maintained by the Panchayat Union Councils are in receipt of a Government grant equivalent to two-thirds of the recurring expenditure incurred by them. A sum of Rs. 45 lakhs was spent on these centres during 1971-72, by way of grants, etc.

There are 68 Maternity Homes and 303 Maternity Centres functioning in the municipalities. They are in receipt of the Government grant equivalent to 25 per cent of the recurring expenditure incurred by them. During 1971-72, a sum of Rs. 6,59,617 was sanctioned for the purpose of the above grant.

Children Immunisation Programme.

The immunisation of pre-school children is being implemented in rural areas of this State from 1st October 1964 through the agency of Primary Health Centres. The children in the age group 0—5 years are taken up for immunisation with triple vaccine as a prophylactic against diptheria, tetanus and whooping cough, concentration being made on children under one year of age. Each child is given three doses of D.P.T. at intervals of one month between each dose. The target for immunisation is 900 children per Primary Health Centres per year. About 3.5 lakhs children have so far been immunised. To prevent blindness in children vitamin A capusuls are supplied.

Improvement of Nutritional Status of People.

The Nutrition Bureau of our State was started as early as 1964. It is equipped to conduct chemical

analysis of food and biological experiments. The objects of this Bureau are to find out the dietary habits and nutritional deficiencies prevalent in the State to make regular anthropometric survey, thereby establishing norms for the State and to advise on the nutrition programme.

The nutrition and diet survey is carried out in respect of all available pre-school children, ante-natal and post-natal mothers. So far clinical and diet surveys have been completed in the following blocks since June 1971 :—

1. Athoor (Madurai District).
2. Erumaipatti (Salem District).
3. Agastheeswaram (Kanyakumari District).
4. Villivakkam (Chingleput District).
5. Alangayam (North Arcot District).
6. Harur (Dharmapuri District).
7. Kodaikanal (Madurai District).
8. Kurinjipadi (South Arcot District).

9. Arantangi (Thanjavur District)

Different cheap nutrition recipes were tried utilising protein rich groundnut cake powder, roasted bengalgram, roasted greengram, roasted horsegram, wheat flour, C.S.M. and pea-nut butter either in combination or singly. Demonstrations on the preparation of such recipes were made to the trainees undergoing training in nutrition, to members of Mahalir Sangams, teachers in Balwadies and to the public in rural and urban areas utilising the mobile kitchen van.

Under kitchen demonstration programme, a total of 86 demonstrations were held during the period January to December 1972. Cheap recipes like groundnut cake powder, keeraikoottu, ragi pagoda, balahar wheat, pongal with groundnut oil cake powder, roasted bengalgram, conjee and ragi potato bajji were prepared and distributed, thus encouraging use of indigenous food products.

SUPPLEMENTARY FEEDING PROGRAMME :

This is in vogue in this State from 1950 onwards. The object of the programme is to combat malnutrition among pre-school children, expectant and nursing mothers who constitute the major segment of

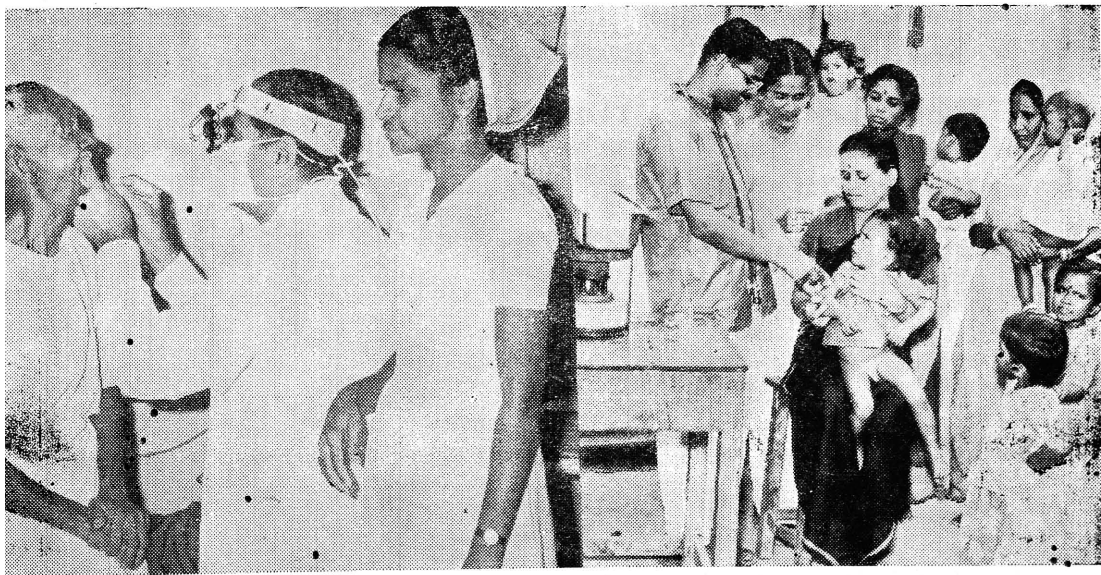
the most vulnerable group of population. At present the programme is being implemented with the assistance of CARE which donates as gift the required quantity of food commodities such as cornsoy milk and salad oil. During the year 1972, about 25 lakhs kgs. of food items were received from the CARE and distributed through 3,327 Primary Health and Maternity Centres.

SCHOOL HEALTH.

A scheme of medical check up for school children is in force in 18 primary health centres. As per the scheme, the Medical Officers of these selected Primary Health Centres examine 2,000 school children in the age group of 6-11 years, per annum. The school children showing signs of ill-health are supplied with medicines and diet supplements by the Medical Officers of the Primary Health Centres. In the cases where specialised treatment is necessary, they are referred to the nearby hospitals for treatment.

Two urban medical units have also been established at Tiruchirappalli and Coimbatore for implementing the scheme in these towns. There are two Medical Officers in these units and each of them examines 10,000 school children per annum and follow them up.

Health Care in Primary Health Centres is equally Comprehensive.



The Tamil Nadu Industrial Investment Corpn., Ltd.

The Tamil Nadu Industrial Investment Corporation is sponsored by the Government of Tamil Nadu to provide all types of financial assistance to industrial units in the State of Tamil Nadu and Pondicherry. The financial assistance is given to all types of units including proprietary, partnership and Joint-stock companies. Special schemes have been framed to help Technocrats and Rural Medical and Veterinary Practitioners. Concessional terms have also been offered to backward areas and backward districts.

The terms and conditions of assistance

Minimum: Rs. 1,00,000 (for small-scale industries : Rs. 25,000).

For Technocrats and Rural Medical Practitioners: Rs. 10,000

Maximum: Rs. 25,00,000 (Rs. 2 lakhs and Rs. 1 lakh in the case of Technocrats and Rural Medical Practitioners respectively).

Rate of Interest

9.75 per cent in the case of major and medium-scale industries.

7 per cent in the case of units in backward areas and for Technocrats and Rural Medical and Veterinary Practitioners.

8½ per cent in the case of other small-scale industries.

Initial repayment holiday

2 years in the case of ordinary industries.

Up to 4 years in the case of units in backward districts.

Amortisation period

Ranging from 8 to 10 years.

Special concessional terms are available to small-scale industries, technocrats, rural medical and veterinary practitioners.

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HAS HOMOEOPATHY AN ANSWER TO ALLERGY DISEASES?

No system of medicine can boast of being perfect. What is lacking in one might be found in another. A striking instance is of Asthma and other allergy diseases which 'have puzzled practitioners of allopathy and tormented their patients'. While eminent allopathic physicians have accepted this as a 'reproach to the sciences of medicine', homoeopaths claim to have an effective cure for these diseases.

Interesting indeed are views of an eminent homoeopath, on allergy diseases and how best they could be treated.

What he explained was that human body had the capacity to develop specific resistance to various infections by forming anti-bodies. This is what he described as immune-response. Not confined to harmful infecting bacteria alone, immune-response may as well be created against otherwise harmless non-living, organic substances. Reaction to harmless agents is 'allergy' or hypersensitivity. In medical terminology, these foreign bodies or agents are known as 'allergens' or 'antigens' against which the human body tends to defend itself through various reactions. An exaggerated and out-of-proportion response follows in its wake. How and why it occurs involves complicated processes. Very often it is due to inherited factors. In simple words, if your father or forefathers suffered from asthma or any other allergy disease, there are greater chances of your getting it too.

Besides, common allergic ailments are seen in every-day life. There is a high incidence of drug allergy and allergic reactions to environmental pollution. Today a much larger number of persons suffer from allergy and connected diseases than what was 30-40 years ago. Unfortunately the modern allopathic system does not provide a specific and satisfactory treatment. At best it is palliative and tends to suppress the disease. Of some use, however, are the desensitization techniques which

follow several skin tests to bring out offending factors to which the patient is allergic. Once these factors are detected, the patient can be desensitized through small doses of injections prepared from allergy-producing material. The eminent homoeopath, however, claims that homoeopathy had one of the best curative treatments for such diseases.

Common allergy diseases like allergic rhinitis, allergic dermatitis, asthma and urticaria (nettle-rash) can be treated and cured for ever by proper homoeopathic treatment. If allopathic medicines, more so the steroid drugs, had not been

An eminent homoeopath asserts that homoeopathy has the best curative treatments for allergy diseases whereas the modern allopathic system does not provide a specific and satisfactory treatment.

administered earlier, response is quicker. Those who have had steroid therapy generally do not respond to homoeopathic treatment. For instance, in children, asthmatic conditions generally disappear at puberty. Homoeopathic treatment, however, ensures a full and quicker cure. Asthma catches a person rather young—say at the age of 10 or so. Its victims are more boys than girls.

Homoeopathy best remedy for Tonsillitis.

If tonsillitis is treated with antibiotics or if tonsils are removed surgically in children with allergic family history, reactions in the lower parts of breathing system generally

follow in its wake. Children of allergic parents should, therefore, as far as possible be given homoeopathic treatment. Antibiotics should be restricted only to severe infections or when suitable homoeopathic treatment cannot be given. Such children suffer from frequent attacks of tonsillitis and do not respond to antibiotics well. Far more troublesome are the asthmatic attacks which occur in the fourth decade of life. Homoeopaths claim that such cases can be treated best by their system. Palliation and suppression of disease has to be avoided unless homoeopathic remedies fail to elicit response. This will help save a good deal of suffering and expenditure too.

Drug reactions.

Since synthetic drugs are extensively used these days, incidence of adverse reaction to these drugs has gone up considerably. Continued introduction of new drugs has made the matters worse. Most of the reactions generally result from individual idiosyncrasy and are, therefore, allergic in character. Avoiding modern drugs will prevent discomfort and suffering, specially in every day infections. For example, infections of the upper breathing parts (nose, throat and wind-pipe), like common cold, sinusitis, tonsillitis and the like form a major part of diseases treated in the out-doors. Homoeopathy offers simple and effective remedy for all these diseases. It also prevents indirectly drug allergy, besides other toxic effects.

Protagonists of homoeopathy put forward strong plea that dispensaries and hospitals at various levels should be manned by competent homoeopathic physicians along with allopathic doctors. Allopathic physicians too should be given intensive orientation courses on the use of simple homoeopathic remedies in common cases of allergy,

For economy, efficiency and alleviation of human suffering to the maximum extent possible, this supplementing of effort is a must. ☺

KEY TO GOOD HEALTH IN A CHILD

The first key to good health of a child is adequate nutrition. This depends on the health of the mother too. Before birth one infant gets its food, warmth and protection from the mother. Adequate and well-balanced diet for the mother will, therefore, ensure a good foundation for physical and mental development and well-being of the infant.

After birth, the baby needs nutritious diet. Mother's milk is an ideal food for the infant. For some reason, if mother is not able to breastfeed her child, good quality milk given at regular intervals can make up for it. Motherly affection and emotional closeness are, however, a must to avoid behavioural problems in later years.

As the child grows, he needs a lot of protein, extra supply of minerals, iron and vitamins 'C' and 'D'. Discontinuance of breastmilk will call for supplementary feeding—Milk, fruit juice, vegetables, pulses and the like. Poor nutrition affects growth and development of the child. It may as well afflict the child with one or the other disease.

Food articles contain five types of nutrients, namely, protein, fats, carbohydrates, mineral salts and vitamins. Body requires all these nutrients and in adequate proportions too. No single item of food can provide all the nutrients at a time. Variety in the diet is the only way to procure proper nourishment. Anaemia, Scurvy, Beri Beri and Night-blindness are some of the diseases caused by not properly balanced diet.

This is more so in the case of growing children. The children often suffer from a lack of adequate proteins and also lack of adequate calories. As a result, what little protein they do get is utilised for the production of calories. Hence this diversion of protein aggravates the protein malnutrition. Hence they need some supplementary food stuffs of sufficient nutritive value.

Bran and groundnut oil cake, to a great extent, fulfil these requirements. They are also cheaply and easily available everywhere. They can be used as supplementary food stuffs. A few varieties of preparations that

can be made out of them are given below.

GROUND NUT OIL CAKE.

1. Toffee.

Roasted bengalgram—40 gms.

Groundnut oil cake powder—25 gms.

Jaggery—50 gms.

Jaggery syrup is made by adding 5·10 ml of water to 50 gms. of jaggery and heating it till it reaches the thread stage. This can be tested by drawing it between two fingers, it will come like a thread. Add powdered groundnut oil cake, roasted bengalgram and keep on stirring 3-4 minutes. Then pour it into greased plate. When cool cut into required bits.

2. Rice Pongal.

Rice—56 gms.

Greengram dhal—28 gms.

Groundnut oil cake powder—15 gms.

Condiments (Ginger, pepper, cunnia) oil—10 gms.

The cleaned rice and dhal are cooked in water with salt till the grains are soft and becomes semi solid. Then add the groundnut oil cake powder and stir it well, allow it to cook for 2 minutes. Lastly season it with the condiments (pepper, cumin and ginger) Rice bran.

1. Laddu :

Roasted bengalgram—40 gms.

Roasted groundnut—10 gms.

Rice bran—15 gms.

Jaggery—25 gms.

Remove the skin from roasted groundnuts and crush coarsely. Make jaggery syrups and add the roasted bengalgram, rice bran and crushed groundnuts in it. Mix well and make into balls.

2. Pogoda.

Maize flour—40 gms.

Onions—2.

Bengalgram or green gram flour—40 gms.

Green chillies—4.

Salt to taste.

Rice bran—25 gms.

Mix chopped onions and green chillies with the other ingredients adding enough water to form a thick batter. Small portions are shaped and fried in deep oil till brown.

The nutritive value of 100 gms. of rice bran and groundnut oil cake are given below :—

Rice Bran—

Calories—393

Carbohydrate—48·4 gms.

Protein—13·5 gms.

Fat—16·2 gms.

Minerals—6·6 mgms.

Calcium—67 mgms.

Phosphorous—1410 gms.

Iron—35 mgms.

Thignishe—2·7 mgms.

Ribo flavin—0·48 mgms.

Groundnut Oil Cake :

Calories—386

Carbohydrate—38·8 gms.

Protein—40·9 gms.

Fat—7·4 gms.

Minerals—2·5 mgms.

Calcium—213 mgms.

Phosphorous—548 mgms.

Demonstrations for groundnut oil cake preparations were conducted in various Mathar Sangams under the Women's Welfare Department in the City.

Besides a balanced diet, a child needs protection against communicable diseases through immunization which should be done early in life and repeated periodically later.

Another priority for hygienic environments is a safe water supply free from anything harmful to the body. Good lighting, ventilation and protection against heat, cold, and dust are the other requisites of a clean and happy home.

Accidents which generally occur in the home like falls, cuts, burns drowning, poisoning, etc., should be avoided. Care has to be taken to prevent small children from entering the kitchen where most of the fire accidents occur. Match-boxes should be placed beyond their reach. So is for electric plugs and other gadgets.

Small Family.

Some health problems also arise directly from the process of human reproduction. When children are born with proper spacing, they will be better cared for. Limiting of family size results in lowering infant and maternal mortality and morbidity too.

ANATOMY OF RURAL ELECTRI- FICATION EXTENSION IN ALANGA- NALLUR AND VADIPATTI BLOCKS IN MADURAI DISTRICT

This scheme envisages extension of supply to 360 numbers of agricultural pumpsets, 150 numbers of L.T. industrial and 2,470 numbers of domestic services, 290 numbers of commercial and 1,130 numbers of street lights in 52 Census Villages in Alanganallur and Vadipatti Blocks of Nilakkottai taluk in Madurai district except two urban panchayats each in the two blocks. All the census villages in the two Blocks have been covered in the scheme.

Madurai district has an area of about 12,467 Square Km. and a population of over 32 lakhs. All the towns, villages, hamlets and Harijan colonies in the district have been electrified. There are 8 taluks in Madurai district, out of which Nilakkottai is one taluk. There are 4 blocks in Nilakkottai taluk.

1. Vadipatti.
2. Alanganallur.
3. Batlagundu.
4. Nilakkottai.

The present project report covers the first two blocks mentioned above. There are 52 census villages in the blocks (excluding two urban census villages, viz., Sholavandan and Alanganallur). There are at present 1,659 agricultural services, 3,935 domestic services, 644 commercial services, 110 Industrial L.T. Services and 2,031 street lights.

The present project report for Alanganallur and Vadipatti blocks of Nilakkottai Taluk, Madurai District covers further extension of supply to 360 Nos. of agricultural, 150 Nos. of LT. Industries and 2,470 Nos. of domestic services 290 Nos. of Commercial and 110. Nos. of street lights within 5 years. The State Ground Water Directorate has certified that there is ground water potential for energising 460 wells in these two blocks and the number of pumpsets proposed in this project (viz. 360 nos.) is well within this ceiling.

The Project Report has been prepared on the principle of area coverage and intensive development of the area selected. Hence a composite Project Report has been prepared comprising the existing infrastructure in the shape of HT Distribution lines, transformers

agricultural services, LT Industries, etc., as well as the additional inputs in the shape of new HT and LT lines, agricultural pumpsets, LT. Industries etc. The other Departments in the area have been consulted to the extent possible in order to coordinate with their programmes.

The scheme report is for a total period of 10 years and has been prepared taking into account the depreciated cost of the existing distribution in the Alanganallur and Vadipatti blocks in Nilakkottai taluk based on the present market value less depreciation as per the tour note of Chairman, Rural Electrification Corporation for the period from 21st to 26th March, 1972 and the same has been shown as capital at the beginning of the first year in the financial statement provision for contingencies and centage has been made for existing assets also.

In this connection, it is to be pointed out that by adopting the market value less depreciation, the calculated depreciated value of the existing assets is more than the real book value less depreciation. However, this method has been adopted in preparation of the project report to avoid delay. The financial returns arrived at on the above basis in this Project Report are, therefore, conservative and actual returns are expected to be much higher than indicated.

For the calculation of Gross Revenue cost of power and miscellaneous revenue, half the services connected during the year and all the services of the previous year have been taken into consideration.

Capital outlay is Rs. 37.735 lakhs at the end of fifth year as against Rs. 40.625 at the end of the tenth year.

Energy Consumption.

In assessing the energy consumption for the various categories of loads actual average consumption per service now being obtained in the area has been adopted. The total energy loss in Distribution Transformers and LT lines has been taken as 10 per cent.

Cost of energy :

The cost of energy on the HT end of distribution has been taken as 6.75 paise per unit based on the average for 3 years (i.e.) 6.63 paise for 1969-70 and 6.70 paise for 1970-71 and 6.91 paise for 1971-72. The depreciation and operation and maintenance expenses have been assumed as 3 per cent each on the capital outlay at the beginning of the year and $1\frac{1}{2}$ per cent on the capital outlay during the year.

Gross Revenue :

In assessing the anticipated revenue the actual average consumption in the area for a normal year have been adopted for the different category of loads, and the tariffs in vogue have been applied to this consumption for arriving at the Gross Revenue.

Payment of Interest :

The interest on the capital is worked out at 6 per cent on the capital outlay at the beginning of the year and 3 per cent on the capital outlay during the year.

General :

The extensions envisaged in the Project Report are from existing 11KV lines emanating from 110/11 KV Ramarajapuram sub-station and the 33-11 KV Samayanallur SS in this area.

The Project is for the feeding clusters of pumpsets at the same time meeting the demands of domestic and industrial loads in that area.

Return :

The anticipated nett revenue return at the end of the 5th year and 10th year are 5.758 per cent and 6.704 per cent respectively.

The approximate and additional acreage in the district that would be benefited when the project is completed will be about 1,500 acres by the end of the 5th year and 1,840 acres at the end of the 10th year.

Voltage Regulation :

Duplicate feeders as indicated below are provided for better voltage regulation :

1. Samayanallur-Parai 11 KV Feeder—12.85 KM.

2. Ramarajapuram- Katchai-patty 11 KV-Feeder—8.70 KM.

Cost of the above improvement is included in the capital cost of the project report. The voltage regulation will be within permissible limits as to be seen in the list of feeders given below :—

	PER CENT.
1 Ramarajapuram—The-thur 11 KV feeder.	5.33
2 Ramarajapuram—Thi-dian 11 KV Feeder.	7.45
3 Samayanallur—Shola-vandan 11 KV Feeder.	3.84
4 Samayanallur—Alanga-nallur 11 KV Feeder.	8.16
5 Samayanallur—Andi-patty 11 KV Feeder.	6.85
6 Samayanallur—Parai 11 KV Feeder.	7.35
7 Ramarajapuram—Katchaikatti 11 KV Feeder.	5.8

Source of Supply :

The loads covered by this scheme will be fed off from the sub-stations at Ramarajapuram and Samayanallur. The present capacity of Ramarajapuram sub-station is 2×5 MVA as against the maximum demand of 4.7 MVA and that of Samayanallur is 2×3 MVA against the maximum demand of 3.7 MVA. So the sub-station capacity is adequate to supply the proposed loads.

The Project estimate has been drawn up based on the Rural Electrification Standards.

NEW STRATEGY ON FAMILY PLANNING

A 10 point programme to boost Family Planning has been taken up under the new strategy. The steps being taken are :

* Family Planning is being made an integral part of total health care.

* A new motivational strategy seeking to present Family Planning as a part of the total welfare programme comprises : higher age of marriage for girls with increased emphasis on women's education ; better care for the health of mothers and children ; more opportunities for education and upbringing of children ; and prevention of fragmentation of land holdings.

* Emphasis on special programmes like post-partum, which means adoption of any method of Family Planning immediately after child birth by wife or the husband : and the intensive district programme.

* Emphasis on better and indigenously produced contraceptives.

* Emphasis on large-scale vasectomy camps and keeping therein persons undergoing sterilisation for at least 48 hours to ensure adequate follow-up and post-operative care.

* Concentration on couples in the reproductive age group who have yet to adopt Family Planning.

* Special attention to States where the programme has lagged behind.

* Introducing population education in the school curricula, adult literacy programmes as also programmes for non-student youth.

* Launching motivational and service campaigns for the benefit of economically backward and socially deprived sections of society.

* Better and intensive training facilities for persons engaged in the Family Planning work.

These are the 'ten commandments' which seek to popularise Family Planning and help reduce birthrate from 37.1 to 32 per thousand of population in about two years.

COMMITMENT TO SOCIAL OBJECTIVES

Just as the problems of change, of modernisation and of socio-economic transformation are many-sided, so the solutions to these problems have to be many-sided too. We cannot isolate one factor in the process of change and pin on it the responsibility for success or failure. For example, it would be unrealistic to suggest that we have a big implementation gap solely because we have administrative structure that does not respond to the challenges of development. There are many other factors in the contemporary situation which are responsible for our difficulties. It would not be fair to ignore this fact. It would also not be fair to ignore the larger socio-economic and political environment in which the administrative system functions.

Nevertheless, there is no getting away from the fact that much in the administrative system that could and should have been changed, was not changed. And this is not due primarily to lack of will on the part of what is contemptuously described as the political establishment. In spite of all the difficulties, the political leadership of the country has not fought shy of introducing structural changes in society. I would mention the recent decision of the Government to take over the wholesale trade in foodgrains. This is not something that a Government struggling desperately for safety and survival would do.

The covert sniping by the civil services at political parties has deep historical roots. The normal refrain of a reasonably efficient and upright civil servant is somewhat as follows: We are prepared to work according to rules. We are objective. We are neutral as between contending individuals and interests. We only wish to adhere to the law. And we can do a lot of good if we are allowed to function freely, without any pressure, without influences of one kind or another. But we are helpless.

ADMINIS- TRATION'S ROLL IN CHANGING MILIEU

D. P. DHAR,
*Minister for Planning,
Govt. of India.*

The politicians mess around. Their only concern is to help people who support them. The country could go to hell for all they cared.

This view of politics as something inherently evil, and the politician as the very incarnation of the devil, goes back to the days of the Raj when it was good form for civil servants to describe politicians as mere agitators and malcontents. No doubt, there were many distinguished officers who stood up and who even helped the nationalist movement. But, by and large, there was this tendency to think of politics as something anti-social. The autonomy of the civil service and the sanctity of its rules and procedures was, therefore, to become a deeply ingrained habit of mind. It acquired the halo of a religious doctrine which was not to be questioned. This kind of an attitude and this kind of behaviour pattern did not disappear merely because the administrative services had to function in an independent India with democratic parliamentary institutions.

New and even more difficult problems lay beyond. Those problems had little to do with the outlook, the skills, the attitudes, and the values which had characterised the steel frame. The problems of modernisation of the social and economic structure appeared on our social horizon with a suddenness and rapidity unknown in our history. Now tasks came into existence. Even the old tasks, like that of maintained law and order or collecting taxes, had to be re-defined. The whole perspective of administration changed. An opportunity existed for re-designing the system. But we merely changed the labels. And we stubbornly stuck to the old structures, old formulae, old rituals and old standards of apportioning praise and blame.

CRISIS IN ADMINISTRATIVE SYSTEM.

The result is nothing short of a crisis in the administrative system today. The conception of the administrative system as a kind of an autonomous corporation within the State, with its own rules and privileges, belongs to the middle ages. Just as the Church had its dogmas, the civil service too had its dogmas. One of the most venerable was the theory of neutrality. This was its most effective theoretical armour. What have these concepts of the place and of the role of civil services in modernising society led to? They have not led to any sustained and powerful movement within the civil services for adapting themselves to changing social, political and economic environment. There has undoubtedly been some marginal embroidery—some new courses, some new institutions, some new departments in the Government.

It would appear from the newspapers that the basic problem of administrative reforms in India is pay scales. The various services associations do not appear to be concerned with the basic problems of citizens with which their members have to deal. Their question simply is, who gets what in terms of status, remuneration and privilege. Their question is not who does what for the country.

REVOLUTIONARY CHANGE NEEDED

The Prime Minister once said that what we need is a "revolution in the administrative system without which no enduring change can be brought about in any field". Before this revolution can take place, the thinking of the services must undergo a profound transformation. Instead of regarding themselves as members of tightly knit corporations concerned with maximising their gains in a perpetual war against their fellow competitors, they have to think of themselves as instruments of socio-economic transformation. Unless this revolution in thinking occurs, we cannot bring about the reforms we badly need. It is not easy to persuade people that the process of change in traditional societies requires not neutrality but commitment. It is not easy to shake people out of their comfortable illusion

about the permanence of status and privilege in a fast changing world.

It does not profit me as railway user to know that the Railway Board has been reorganised if I have to stand in the queue for the same duration of time as I stood before the Railway Board was reorganised. This is the ultimate test. The fifth plan recognises the vital role of the administrative set up in fulfilling the objectives of the Plan. It calls for basic changes in the administrative structure.

If the existing framework or rules, procedures and regulations is invested with a mystique of irreproachable wisdom, then all talk about change becomes a ritual, a pose, a mannerism and a retreat into the world of make-believe.

effective in economic and social terms. This involves the whole methodology of formulating a district plan in a perspective of regional State and national development.

Do we give our officers the skills and the techniques to attempt this kind of work? Do we train them to innovate? Do we train them to appraise investment? Do we train them to evaluate performance? We do none of these things. And yet we expect that the district officer would be the leader of the district development team. We expect him to co-ordinate. We forget that leadership cannot be built on principles of heredity. Today leadership is the function of knowledge. The kind of knowledge that was appropriate to conditions 20 years ago is no longer appropriate.

Commitment to a new social and economic order has to be consciously built and nurtured through the careers of our civil servants. Commitment to a doctrine or to a set of methods is not so important as commitment to the basic goals of social and economic transformation of our society. It has become more important and imperative in view of the changed circumstances we live in and welfare ideology we are wedded to.

DISTRICT ADMINISTRATION.

For instance we may look at the training that is imparted to enable officers to function in the districts. We know how important district administration is because what happens in the districts touches the lives of millions of people.

Development at the district level is not a matter of conforming to certain rules. It is a question of comprehending in their totality the relationship between a large number of factors. It is a matter of asking systematically questions about the resource endowment, questions about the alternative types of investment, about the existing levels of productivity, about the kind of responses that need to be generated to external and internal stimuli and about the kind of organisations that are necessary to make such responses

SOCIO-ECONOMIC FACTORS AND MERIT.

Take the question of minorities. The problems of minorities are often seen only in terms of communal disturbances. All our theories about communal tensions have a ring of banal simplicity.

Pandit Jawaharlal Nehru repeatedly described communal violence as a manifestation of social and political reaction. In our conditions what appears as a religious conflict is largely an expression of the deeper cleavages between economic classes. Exclusive reliance on the Criminal Procedure Code cannot give to an officer the kind of insight he needs for dealing with law and order problems in a complex social and economic

environment. An understanding of the sociology of communalism is indispensable for an officer who has to function in our society and to deal with the day-to-day problems of relationship between the majority and the minority communities.

One of the sources of insecurity and fear among the minorities is that their members have very inadequate representation in the forces entrusted with the maintenance of law and order. The answer to such a problem is likely to be that we recruit people on merit and not on any other ground.

CONCEPT OF MERIT

Like the concept of neutrality, the concept of merit has been drained off all its sociological and historical content. It becomes a lever in the hands of the strong to buttress their position at the expense of the weak. The operation of the principle proceeds without reference to the larger national objective of integration. We have to bring into the national mainstream sections, classes, communities which have led a deprived life, a life of fear, of subjugation to dominant interests, and of lack of opportunities to grow. A concept of merit which keeps out such communities from public services and from other areas of economic and social activity is a retrogressive concept.

A similar situation obtains in the implementation of programmes for the welfare of backward classes and tribes.

Some time ago, a Committee on Untouchability went into the question of inadequacy of existing law for punishment of offences relating to untouchability. It found that very few prosecutions had been launched under the existing law. The stock reply in such cases is that there is no evidence. Our jurisprudence requires independent evidence. Our social system makes such evidence difficult to obtain. In such a situation discrimination against the weak and the poor goes on.

Once again, it is a manifestation of conflicts between different social and economic classes. But we take refuge behind the conventional explanation of the caste system and of the sanctity

of the Law of Evidence. What should an administrator do in the context of these social tensions? Does he have no role other than to find elaborate reasons for not being able to enforce the law? How does the training that he receives equip him to deal with human situations of such immense social significance?

SOCIAL POLICY OBJECTIVES PARAMOUNT.

This brings me to the question of motivation for change. The concept of neutrality which has governed the thinking of the administrative services of all varieties is irrelevant to the conditions of under-development. In a democratic society, legislation embodies social policy. Therefore, what becomes important is not law in itself, but the broader objectives of social policy that inform the legislative process.

The civil services play an important part in preparing legislation which ultimately is approved or disapproved by the elected representatives of the people. Later on, the law is administered by the civil servants, sometimes in a purely executive capacity and sometimes with quasi-judicial functions. In their actions the civil servants reveal what is the kind of society they would like to see established.

The basic problems today involve clear choices between different sets of objectives and goals. So unless and intellectual and emotional indetermination with the basic goals of planning takes place among our civil servants, we cannot move ahead at a fast pace.

One of the ways in which we may try to build this motivation for change among our young officers is by exposing them systematically to the thought of Mahatma Gandhi and Pandit Nehru. They laid the foundations for a new society. Panditji, both before and after independence, constantly struggled to inculcate among our people the values of a free and modern society. Our young officers should study Gandhiji and Pandit Nehru, not in a spirit of uncritical adulation, but for gaining a deeper understanding of the historical forces operating in our country, of the effort and sacrifice that need to be made to build a modern society and of the obligation of leaderships in our contemporary situation.

Commitment to a new social and economic order has to be consciously built and nurtured through the careers of our civil servants. Not commitment to a doctrine, or to a set of methods, but certainly commitment to the basic goals of social and economic transformation of our society.

MEDICAL TERMINATION OF PREGNANCY.

CERTIFICATE OF REGISTRATION FOR MEDICAL PRACTITIONERS.

The Medical Termination of Pregnancy Act, 1971 has come into force with effect from 1st April 1972 in Tamil Nadu along with the other States in the country. This Act provides any pregnant woman to approach a Registered Medical Practitioner to have her pregnancy terminated under any of the reasons given therein.

As per the Medical Termination of Pregnancy Rules, 1972, only a Registered Medical Practitioner, who possesses the Certificate of Registration issued by the Board constituted by the State Government under the said Act, could undertake termination of pregnancies. The Government of Tamil Nadu have already constituted a Board with the Director of Health Services and Family Planning, 49 Pantheon Road, Egmore, Madras-8 as its Chairman for the Certification of the Registered Medical Practitioners etc.

A Registered Medical Practitioner shall make an application in Form 'A' prescribed under the Medical Termination of Pregnancy Rules, 1972 to the Director of Health Services and Family Planning in the above address for the registration of his name for the issue of a certificate. The Board under the Chairmanship of the Director of Health Services and Family Planning will verify the information contained in the application and issue to the applicant a Certificate in Form 'B'.

The Registered Medical Practitioners who want to obtain the Certificate of Registration may apply to the Director of Health Services and Family Planning for further details, if any, and for sending a copy of the application in Form 'A'.

"To-day Tamil Nadu is a State keenly conscious of its role in the general economic development of the country. It ranks tenth in respect of area, seventh in respect of population, but third in respect of industrial development among the States in India. Further during the last five or six years, Tamil Nadu has made spectacular achievements in population control, agricultural development, industrial advancement and most important, social welfare activities."

A PEEP INTO THE ECONOMIC DEVELOPMENT OF TAMIL NADU

Tamil Nadu, today, is one of the progressive States of India. Situated at the South-east extremity of the Indian peninsula, Tamil Nadu ranks tenth in respect of area and seventh in respect of population among the various States of the country. The area of the State is 129,901 sq. kilometres and its population, according to the latest census of 1971, is provisionally estimated at 41.10 millions.

In March 1967, when the new ministry under our late beloved Anna took office in the State, the economic climate was hardly encouraging. There were acute food problem, steep rise in prices and industry was badly affected by an unprecedented recession. Now, Tamil Nadu has made spectacular achievements in population control, agricultural development, industrial advancement and most important, social welfare activities. It is a pioneer State in introducing Planning Commission at State level for quickening the pace of economic development. We all know that this is a dynamic approach as compared to other States.

On the food front.

The strength and prosperity of the State depends on the extent of success achieved on the farm front. Accordingly, the new Government

in 1967 took various measures for tackling the food problem. The State gives due importance on diversification and stepping up of agricultural production to strengthen the base of the economy. Both extensive and intensive cultivation programmes have recorded significant success in maximising agricultural production during the last five years.

The Green Revolution has done its best in regard to rice in the

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State. Green Revolution is nothing but a technological break-through in agriculture which is made up of the introduction of new and high-yielding varieties of improved seeds, increased application of the recommended doses of fertilisers and extension of the use of pesticides so that the crop produced can be saved from insects. The expenditure of the State Government on agricultural development is given below :

For 1973-74 the State's budgeted outlay on agriculture is Rs. 22.36 crores. In revised estimate, 1972-73 a sum of Rs. 12.33 crores and in budget estimate 1973-74, Rs. 12.44 crores have been allocated for capital outlay. On irrigation works under various categories, the Government has allotted nearly Rs. 55 crores for the growth of agriculture. This shows that how far Tamil Nadu Government have invested in the agricultural sector.

Total area under foodgrains cultivation rose marginally from 5.1 million hectares to 5.2 million hectares between 1961-62 and 1970-71. In 1961-62 total production of foodgrains stood at 57.03 lakh tons which rose to 70.34 lakh tons in 1970-71, registering a 23 per cent growth. In 1971-72 the food grains production was 70.45 lakh tons which is expected to be stood at 72.02 lakh tons in 1972-73. Increased agricultural productivity leads to an increase in the food production. It depends on a large number of factors such as use of high-yielding varieties of seeds, pest control, introduction of multiple cropping, increased input of fertilisers, provision of adequate and timely credit to the farmers, adoption of modern agricultural implements, etc., which very much influence agricultural production. The State provides all these adequate facilities to farmers for increasing agricultural output. The recent removal of food controls is a boon to agriculturists for increasing production on a large-scale.

Production of certain essential agricultural raw-materials such as cotton, sugarcane and groundnut is steadily improving. The State has an exportable surplus of a few plantation crops—tea, coffee, cashew and livestock products. Among the States of India, it occupies an important place in exporting hides and skins. There is also a surplus in sugar, cement and textile yarn.

Large-scale programmes of institutional financing have been initiated during the last five years. Luckily, Tamil Nadu has an efficient organisational structure to meet the needs of development schemes. Nationalised Commercial Banks, Land Mortgage Banks and the Agricultural Refinance Corporation have all been strictly asked for

providing adequate and liberal credit facilities to farmers. "As a result of such ambitious programmes, today the deficit State has become a surplus State with exportable quantity. Food is no longer a problem in the State."

Industrial development

Public sector undertakings have played an important role in the industrial development of the State. Major industries are automobile products, electrical goods, chemical fertilisers and plastics. Tamil Nadu ranks third among the industrially developed States of India. Even though the State is not endowed with large quantity of mineral resources, it has made a rapid progress in the industrial field. This has been mainly due to the favourable economic climate, political stability, efficient administration, efficient industrial entrepreneurs and technocrats, incentives for starting new industries given by the Government and other facilities. The State has invested much for its industrial development during the last five years. It can be seen from the table given below :—

<i>• Years.</i>	<i>Rupees in crores.</i>
1966-67	2.95
1967-68	5.97
1968-69	6.32
1969-70	4.87
1970-71	8.41
1971-72	12.47

In 1966-67, the investment on the industrial front was Rs. 2.95 crores which rose to Rs. 12.47 crores in 1971-72.

With 1960 as the base, the index of industrial production stood at 172.8 in 1969 which rose to 182.5 in 1970 and further to 188.9 in 1971. For 1972, the index figure for industrial production is provisionally estimated at 192.5. This portrays that how far Tamil Nadu has made a significant progress in the industrial growth during the preceding five years. The State has played an important role in establishing production units, either directly or in the form of co-operatives, in respect of a certain essential commodities such as

yarn, sugar, cement and bricks and through the development corporations of the respective industries.

The Tamil Nadu Industrial Development Corporation (TIDC) was established with the task of setting up and running of public sector ventures owned by the State Government. It has now become an agency for attracting, introducing and promoting participation by entrepreneurs in raw industries and for securing necessary capital from traditional capital markets.

The establishment of the Madras Refineries and the Madras Fertilisers in Manali near Madras, provides the nucleus of a new large-scale developmental complex in the State. New centres of industrial development in the State would be Manali and Neyveli and Tuticorin will be the third area where the new major harbour is being developed. As a result of the dynamic approach of Tamil Nadu to development a new sector known as the joint sector has also emerged.

A fertiliser plant has been set up by the Southern Petro-Chemical Company at Tuticorin. It involves an investment of Rs. 7.2 crores. There are good chances in the State for developing the salt and marine chemical industries due to its long-coast line. With regard to the State sector, other areas of new development are the steel complex at Salem and the continuous casting plant at Arkonam. The achievement of the Salem Steel Plant is a landmark in the industrial programme of Tamil Nadu.

The State Government provides top priority to relieving the distress caused by the crisis in the textile industry. With a view to help the cotton textile industry some concessions such as reduction in the surcharge on electricity rates, postponement of loan-repayment, provision of working capital to sick, etc., were given in 1969. The setting up of the State Textile Corporation is to take over and run viable units which have closed due to management deficiencies.

There are remarkable achievements in small-scale industries sector also. The Tamil Nadu Small Industries Corporation Limited was set up in 1965 for spreading up

The Green Revolution has done its best in regard to rice production in the State. The State has an exportable surplus of a few plantation crops such as tea, coffee, cashew and livestock products. It occupies a predominant place of pride among the States in India in exporting hides and skins. Surplus has also been registered in sugar, cement and textile yarn productions.

small-scale units throughout the State. The Tamil Nadu Small Industries Development Corporation was inaugurated in May 1970 with a view to provide each and every assistance to small-scale industries. The Industrial Estate at Guindy is well-known throughout the country and abroad. The Ambattur Industrial Estate is also set up with improvements suggested by the experience of Guindy.

Besides, a progressive entrepreneurial class has played a crucial role in diversification of the State's economy during the last three plan periods. Excellent facilities such as securing licence, power, water, transport and communications, institutional financing and supply of essential raw materials, technical education, etc., are available to entrepreneurs who came forward for setting up of new industries in the State. The Directorate of Industries and Commerce also provides a variety of assistance through schemes meant for industrialists establishing small-scale units.

"The agricultural and industrial development of Tamil Nadu is part and parcel of the general economic development in which the improvement of living standards stands out as a measurable

achievement". For example, the development of electric power is indispensable for economic growth. The high rate of utilisation of power for agricultural purposes is a remarkable feature of the State's grid. Regarding the utilisation of power the State occupies an important place. In the entire country, the tempo of rural electrification in Tamil Nadu has made it the leading State in this field.

The State has power development schemes on hand and those under consideration from the point of view of the long-term, will undoubtedly generate adequate capacities to enable the State substantially to meet all its demands for power.

The State Planning Commission.

The State Planning Commission is entrusted with the responsibility of improving welfare activities in Tamil Nadu. It pays due emphasis in allocating adequate resources for extension of social services along with investment in agriculture and industry. There are schools, colleges, Polytechnics and technical training Institutes, hospitals, dispensaries, health centres and transport and communication facilities in the state. Rs. 41.17 crores will be spent in the budget estimate, 1973-74 on medical and health services including family planning as against Rs. 38.91 crores in the revised estimate, 1972-73. In 1966-67 the expenditure on education was Rs. 43.86 crores which rose to Rs. 95.82 crores in revised estimate 1972-73 and Rs. 97.23 crores in budget estimate 1973-74. For creation of housing facilities, the plan provides Rs. 7.08 crores in 1973-74. The aim of these huge investment is to raise the quality of the human resources in the state. Family Planning is the most vital programme of population control in Tamil Nadu.

SOCIAL WELFARE ACTIVITIES

Keeping the goal of establishing an egalitarian social order based on science, the State has launched upon various social welfare activities. They are, abolition of beggary,

The agricultural and industrial development of Tamil Nadu is part and parcel of the general economic development in which the improvement of living standard stands out as a measurable achievement. Further, keeping in view the setting-up of an egalitarian society, the State has embarked upon various social welfare schemes such as abolition of beggary through Beggar Rehabilitation Homes, Free Eye Camp Campaign, Slum Clearance Board, etc.

Eye relief project, Slum Clearance scheme, relief for weavers, etc. Recently, the social backwardness among the backward classes has been removed and recommendations of the Backward Classes Commission for improving the living standards of this section are under implementation.

FULL AUTONOMY FOR STATES

Today, Tamil Nadu all in all, is a State keenly conscious of its role in the general economic development of the country. If adequate financial resources are available, undoubtedly, Tamil Nadu would be a self-reliant state. Tamil Nadu has been stressing that all States should have full autonomy. "The relationship between the States and the Centre should not depend merely on the personalities who are at the helm of affairs in the States and the Centre, but should be strengthened, stabilised and incorporated on such a basis in the constitution. The constitution should be suitably amended for this".

SALIENT FEATURES OF THE REPORT ON WORKING OF TAMIL NADU SHOPS AND ESTABLISHMENT ACT, 1947. FOR THE YEAR 1970.

The Tamil Nadu Shops and Establishment Act, 1947 continued to be in force in the city of Madras, in all the Municipal areas and class I Panchayats in this State and also in some special areas notified by the Government.

In 1970, there were 2,12,732 establishments covered by this Act in the State as against 2,12,294 during the previous year. Of these, 2,05,102 were shops; 6,965 were commercial establishments, 636 theatres; out of the 2,05,102 shops, 1,48,114 shops were run by owners without employees. The total number of persons employed in the establishment was 2,09,166.

Temporary exemption from the provisions of the Act relating to working hours, opening and closing hours and weekly holidays was granted by the Commissioner of Labour in the case of 37 fairs and festivals. The stalls installed in 13 exhibitions were also exempted from all the provisions of the Act. The Government granted exemption in 14 cases and the Commissioner of Labour granted temporary exemption in 6 cases.

The Inspectors appointed under the Act conducted 3,06,600 regular inspections, 2,266 surprise inspections, 18,424 holiday inspections, 3,389 special visits and 519 night visits. At the beginning of the year, 145 prosecutions case were pending. 1,037 prosecutions were launched during the year for the contravention of the provisions of the Act. During the previous year, the number of prosecutions instituted was 875. During the year under report, 906 cases ended in conviction, and 11 cases in acquittal. At the beginning of the year 183 appeals were pending against discharge or dismissal of employees in shops and Establishments. During the year 362 appeals were filed. Of the above 545 cases, 344 were disposed of during the year. 10 applications for rulings on the applicability of the Act were pending at the beginning of the year. 2 cases were received during the year. Out of these 12 cases, 9 were disposed of.

NEW APPROACH TO IMPROVE WETLAND PULSES CULTIVATION

The culture of wetland pulses is quite unique and different from that of other pulses. In the Cauvery delta covering a major portion of Thanjavur and portions of Tiruchirappalli and South Arcot districts characterised by deep, heavy alluvium, which develops big cracks during the summer months, growing blackgram or greengram in the rice fallows is a common practice. The seeds are sown broadcast in the standing crop of *Samba* or early *Thaladi* paddy, after the fields are drained off to facilitate harvest. The seeds germinate with the moisture available in the fields. When the paddy crop is harvested, the young plants attain a height of 5 to 10 cm. A few of these plants get trampled down by the labourers at the time of paddy harvest. But many of the plants so trampled down recover afterwards and grow into normal plants. For a crop of this kind, excepting the cost of seeds and sowing, nothing is spent by way of preparatory cultivation, irrigation charges, cultural operations and the like. The crop matures with the help of early morning dew that is present in January and February. The crop is ready for harvest in April.

Evolution and isolation of high yielding strains and fixing suitable agronomic and plant protection schedules can substantially increase the yield in these crops.

NEW APPROACH :

Breeding by way of pureline selection was commenced during 1955-56 on wetland pulses at the Regional Agricultural Research Station, Aduthurai. As a result, one strain ADT-1 each of blackgram and greengram suitable for wetland cultivation in January-February were released. Blackgram ADT-1 ripens in 90 days with an yield potential of 450 kg. grain per hectare while greengram ADT-1 ripens in 80

days yielding 495 kg. grain per hectare.

This was only a small beginning of a big problem. Considering the importance of these crops and to intensify research, a scheme for the improvement of wetland pulses in Tamil Nadu was initiated at the Regional Agricultural Research Station, Aduthurai, on 7th January 1972. The technical programme of the scheme has been drawn up as to find out ways and means for maximising production in wetland.

Improvement of the local types by pureline selection, introduction of new varieties, hybridisation and mutation breeding, fixing up optimum seed rates and manurial dosages, finding out the efficacy of foliar application of N and P and bacterial fertilisation, finding out proper time of sowing and fixing suitable plant protection measures are the main aspect.

The existing strains greengram and blackgram ADT-1 are poorer. Strains yielding higher than these have to be evolved. With this objective many varieties of blackgram and greengram have been collected from different parts of the country and abroad for detailed study.

RESEARCH FINDINGS :

The results of the optimum seed rate trial conducted during 1971-72 have shown that the yield of wetland blackgram and greengram can be considerably increased by adopting higher seed rate. The seed rate of 30 kg/ha for blackgram and greengram gave the highest grain yield of 699 kg. and 904 kg. per hectare respectively.

FERTILISATION

Direct fertilisation for wetland pulses increases the yield. A

manurial combination of 11 kg. N-34 kg. 1205+22 kg. K. 20/ha. gave the maximum yield of 630 kg. grain per hectare in blackgram ADT-1 during 1967-68. The no manure plot has recorded 400 kg. grain per hectare. Fertilisers were applied after the last irrigation to the paddy crop and blackgram seeds were broadcasted before the harvest of paddy.

A manurial dosage of 20 kg. N + 30 kg. P 205+10 kg K. 20/ha gave the maximum yield of 872 kg. of grain per hectare for greengram ADT-1 during 1971-72. The manures were applied as basal dressing. The no manure plot recorded 736 kg. grain per hectare.

Trials conducted during 1971-72 with blackgram ADT-1 have shown that 17 kg. DAP/ha, applied as foliar spray at 3 per cent concentration has recorded the maximum yield of 855 kg. grain per hectare while the non-sprayed plot recorded only 605 kg. grain per hectare.

Bacterial fertilisation is effective in increasing the yield. A trial was laid out by treating the seeds with suitable bacterial culture using two varieties in each of the pulses. Profuse growth and greater nodulation were noticed in treated plots. The treated plots of blackgram ADT-1 and green gram, ADT-1 respectively recorded 669 and 879 kg. of grain per hectare respectively recording 10 per cent and 30 per cent higher yields over the control.

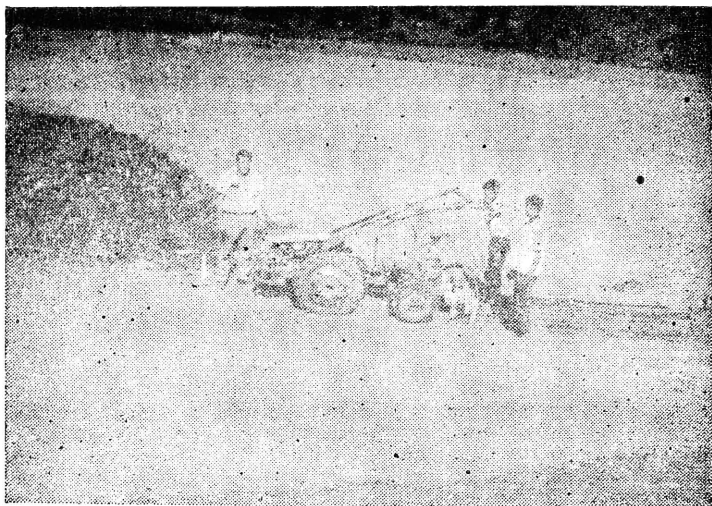
DDT 5 PER CENT DUSTING

Proper plant protection measures is an inevitable must to ensure good yield. Dusting BHC 10 per cent and DDT 5 per cent (5 kg. each/ac) during the 15th day and during flowering period against aphids, plant lice and leaf eating caterpillars is a normal and desirable practice to be followed.

Introduction of higher yielding varieties, timely sowing, adoption of proper fertilisation, optimum seed rate, bacterial fertilisation and plant protection measures are the ways and means to maximise wetland pulses.

By
Assistant Crop Specialist (Pulses),
Regional Agricultural Research
Station, Aduthurai.

INDO- GERMAN NILGIRIS DEVELOP- MENT PROJECT



A profusion of power-driven agricultural implements have been introduced.

The Indo-German Nilgiris Development Project came into being in 1967 on the basis of an agreement between the Government of India and the Government of Federal Republic of Germany. It started functioning from May-June 1967. The project was given effect to jointly carry out advisory activities for development of agriculture in the Nilgiris district of Tamil Nadu.

The Project was to cover the following fields :—

- (i) Arable farming, plant nutrition and fertilising ;
- (ii) Plant cultivation and plant breeding with special reference to potato cultivation and potato breeding ;
- (iii) Fruit and vegetable development ;
- (vi) Plant protection and pest control and
- (v) Rural water management.

The main object of the scheme is to achieve a rapid rise in the level of agricultural production and to improve the economic condition of the Nilgiris farmers by affording them necessary facilities to take up intensive agriculture.

The extension of the period of the Project beyond 31st December 1972 is under the active consideration of the Government of India in consultation with Government of Federal Republic of Germany.

A sum of Rs. 36.05 lakhs is provided in the Budget for 1972-73. The total expenditure incurred till 31st December 1972 is Rs. 11,55,412-81.

The Government of India have been moved to give exemption

from customs duty for the import of "Dasnit".

The Indo-German Project for Development of Nilgiris will set up a small farmers' development Bank from the sale of 12,000 tonnes of ammonium sulphate, valued about Rs. 67 lakhs gifted by the West German Government to the project.

The sale proceeds will be utilised to help the small farmers in various ways such as subsidising cost of treating their potato fields with Dasnit, a chemical pesticide, construction of a road from Thengumurahada where a 25-year old Co-operative Farming Society is functioning to Kiloktagiri at an estimated cost of Rs. 10 lakhs, construction of check dams in Gudagetable and fruit cultivation in the district.

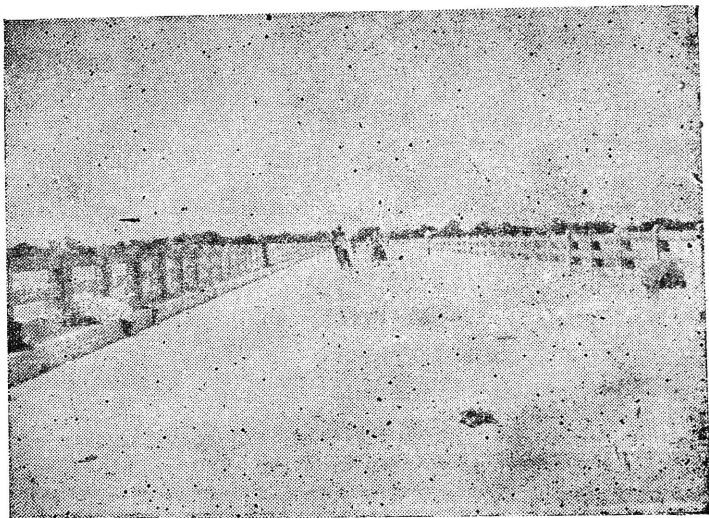
Six thousand tonnes of ammonium sulphate will be sold to the Nilgiris Co-operative Marketing Society Limited and the rest to private fertiliser manufacturing firms.

Under the Nematode Pest Control Programme, a total of 3,844.3 acres had been treated with Dasnit and the third and final phase is in progress now.

Dr. Wolpers and Mr. Chockalingam stressed the need for a system of crop rotation.

About 6,000 to 7,000 acres would be brought under barley in Nilgiris by 1975 if the programme is simultaneously supported by the malt production industry and it is hoped that the opening of breweries in several parts of Tamil Nadu and Kerala would give a fillip to barley cultivation as barley is essential for beer.

AMAZING WORK AT TAMIL NADU AMAZON



Thirumanur Bridge which is to be thrown open for traffic shortly.

On the far west of Tiruchirappalli district the river Cauvery acquired maximum breadth and dimensions whereas it is called "Aganda Cauvery". It was split into two then and the northern strip was named "Coleroon" (Amazon of Tamil Nadu) while the southern strip continued as Cauvery passing through Thanjavur district and Tiruchirappalli district. Srirangam is situated in between these two strips.

Cauvery and dams were also constructed at very many places, for the utilisation of Cauvery waters in the Chola Kingdom. Time after time dams, bridges and tributaries were all constructed to improve the cultivation facilities of Thanjavur and Tiruchirappalli districts.

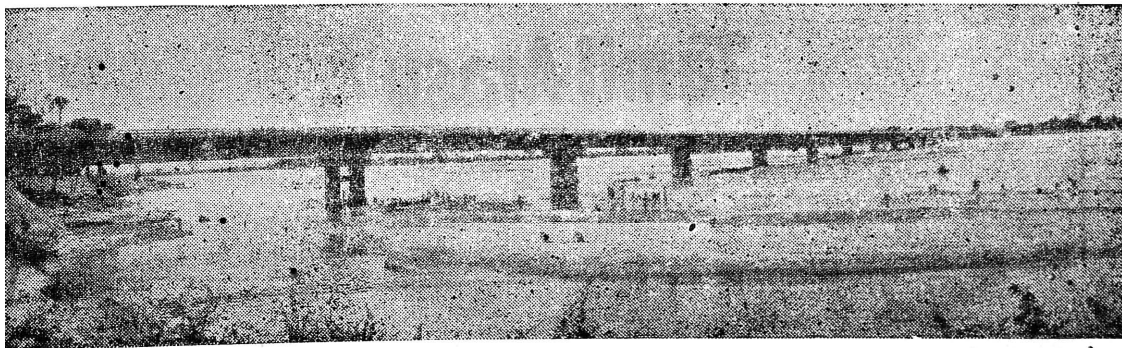
Longest Bridge in Tamil Nadu.

The construction of the longest bridge in Tamil Nadu across Coleroon connecting the two districts Tiruchirappalli and Thanjavur at Vilangudi and Thirumanur respectively marks an epoch in the history

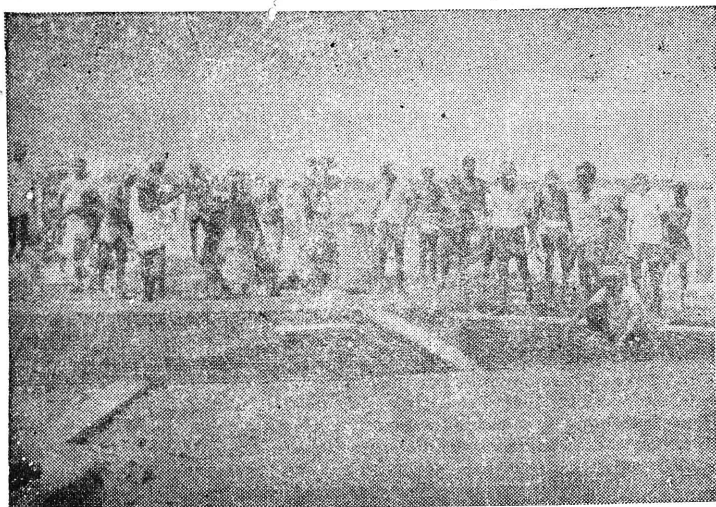
S. RAGHUPATHY,
Regional Public Relations Officer,
TIRUCHIRAPPALLI.

Karikalan Constructed Banks.

In olden days, the Chola King Karikalan constructed banks for



Full length view of Thirumanur Bridge which is 3,765 feet long consisting of 43 main spans of 152 feet long each.



The bridge work in execution.

of rural developments [and road transport. It is expected that the bridge will be completed for traffic by the middle of June 1973. By its construction the distance from Thanjavur to the northern parts of Tiruchirappalli district and on the Madras side is shortened to provide easy and quick transport service for marketing products and agricultural yields.

French Design Construction.

This construction of the bridge is wholly financed by the National Road Funds from the Centre. There was a stand still till 1969 on account of financial sanction being not got over. Though the original estimate of the bridge was Rs. 50.82 lakhs due to the increase in cost of materials, a further sanction was accorded amounting to Rs. 65 lakhs in total. The total length of the bridge is 3765' 9" with 23

spans of 152' 3" each. Another unique feature of this bridge is that it is being constructed with free stressed twin box girders based on the French design. Cole-roon bridge in between South Arcot and Thanjavur Districts near Chidambaram is also of the same type, the first of its kind. The bridge work was actually started on 20th October 1969 and its completion is expected within four years.

Construction of this longest bridge in Tamil Nadu connecting the two districts for inter transport and marketing facilities to and across Thanjavur and Tiruchirappalli districts were not taken till 1967. The completion of the present bridge at Vilangudi is really a monumental work and the present Ministry under Dr. Kalaignar is taking very keen interest in promoting such transport facilities and the construction is also pushed to be completed earlier than the stipulated date.

YOUTH AGAINST FAMINE SCHEME

The Government have sanctioned a development oriented educational programme called "Youth against Famine".

*The programme is being organised by the Ministry of Education Social Welfare in co-operation with the State Governments and Voluntary Organisations.

* It involves one lakh youths. Of these, 75,000 will be drawn from universities and colleges and the rest from non-students youths.

* The objectives of the scheme include supplementing the academic of the university students by bringing them face to face with the realities of the rural situations and providing opportunities to youths to participate in nation building activities.

Under the scheme work projects would be undertaken for completion by the students and teachers within the stipulated time.

* The implementing agencies of the programme would be the national services units of universities.

* The programme would be undertaken during the summer vacation this year by organisation of youth camps.

* The programme would be entirely financed by the Centre.

Read

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WORLD-WIDE MARKET FOR T. I. DIAMOND CHAIN

OF TAMIL NADU

Tamil Nadu has everything to gain by its chains—The Diamond Chains: T.I. Diamond Chain Limited, Ambattur is India's largest producer of rubber chains. Though originally meant to cater to the needs of cycle industry, it has also embarked on the manufacture of industrial chains, used the lining of an engine, the driving of a motor cycle or the variations of speed in a machine tool. Diamond chains have the pride of place not only in India but also in many countries abroad like U.K., Europe and countries in the far East.

The T.I. Diamond Chain Company of Madras manufacturing bicycle and industrial chains with technical collaboration from the parent Indiana firm, in U.S. has won worldwide market in United Kingdom, West Germany, Australia and Italy and also in some Asian and African countries and in the face of severe competition from Japan. At the same time they are going all out to meet the demand for chain within India.

T.I. Diamond Chain Company was formed about ten years ago as a subsidiary of the T.I. group of companies at Madras. The parent Diamond Chain Company of Indiana holds 27½ per cent of the equity shares of the Madras Company. Experts from Indiana assisted in setting up the factory and in overcoming initial technical problems related to production. Specialists and other personnel from the parent company have been visiting Madras regularly to offer technical advice and to evaluate progress.

In the short period of ten years since it was formed, the growth of T.I. Diamond Chain Company has been phenomenal. Capital investment and production capacity in plant and machinery have increased very significantly. The employment potential has risen considerably and is still rising. From the manufacture of bicycle chains alone, the company have now progressed to the manufacture of industrial chains

as well. It makes these in a wide range of sizes to serve the needs of every conceivable type of industry.

In 1968, the company exported 45,000 bicycle chains and 28,000 feet of industrial chains. For 1972, the figures are 430,000 bicycle chains and 157,000 feet of industrial chains. The foreign exchange earnings on bicycle chains alone is about 12 lakhs of rupees a year. Indigenous production of chains, especially industrial chains, has meant more over not only an increase in India's export earnings but a substantial reduction in money spent for imports.

For its outstanding performance as an export earner, T.I. Diamond Chain Company was recently awarded a Certificate of Merit by the Engineering Export Promotion Council.

The best index of the company's growth is to be found in T.I. production figures. In 1971, after ten years in business, T.I. Diamond Chain Company was making 17 lakh units of bicycle chains and 16 lakh feet of industrial chains. In 1973, it will turn out 20 lakh units of bicycle chains and 25 lakh feet of industrial chain.

INCREASED DEMAND.

Undoubtedly the demand must grow and it is expected to grow manifold in the years ahead. India manufactures 2 million bicycles annually. Diamond Chains are used as original equipment as well as for replacement both in India and in a world wide market. The bicycle boom, while it continues, will mean a boom in the production of chains as well. As for industrial chains, they are

used as timing chains in cars, trucks, motor cycles and scooters. Textile mills, jute mills, construction equipment manufacturers and a host of other industries need various types of industrial chains. The market is here in India and in other countries of the world, and the company is geared to increase its production to meet the increasing demand.

INCENTIVE SCHEME TO WORKERS.

As the company grows and prospers, its workers share in this prosperity. The company has introduced an incentive scheme, linked to productivity. Because of this scheme, every worker in the factory can increase his own earnings as the company's production grows. The worker who, in 1969, earned an extra 9 per cent of his basic pay under this scheme, now takes home an extra 26 per cent. This scheme has paid rich dividends in the form of smooth and trouble-free boosts to production.

The link between Diamond Chain, Indiana and T.I. India has been to the mutual advantage of both companies. Together they have made the name 'Diamond Chain' synonymous with high quality. They have contributed to the growth of many related industries throughout India. They have been able to export even to sophisticated markets in the U.S.A. and Europe and to earn valuable foreign exchange. Indian personnel have been trained in the intricate technology of manufacturing industrial chains. About eight persons from the company have already received this specialised training. The company have been able to manufacture indigenously machinery of sophisticated designs for our chain factory. This company has provided employment opportunities to about 500 people in Madras itself, and indirectly to several hundreds in the distribution trade.

As diamond stands for hardness, strength and durability, T.I. Diamond Chain is building a similar reputation throughout the world.

MEMORY TRAINING

* A wife once asked her husband to go to the bakery and buy a loaf of bread. Down in the street, the husband could not remember what he was supposed to buy. Getting hold of a bottle of yoghurt "just in case", he came back. "What do you mean by bringing this yoghurt?" the wife cried. "Didn't I tell you to buy some butter?"

This is a joke, of course. But it is very near the truth. Forgetfulness is something we all suffer from, and it gets worse with advancing years. Yet, it is not so much the result of sclerosis and other affections peculiar to age, as of the "loss of form"; when we stop studying, our memory loses its retentive capacity, for it needs training as much as any other mechanism in our body.

If you want to keep a good memory you must train it every day, forty-five minutes morning and night, or, better still, fifteen minutes six times a day. You should also start a "note-book of persecutions" in which to write down all cases of memory failure.

Say you see a familiar face in the street crowd but just cannot remember his or her name. Do not simply dismiss the problem. Remember that with years one's recollective capacity becomes weaker as it is blocked by irritation, weariness and so on. This capacity needs training more than any other. Sit down on a bench and write down the distinctive features of the person you are trying to remember and then forget all about it.

Only after you have made a dozen or so entries in your note-book—regarding the author of some lines of verse, the name of a film, the breed of a dog, etc.—you should sit down and do a bit of "detective work" in your time allotted to

memory training: look through your notes, concentrate, try to remember things related to the elusive problem. In a week or two you are certain to have figured out most of the puzzles.

This is but one kind of memory training, the most important one in mature years. Give it twenty-five minutes every day. The remaining time should be spent on memorising poetry, reading the encyclopaedia, leafing through dictionaries of foreign words, writing out the terms you find interesting and trying to memorise them. When visiting exhibitions or picture galleries make a point of remembering the general appearance of various works of art and then, looking through reproductions try to remember the painters. If you like music, try to recollect the work and the composer without looking at the writing on the record. The more varied these exercises the better; don't spend too much time on any one of them.

— Courtesy "Soviet Union" March 1973.

the
living
past

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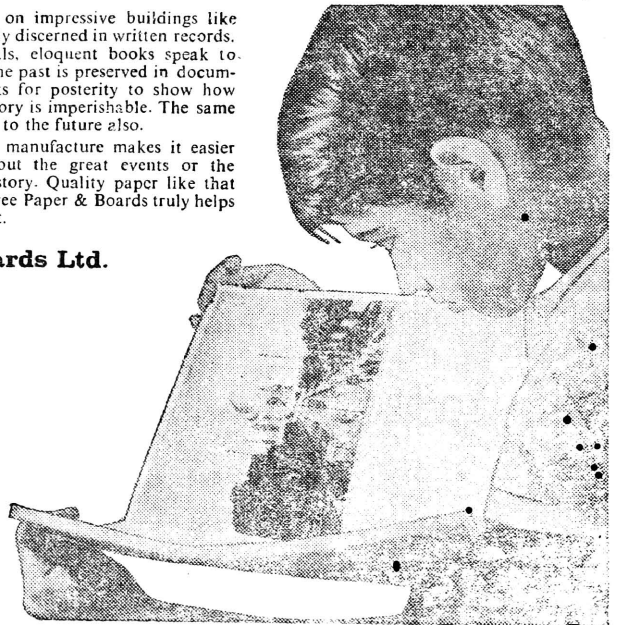
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CUSTOMS ADMINISTRATION

IN INDIA

Though people are generally familiar with the Customs Department, very few know the precise details of its field of activity. For passengers travelling in and out of the country, the Customs mean perhaps a band of officers who go through their baggage causing some annoyance. For a recipient of a foreign post parcel the hand of the Customs is not seen unless the contents exceed the limits within which clearance free of Customs duty is permitted.

For a student of public finance, Customs merely stand for the organisation set up for collecting the duty of customs. For the importer, it is the department which not only collects the customs duty but also enforces the restrictions on imports imposed by the Government through the Chief Controller of Imports and Exports. For the exporter, it is the department which, apart from collecting export duty where leviable assesses the value of the goods requiring him to satisfy the Reserve Bank about the repatriation of the foreign exchange proceeds with reference to the assessed value. And for the romantic young man, it is the department which employs those brilliantly uniformed men who are ever chasing smugglers in the true James Bond style.

All these, however, only partially reflect the multifarious activities of the Customs Department. Ever since independence, these activities have increased and become more complicated. In statistical terms, the current annual revenue of Rs. 700 crores is no doubt impressive. But this by itself can hardly suggest the complications which arise before this revenue is realised; nearly 10 lakh assessment documents, thousands of adjudications, claims for refund, appeals and revision applications. The number of passengers and post parcels (10 lakhs and 7 lakhs respectively) is equally staggering. The problems of customs administration are multifarious. There is, no doubt, the problem connected with the collection of comparatively every much larger revenue than in earlier years. But the real complication has arisen out of economic changes which have taken place

since independence. With increasing emphasis on greater industrialisation and substitution of imports, the need for controlling imports on a wider scale has arisen. To finance developmental effort, emphasis has also been laid on proper realisation of the foreign exchange proceeds of our exports. Both these aspects concern the Customs Department very intimately. It is the Customs who enforce the import restrictions. It is also their responsibility to value exports properly so that, on the basis of that valuation, it is ensured that full foreign exchange proceeds are realised.

Change in law and procedure has affected Customs administration in their handling of imports and exports and in their dealings with passengers. The number of Indians visiting foreign countries, especially by air, has gone up by leaps and bounds. So has the tourist traffic, and the facilities provided to them thereby greatly increasing the work of custom authorities. Increasing demand in the country for imported consumer goods and their shortage owing to controls provides incentive to passengers for bringing such goods. The demand for gold by tax evaders and blackmarketeers for hoarding has also gone up. Attempts are made to utilise the facilities given to tourists to smuggle gold, diamonds, and precious stones. This again creates a demand for unauthorised remittances to pay for smuggled goods.

Conventional smuggling through ships, aircraft and carriers continued for a while. This did not make a dent in the country's economy. However, as the unsatiated demand for gold and other goods kept on increasing, a new trend of smuggling through unmanned coastal areas of the country

from bases in the Sheikdoms of the Persian Gulf developed. Soon this became the main channel of smuggling as the Customs could not cope with this menace in the absence of coastal guards.

Side by side, as its scope expanded, the administration had also to deal with representations and redressals of grievances. A vast cadre of expert officers for handling the increased volume of work and the new responsibilities of import control and export promotion was built up.

In the field of import and export trade there has been a small revolution in Customs concepts in India. Gone are the days of mistrust and suspicion. Advisory Committees in the Ports and the Advisory Council at the Centre have been organised to enable traders to represent their views on customs policies and procedures affecting the clearance of goods.

The institution of Public Relations Officers has also been introduced in each Custom House for helping and advising the trade. The number of supervisory officers has been increased so that greater opportunities are available to settle disputes. The Departmental machinery for dealing with appeals has also been reorganised providing for the appellate function to be discharged by a separate set of officers not directly connected with the executive machinery. The same arrangement has also been extended for dealing with revision applications against appellate orders, at the Government level.

Recently the Department of Customs has taken steps to streamline procedure. Declarations are filed, even before the arrival of goods so that by the time the imports arrive, the documents are ready for examination and delivery. This ensures maximum utilisation of limited port facilities and the immediate utilisation of foreign exchange spent in importing goods. In cases of dispute goods are cleared provisionally on the basis of an undertaking to comply with the

ultimate decision, backed by suitable bank sureties. The requirement of bank sureties has been relaxed in cases where acceptable sureties can be provided by firms of standing, Government securities are also accepted.

Arrangements for handling chemical test have been expanded to avoid reference to outside testing houses with attendant delay. The institution of clearing agents, which assists the trade, has received considerable attention and the quality of their services has improved.

On the export side, steps have been taken to permit examination of goods in the docks and jetties on a shift basis. The concept of drawback (permitting refund of the import duty paid on different articles imported and used in the exported product) has also been completely changed. Instead of restricting the facility to goods which were re-exported in the same form as imported, the facility has been extended to goods subsequently manufactured here in the country before being exported. This no doubt provides a significant incentive to our industries enabling them to make their products competitive in international markets.

In the field of anti-smuggling activities, there is not much scope for public discussion of the actual measures already taken and those which are contemplated. The unmanned coastline is the main problem as it is impracticable to man it economically. The alternative of intercepting smugglers by strengthening intelligence and improving legal measures for facilitating detection and confiscation of smuggled goods have been already utilised. As far as tax evaders and black marketeers are concerned, the deterrent of higher punishment under the Customs Act and the Gold Control Act has been provided. If people co-operate by reporting on such persons they will help the department considerably. Incidentally, the department allows a handsome reward for specific information leading to recovery of the contraband. This can be as high as Rs. 20 per tola of gold and 10 per cent of the value of other goods.

COIMBATORE WEST ASSEMBLY CONSTITUENCY ELECTORAL ROLLS PUBLISHED

The Electoral Rolls of the 105 Coimbatore West Assembly Constituency were finally published on 9th May 1973. The electoral rolls so published have come into force from the date of this publication.

The final rolls are open to inspection by the public at the office of the Electoral Registration Officer, namely the Municipal Commissioner, Coimbatore and copies of the rolls for the constituency as a whole, are available for sale to the public on payment of the price in cash, at the rates fixed by the Government. Full particulars regarding the electoral rolls can be obtained from the Office of the Electoral Registration Officer.

All attempts have been made to ensure that correct particulars are entered in the electoral rolls in respect of the voters. However, it is just possible that in a few cases, some errors may have crept in. Such voters can apply under section 22 of the Representation of People Act, 1950, in Form No. 8 to the Electoral Registration Officer for the correction of the incorrect entry. The Electoral Registration Officer will make the necessary correction after due enquiry. Any person whose name is entered in the electoral roll of a constituency may also apply to the Electoral Registration Officer for transposing the entry to another place in the same constituency. There is no prescribed form for this purpose. The Electoral Registration Officer, will make the necessary amendment after due enquiry. An objection to the inclusion of the name of a person already included in the roll, can also be made in Form No. 7. The applications for transfer, correction or deletion, under section 22, should be made only to the Electoral Registration Officer.

The name of an eligible person whose name is not found in the electoral roll can be included in the

electoral roll under section 23 of the Representation of People Act, 1950. For this an application has to be made in Form No. 6, to the Electoral Registration Officer. The "qualifying date" for the inclusion of new names is 1st January 1973.

An appeal can be made to the Chief Electoral Officer, Fort St. George, Madras-9, against an order of the Electoral Registration Officer under section 22 or 23.

All applications except applications for transfer of names from one place to another in the same constituency should be submitted in the prescribed forms. Printed forms will be available in the office of the Electoral Registration Officer. It is not compulsory that the applications should be made only in the printed forms. Typewritten, cyclostyled or handwritten applications in the prescribed forms will also be accepted.

The prescribed fee for preferring an application is ten paise in the case of applications to the Electoral Registration Officer and Rupee one for appeals to the Chief Electoral Officer. The fee shall be remitted into the Treasury or the Reserve Bank of India or its agents under the head of account "L. II. Miscellaneous Receipts in connection with Elections" and the chalan should be enclosed with the application in proof of the fee having been deposited. It can also be paid in cash to the Electoral Registration Officer or the Assistant Secretary to Government, Public (Elections) Department, Fort St. George, Madras-9, in case of appeal.

The fee shall in addition to the above procedure be paid by affixing one or more non-judicial stamps to the application or appeal as the case may be. Where non-judicial stamps are not available, the applications or appeal shall be made on non-official stamp paper of the same value.

UNIQUE SEA TURTLES

In his never ending quest for tapping hidden resources of food and commerce in nature, man has been relentlessly exploiting the sea which still remains to be the vast reservoir with inexhaustible nutrients. With the rapidly increasing population running a close race with deficit food supplies, we are increasingly diverting our attention to all sorts of animal protein including Sea Reptiles other than snakes.

Two-sea-going turtles—the edible Green turtle and the Hawk's billed turtle have gained world-wide recognition because of their immediate utility. Inhabiting the tropical and subtropical seas of the world, the living marine turtles are known by five species. Though there are 215 kinds of living turtles known today, only the Green Turtle and the Hawk's Bill Turtle are chiefly hunted.

Adaptation

All the marine turtles are perfectly adapted to a life in water. Their forelimbs are modified to form "flippers" specially designed for swimming. The streamlined body narrows towards the back and the head cannot be withdrawn into the shell.

One can easily recognise these creatures by their box like rigid shell which is their most conspicuous and distinguishing feature. In short, this protective armour or shell covering these creatures consists of an upper shell (carapace) and an under shell (plastron).

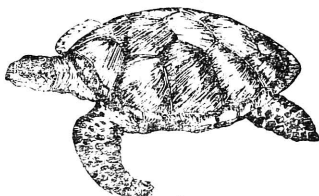
Valuable Green Turtle

The Green turtle is the most valuable of all living sea reptiles of the world because its flesh has long been known as a delicacy. Its home is in the Atlantic, Indian, and Pacific Oceans. Though the adult is coloured Olive or brown, it derives its popular name 'Green Turtle' from the hue of its fat which is greenish. It grows to a length of 4 feet and often it weighs upto 850 lb. which indicate its heaviness and also its

T. S. N. MURTHY.

UNIQUE SEA TURTLES

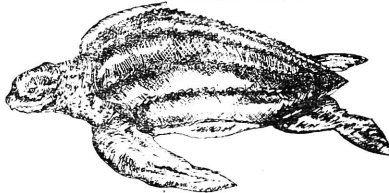
1. GREEN TURTLE



2. HAWK'S BILL TURTLE



3. LEATHERY TURTLE



helplessness to escape when once it is caught. It has to be put on its back soon after the catch as otherwise the heavy carapace and other internal organs exert a fatal pressure on the animal's heart and lungs. It requires the efforts of several men to lift it.

Vegetarian

Though it preys seldom upon Crustaceans and molluscs, the Green turtle unlike most reptiles in strictly a vegetarian feeding mainly on marine plants. Its favourite diet is a sort of sea grass called Cymodea and naturally the distribution of this turtle depends to a large extent on the abundance of this particular type of sea grass.

Collection ! ostehd

Green turtles are caught either by nets or harpoons while they are in water. As they are fond of

basking asleep on the coasts, they are sometimes stealthily approached in boats and then harpooned. Till recently these creatures were caught in different parts of the world in yet another original and novel way. In this mode of catching, the turtle-fishers take the aid of the sucker fish to whose tail a long string is tied. After spotting the turtle, they release the fish from the boat which in its hurry to protect itself fixes itself tightly with its tenacious sucking apparatus to the plastron of the grazing turtle. Then the job is more than half done when the lucky turtles following the string tied to the fish slowly manoeuvre the defenceless animal towards shallow water when it is caught either by diving or harpooning.

But the most in human way of acquiring these valuable turtles is just by "turning" them in large numbers. The pity is sometimes all the turtles turned over their backs may not be upto the trade requirements of the greedy hunters. Thus several half grown specimens will either perish or become a ready prey for predators hovering about them.

Breeding of Turtles

Though these turtles spend a major part of their lives in the open sea, the females have to come ashore to lay eggs. The breeding of marine turtles makes interesting reading and this act of the turtles has fascinated some poets.

The female comes ashore at middle of night often making painful sighing noises made during the tiresome exercise of dragging its heavy weight up the beach. It breeds several times a year each time laying hundreds of eggs which take only one and a half to two and a half months to become baby turtles.

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females going up the beach to lay eggs or making a return journey home towards the sea, they are "turned" and easily captured by the turtle fishers waiting in ambush. Moreover, only the females containing eggs are especially valuable from the commercial stand point as the turtle as well as its eggs fetch the turtlers a good remuneration. The young ones are the target of attack by predatory sea birds, crabs and lizards and hence only a limited number of these newly hatched young ones will make a safe journey back to sea. Perhaps their potential for survival would have been quite different if they too, like sea snakes, delivered live young ones.

MIGRATION.

It is remarkable that the edible turtle is capable of migrating to long distances and in this respect it is known to be the only reptile to have achieved this feat. It is claimed that a green turtle marked after nesting on Ascension Islands (West Indies) has been found feeding 1,400 miles off the coast of Brazil.

TORTOISE SHELL.

The Hawk's bill turtle, so called because its upper jaw is drawn into a hook-like point resembling the bill of a bird, is another valuable chelonian. Although not eaten, it is famous for its yields of the real "tortoise shell" of commerce known as "Carey". "Tortoise Shell" is derived from the soft and flexible horny coverings of the carapace of this animal. It is said that the best tortoise shell comes from the species of the Indian Ocean. Each turtle may yield about 6 to 8 lbs. of this valuable product. This famous product has been used for centuries for inlaid work though the recent development of the plastic industry has greatly reduced its commercial use.

The Hawk's bill does not reach the size of the edible kind and it is strictly carnivorous living upon fish and molluscs. It is found in all tropical and sub-tropical seas.

EXPORT.

A moderately sized export trade is slowly developing around these turtles on Indian coasts but at a proverbial tortoise's pace. Already

our varieties of Edible and Hawk's bill turtles have earned reputation—the former because of the unrivalled flavour of its meat and the latter for its beautifully colored shell. There has been news recently that an experimental farm for breeding these valuable turtles is proposed to be set up in Laccadives.

The Leather back turtle or Luth is the king of the marine reptiles because of its size, weight and rare appearances on land barring the egg-laying females often stranded off coasts. It reaches a length of 7 feet and weighs up to 1,500 lbs. It is unique in yet another feature in that unlike other turtles, its shell is covered by black leathery skin resembling the blubber of a whale instead of the usual horny shields. With its large and powerful "flippers", it can swim well and is said to cruise the open seas for weeks and months. Its flesh is not eaten but oil is extracted from its fat. This remarkably strong and rapid swimmer is widely distributed but scarce in tropical seas. The loggerhead growing up to nearly 4½ feet and weighing 900 lbs. is the second largest marine turtle.

Constant predation by man and beast alike have eliminated the nesting places of these valuable sea reptiles. It is on record that during one single year, nearly 16,000 nests of the green turtle were rifled on some islands in Borneo and in Burma, the yearly haul of the turtle eggs is reported to be nearly 1.6 million eggs. In spite of all this large-scale exploitation and wanton destruction, it is incredible that these hardly reptiles of the sea have not been exterminated though it must regrettably noted that they have been fished out of some of their breeding places. The built in advantages of their breeding several times a year, laying hundreds of eggs per clutch and early development are the main factors of their survival; yet it is to be hoped that nature conservationists would bestow thought on preserving these valuable creatures too as some of these turtles remain a major source of food in many parts of the world.

Fig. 1 : The Edible Green turtle much sought after for its "flesh".

Fig. 2 : The Hawk's bill turtle—the source of tortoise shell Objects D'art.

Fig. 3 : The Luth—the king of marine reptiles.

PROSPERITY BRIGADE

The Prosperity Brigade was launched five years ago with the avowed objective of creating a new social awakening among the masses. The members of Prosperity Brigade are devoted to Voluntary Service, during their spare time. Their activities are construction of school buildings, desilting of tanks, roads formation and various other important works for the benefit of the public.

There are at present 44,524 volunteers in the State of Tamil Nadu. A sum of Rs. 12-60 lakhs was provided for 1972-73 for implementation of Prosperity Brigade Scheme throughout the State. There are 534 Seerani. Arivagams in the State under Prosperity Brigade Scheme, which function as Adult Education Centres in the State.

The number of works undertaken and completed for the period from 1st April 1967 to 31st March 1972 are given below.—

School Buildings constructed
1,221 Nos.

Desilting of canals and
tanks 1,494 Nos.

Link Roads formed
942 Nos.

Reclamation of waste lands
500 acres Nos.

School buildings white washed
13,523.

Spraying works undertaken
1,500 acres.

Name boards supplied to
schools 2,562 Nos.

Vegetable gardens 3,248 Nos

The value of works done
Rs. 1,38,80,280.

The Government expenditure
Rs. 54,46,060.

ADULTERATION OF FOOD AND DRUGS.

—A HEALTH HAZARD AND SOCIAL EVIL

(In view of the prevalence of food adulteration and the danger they pose to the community, publicity to arouse public conscience against the evil is necessary.)

Offences relating to food adulteration and drug adulteration are anti-social in that these practices are detrimental to the health of the nation. The practices of adulteration appear to be widespread. According to a survey by the Central Committee for Food Standards, out of a total of 1,04,225 food samples examined, 30,173 were found to be adulterated. Three hundred families in Dum Dum area in Calcutta were recently struck by paralysis after taking adulterated mustard oil for cooking. The people and the Government should therefore necessarily be vigilant and should make a concerted drive to root out the evil.

Instances have come to light where foodstuffs are adulterated with all types of material which are poisonous and deleterious to health. Wheat, rice and dals mixed with stones, dust and other impurities are too well-known. Coconut oil is adulterated with harmful mineral oil, dal with talc, turmeric with lead chromate. When a consumer buys adulterated stuff he is not only cheated of his money but he is running the risk of injuring his health and that of his people.

Again, if a consumer is supplied with a spurious drug, he has no means of knowing it to be sub-standard or fake. He uses it in good faith and is perplexed when it does not give the desired results or when it worsens the condition.

In fact, adulteration of food and drugs is a very serious crime. Such anti-social and criminal practices need to be curbed at all costs. Laws and regulations to curb such practices are there.

Report to Food Inspectors

The relevant Central Acts aimed at combating practices of food adulteration are: Prevention of Food Adulteration Act, 1954, and the Prevention of Food Adulteration Rules, 1955. The legal provisions are comprehensive. The executive implementation of the provisions of the 1954 Act rests with the Food Inspectors who are appointed by the Central or State Governments. Purchasers can lodge complaints with Food Inspectors or pursue cases of food adulteration themselves. Food Inspectors are required to conduct investigations into complaints of food adulteration received by them and carry out the prosecutions.

Similarly the offences relating to manufacture, import and sale of drugs are dealt with in the Drugs and Cosmetics Act, 1940 (as amended from time to time) and the Drugs and Cosmetics Rules, 1945. For offences related to misbranded or adulterated drugs produced within the country, the punishment can go up to 10 years of imprisonment and fine. The law also provides for confiscation of drugs which are the subject of the infringement of the Act and the Rules. Under the Act, a purchaser of a drug is entitled to obtain a test report from a Government Analyst. The executive implementation of the legal provisions vests in Inspectors appointed by the Central and State Governments for the purpose.

Publicity and Public Co-operation Necessary

It is true that punitive action against offenders under the Acts relating to adulteration of food and drugs will have some deterrent effect on those indulging in such malpractices. But it will not go a long way in eradicating the evil. Sustained publicity in arousing the will of the people to expose and condemn such practices will have a more lasting effect. The consciousness of the manufacturers and traders should be raised against the

evil. It is in this field, the enlightened citizens, voluntary organisations and publicity men can help eradicating the evil and in creating a climate of opinion in which the practices of adulteration is held in contempt and a moral stigma attaches to those indulging in it.

Adulteration Must Be Reported

The people can benefit by the services of voluntary organisations like Citizens' Central Council which has been organising a campaign against food adulteration. They may report cases of adulteration to the concerned Food and Drug Inspectors.

The consumers will help themselves and the society by realising that those indulging in food and drug adulteration are committing offences against society. They will be helping again if they take a few practical steps like reporting cases of adulteration to the Food Inspector or Drug Inspector, purchasing drugs only from licenced dealers at prices not higher than those marked on the container and against cash memos, and disfiguring or destroying bottles and containers of drugs to prevent their being used for sale of spurious drugs.

Public Co-operation Ensures success

The State has enacted legislation to combat the menace of adulteration. The Food Inspectors and Drug Inspectors are there to prosecute the offenders under the Act. Their success depends on the people's willing co-operation. The public should be encouraged to give up apathy and neglect in exposing the offenders. Their consciousness against the evil and their vigilance and their active assistance to the Inspectors and other voluntary organisations campaigning against the evil will help a great deal in minimising the anti-social practice.

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