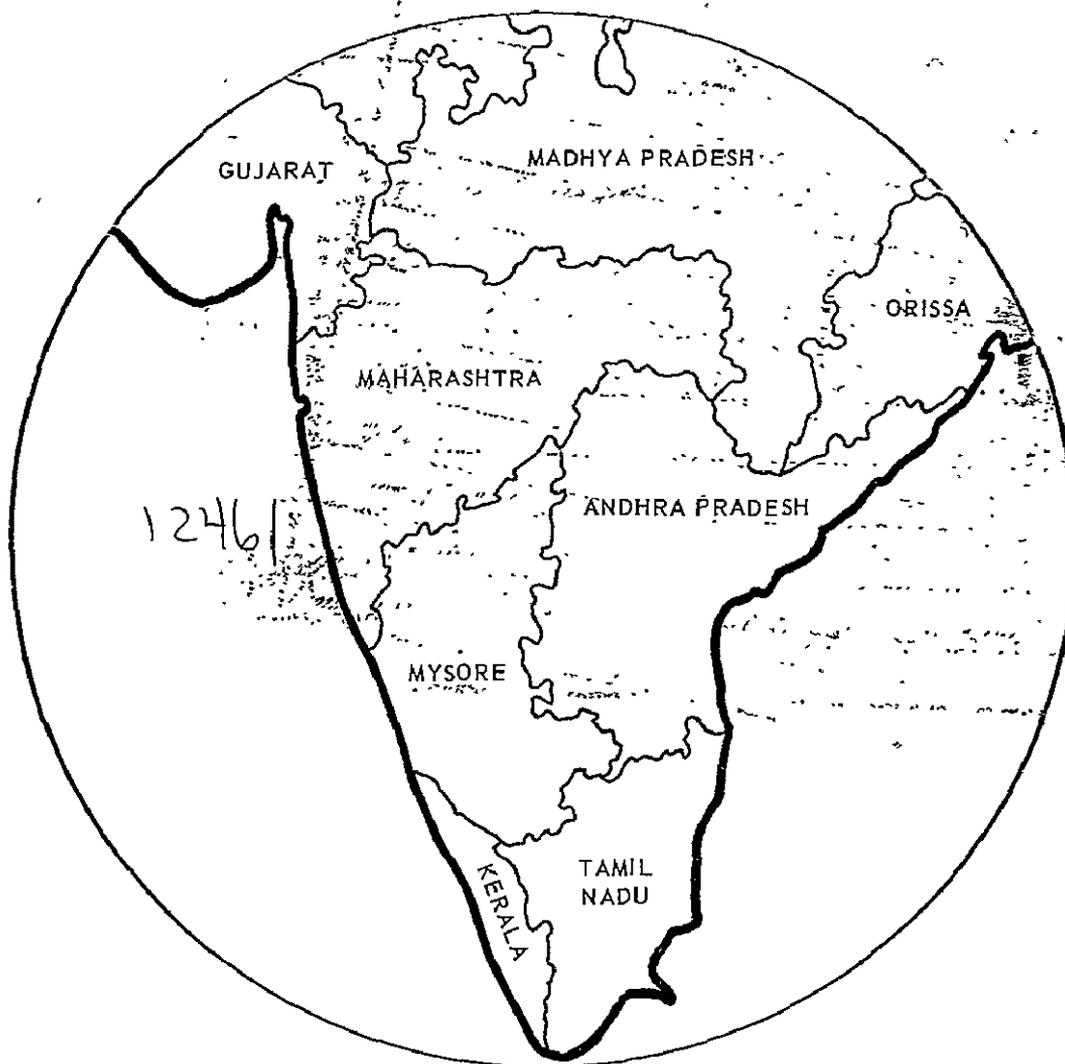


The USAID Contribution to the Economic Development of TAMIL NADU



U.S.A.I.D. Mission to India • New Delhi
Office of Development Policy
Program Division

APRIL 1969

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TAMIL NADU

Tamil Nadu, the land of Temples, is located in the southeastern corner of India. Comprising the Tamil region, this state is regarded as the birth place of the Dravidian civilization which has left its stamp not only on Mohenjodaro and Harappa but also on the countries of the Mediterranean region and the Eastern Archipelago.

Tamil Nadu extends to the southern tip of the peninsula. It is bounded on the west by the state of Kerala, on the north by the states of Mysore and Andhra Pradesh, on the east by the Bay of Bengal and on the south by the Indian Ocean. Tamil Nadu is the sixth smallest state in India, covering an area of 50,331 square miles (about the size of the state of New York in the United States).

The population of the state in 1968 was estimated at 38.2 million, with a population density of 759 persons per square mile compared to the all-India average of 417 persons. The state has eleven cities with a population of 100,000 or more. Madras, the state capital, with a population of about two million, is the largest city in the state, the fourth largest in India and is India's third most important industrial center. Madurai, the state's second largest city, has a population of over half a million and is also highly industrialized. The remainder of the population lives in some 338 towns and 14,742 villages.

GEOGRAPHY AND CLIMATE

Tamil Nadu has a coastline of 620 miles along the Bay of Bengal. Parallel to the coast and gradually rising away from it is a broad strip of plains. Almost the entire north-south length of the plain is backed by the extension of the Eastern Ghats in a chain of low, flat-topped hills. Between these hills and the Western Ghats a plateau (average height 1,000 feet) rises westward. The Cauvery valley in the center divides this plateau into two parts—the northern plateau consisting of most of Salem and North Arcot districts, and the southern consisting of Coimbatore district. There is a narrow mountainous strip along the western boundary of the state with only a few gaps. The average height of these mountains is about 4,000 feet, although the highest peak, in the Ootacamund area, is 8,500 feet above sea level.

The rivers in the state flow eastward from the Western Ghats and are rain-fed; the important ones are the Palar in the north, the Cauvery cutting across the center, and the Vaigai in the south. None of the northern rivers is perennial. The Cauvery, together with its tributaries, is the most important source of canal irrigation in the state.

The average annual rainfall in Tamil Nadu varies from 25 inches to 75 inches depending on the area.

AGRICULTURE

Agriculture is the main occupation, with about 60 per cent of the population dependent upon it. Of the total area comprising about 32 million acres, 20 million acres (gross) are under cultivation annually. Approximately 6.0 million acres have irrigation facilities. With the development of new irrigation projects, the acreage under irrigation is expected to increase substantially.

The main crops are rice, jowar (grain sorghum), ragi (finger millet), and bajra (millet). The principal cash crops are peanuts, cotton, coconut and rubber. Tamil Nadu is one of the two quinine-producing states in India.

The major crops produced during the 1967-68 crop year were as follows :

<i>CROPS</i>	<i>AREA</i> (000 acres)	<i>PRODUCTION</i> (000 tons)
FOODGRAINS¹		
Rice	6,828.6	4,291.3
Jowar	1,855.0	557.8
Small Millets	1,171.7	366.3
Bajra	1,110.8	295.5
Ragi (finger millet)	798.6	320.2
Pulses	993.2	95.9
CASH CROPS²		
Oilseeds	2,543.6	1,135.9
Peanuts (groundnuts)	2,296.5	950.7
Cotton (bales)	1,043.5	435.1
Sugarcane (gur)	217.9	749.8
Dry Chillies & Turmeric	193.4	176.8
Potatoes	21.0	82.3
Tobacco	39.8	23.3
Rubber	20.0	3.2
Coconut (nuts)	203.9	866,500.0
Coffee	67.0	8.0
Tea	82.0	4.7
Cardamom	15.0	.5

¹ Figures relate to 1967-68

² Figures relate to 1966-67.

FISHERIES

Tamil Nadu with its 620 mile coastline has 9,000 square miles of inshore waters, a continental shelf of 20,000 square miles and 600,000 acres of inland waters. About 350,000 fishermen live in 415 inland and 308 marine fishing villages throughout the state. There are approximately 28,000 catamarans, 500 mechanized fishing boats, and 82,000 fishing nets. The estimated fish catch in 1965-66 was 250,000 tons.

There are presently 21 fish-curing yards. During the first three Five-Year Plans, 17 ice plants and cold storage units were installed for fish preservation. Nine additional cooling units are presently being constructed under a crash program. More ice plants have been proposed, and it is expected that by 1970-71, 45 ice plants and cold storage units managed by the Fisheries Department will be functioning in the state apart from those which may be constructed by cooperatives and private enterprise.

PORTS

Tamil Nadu has a major port at Madras, supplemented by three of intermediate size (Tuticorin, Cuddalore and Nagapattinam) and eight minor ports.

FORESTS

Forests occupy 6,564 square miles or about 17 per cent of the state's total area. The major forest products are: timber, fuel, bamboo, sandalwood, and tan barks. While the West Coast forests

provide teak and rosewood, the comparatively dry forests in the eastern districts contain sandalwood in which India holds almost a world monopoly. The timber forests are mainly confined to the high rainfall region of the Western Ghats in Coimbatore, Madurai, and Tirunelveli districts, with more than 40 marketable species.

In recent years, the Forest Department has begun to plant rubber in Kanyakumari district, which is the only area in the state suitable for its cultivation.

INDUSTRY

Tamil Nadu has made considerable progress in the industrial field during the past 17 years. With a comparatively restricted scope for further development of its agricultural potential and with a view to evolving a balanced economy, the State Government embarked on a bold program of large-scale development of industries. This development has taken place in spite of a number of adverse factors, i.e., the state's small size, high density and rate of population increase, lack of minerals, fuels, forests and water, and its long distance from raw-material sources. The State Government remedied this difficulty to a large extent by rapidly developing electrical energy and transportation facilities.

Tamil Nadu now has a variety of industries producing a wide range of products. The Central Government operates several public sector undertakings in the State—Integral Coach Factory, Heavy Vehicles Factory, Small Arms Factory, Heavy Boiler Plant, Surgical Instruments, Hindustan Teleprinters, Hindustan Photo Films, Madras Refineries Ltd., and Neyveli Lignite Project.

The development of industries in the private sector has also been remarkable because of their diversity—rubber, automobiles, textiles, cement, tea, paper, etc. The private sector has exploited the advantages arising from the development of power and transport and from the availability of skilled labor and has introduced new lines of production. During the first three Five-Year Plans, the State Government established 22 Industrial Estates for the development of small-scale industries. Tamil Nadu has also been a pioneer in the Khadi industries.

POWER

Before the beginning of the First Plan, the installed capacity in the state was 146 megawatts. By the end of the Third Plan, it had increased to 1,370 megawatts—300 megawatts more than the target set for the Plan. The target for installed capacity by 1970-71 is 2,474 megawatts. The per capita consumption in 1967 was about 93 kwh.

The State has made remarkable progress in rural electrification. By the end of the Third Plan, 22,137 rural localities had been electrified, and 256,466 pumpsets had been energized. Almost all villages with a population of 5,000 and above and most of the villages with a population of 2,000 and above have been electrified.

Basic data on Tamil Nadu

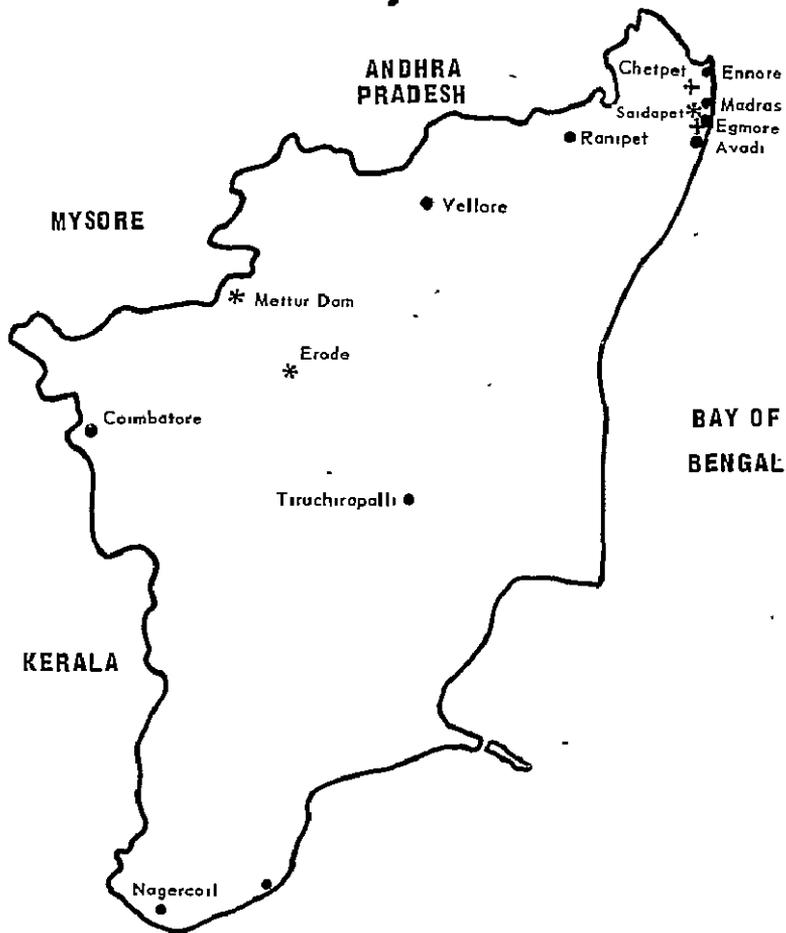
Capital : Madras

Official Language : Tamil

1967

POPULATION	38,189,000	EDUCATION	
Density	759 (per square mile)	Universities	3
		Literacy per cent	31.4
LAND AREA	50,331 square miles		
Districts	13		
	(millions of acres)	<i>Type</i>	<i>Nos. Enrollment</i>
GEOGRAPHICAL AREA	32.2	Primary Schools	30,580 5,000,000
<i>Area sown.</i>	19.2	High Schools	2,235 1,212,000
(a) Foodgrains	12.7	Teacher Training	
(b) Cash Crops	6.5	Schools & Colleges	158 22,952
Forests	4.7	Schools for Handicapped	14 1,500
Barren, Permanent Pastures,	8.3	Colleges for	
Current Fallows, etc.		General Education	93 75,013
		Engineering Colleges	12 2,167
		Polytechnics	35 4,792
		Medical Colleges	7 936
		Veterinary Colleges	7 936
IRRIGATION	(millions of acres)	HEALTH	
	<i>Potential Utilization</i>	Hospitals & Dispensaries	1,001
Major & Medium	8.1 6.2	Doctors	13,019
		Nurses	9,930
POWER		Midwives and Auxiliary nurses	16,281
Installed Generating Capacity	1,370 MW		
Per Capita Consumption	93 Kwh	LABOR	
Villages and Towns Electrified	22,137	Craftsmen Training Institutes	32
Agricultural Pumpsets	256,466		
Energized			
INDUSTRIES			
Factories	6,840		
Persons employed	368,967		
COOPERATIVES		SOURCES	
Societies	12,400	(1) Times of India Directory-1967	
Membership (millions)	4.7	(2) Statistical Abstract of Indian Union-1966	
Working Capital (millions of Rs)	850.7	(3) Progressive Madras State-1967 issued by the Hindustan Chamber of Commerce, Madras.	
TRANSPORTATION			
Roads (metalled & unmetalled)	31,000 miles		
Railways	3,098 miles		
Airports	4		
Ports	12		

USAID Assisted Projects in Tamil Nadu



DEVELOPMENT LOANS

CHEMICALS AND PLASTICS	Mettur Dam
SESHASAYEE PAPER MILLS	Erode
MADRAS RUBBER	Madras

MAJOR TECHNICAL COOPERATION PROJECTS

AGRICULTURAL PRODUCTION	Coimbatore
FISHERIES	Maulapam Camp, Ennore & Nagercoil
FOODGRAIN STORAGE	Avadi and Egmore
AGRI. EDUCATION & RESEARCH	Coimbatore, Madras, Ranipet
CROP PRODUCTION	Coimbatore
MULTIPURPOSE SEC. SCHOOLS	Saidapet, Chetpet, Nungambakkam
AVIATION GROUND FACILITIES	Tiruchirapalli, Madras
NURSING COLLEGE	Vellore

LEGEND

- * INDUSTRIAL EXPANSION
- + FOODGRAIN STORAGE
- INSTITUTES & UNIVERSITIES

The USAID contribution TO THE ECONOMIC DEVELOPMENT OF TAMIL NADU

Since 1950, the United States through the Agency for International Development (AID) has been assisting India in many fields, including agriculture, health, education, industry, transportation, and power. Many of these USAID projects and activities have benefitted Tamil Nadu. For example, under the participant training program, 335 technicians and professionals from Tamil Nadu have received training in the United States (through December 31, 1968). (See page 24)

Summary of USAID assistance benefitting Tamil Nadu

As of June 30, 1968

	(Figures in Thousands)			
	LOANS		GRANTS	
	Dollars	Rupees	Dollars	Rupees
US-GOI Projects and Activities				
<i>Confined to Tamil Nadu</i>	<u>3,150</u>	<u>38,201</u>	<u>606</u>	
Chemicals & Plastics	3,150	3,261		
Seshasayee Paper Mills		20,000		
Madras Rubber Company		15,000		
Exploratory Lignite Excavation & Development			606	
<i>Countrywide</i>	<u>1,868,777</u>	<u>3,298,300</u>	<u>205,777</u>	<u>3,007,257</u>
Agriculture	10,845		39,113	21,540
Agricultural Production			1,763	8,957
Acquisition & Distribution of Fertilizers	8,854		4,538	
Expansion and Modernization of Marine & Inland Fisheries			2,902	63
Agricultural Extension			2,999	2,458
Community Development	1,991		11,518	
Agr. Education & Research			8,981	5,144
Foodgrain Storage			1,664	99
Animal Husbandry			964	1,304
Agr. Economics & Research			289	17
Crop Production			1,537	1,711
Dairy Development			994	240
Soil & Water Conservation			964	1,547
Education			17,048	33,522
Science Education Improvement			4,717	19,667
Multipurpose Secondary Education			3,993	7,832
Technical Education Institutes			4,462	3,886
Home Science Education & Research			1,045	224
Social Welfare Education			581	224
Teacher Training in Engineering Education			2,250	1,689

Annex I describes those activities which are designed exclusively for the development of Tamil Nadu (total assistance : \$3.8 million and Rs 38.2 million).

Annex II describes those projects which are not exclusively for Tamil Nadu but which also

contribute to the state's development (total India-wide assistance under such activities : \$2,074.6 million and Rs 6,305.5 million, including PL 480 rupee support of Rs 6,239.6 million. These figures do not include the value of the food donation program under PL 480, Title II).

	(Figures in Thousands)			
	LOANS		GRANTS	
	Dollars	Rupees	Dollars	Rupees
Health	<u>9,533</u>		<u>83,352</u>	<u>2,456</u>
Malaria Control & Eradication	9,533		80,683	1,126
Assistance to Medical Colleges and Allied Institutions			1,056	
Nursing Colleges			1,230	1,024
Public Health Education			383	306
Industry	<u>10,399</u>		<u>53,731</u>	<u>7,897</u>
Acquisition and Distribution of Iron & Steel	10,399		50,394	
National Productivity Council			3,337	7,897
Power			<u>1,076</u>	<u>490</u>
Technical Services in Water Resources and Power Development			1,076	490
Transportation			<u>2,879</u>	<u>88</u>
Aviation Ground Facilities			2,879	88
Labor			<u>661</u>	
Trades Training			661	
Commodity Imports Under Non-Project Loans	<u>1,838,000</u>			
PL 480 Rupee Assistance for Development Activities		<u>3,298,300</u>	<u>7,917</u>	<u>2,941,264</u>
River Valley Development		2,359,000	7,917	59,400
Foodgrain Storage		20,000		140,435
Dairy Development				40,700
Soil & Water Conservation		29,000		100,829
Higher Technical Education		132,800		165,600
Elementary Education		357,900		783,100
Technical Education Institutes				1,200
Malaria Control & Eradication		171,400		851,000
Primary Health Centers		20,000		105,500
Smallpox Eradication		19,700		102,900
Craftsman Training		188,500		394,600
National Highways				196,000

USAID assisted projects and activities

<i>Projects and Activities</i>	<i>Objectives, Benefits</i>	<i>U.S. Inputs</i>
A. Active		
Chemicals and Plastics (India) Ltd., Mettur Dam	To manufacture the basic chemical components used for the manufacture of polyvinyl chloride plastic. The U.S. affiliate in this enterprise is B.F. Goodrich Co., Akron.	Export-Import Bank made available a loan of \$ 3,150,000 to the Company for the import of equipment. In addition, the USAID authorized Rs 3,260,600 to the Company from PL 480 Cooley Loans for meeting the local costs of the project. The plant is in production.
Seshasayee Paper and Board, Ltd., Erode	To establish a bagasse and bamboo pulp paper mill. The company is collaborating with Parsons and Whittamore, New York.	USAID made available Rs 20 million to the Company from PL 480 Cooley Loans. The plant is in production.
Madras Rubber Company Ltd., Madras	To produce and expand its tire and tube manufacturing capacity. The Company is affiliated with Mansfield Tire & Rubber Company of Ohio.	USAID has authorized three loans totaling Rs 15 million to the Company from PL 480 Cooley Loans. The third loan of Rs 7.5 million authorized in November 1967 is to assist the company to expand its existing production capacity by 25 per cent.
B. Completed		
Exploratory Lignite Excavation and Development FY 1953-FY 1959	To assist the GOI to complete an economic feasibility study of the lignite areas in South Arcot district, Tamil Nadu.	USAID provided two years of services by a mining engineer for exploratory lignite excavation and short-term consultant services of three U.S. Bureau of Reclamation Engineers for the survey. It also supplied commodities worth \$ 578,296, the main item provided was a pilot briquetting and carbonization plant (\$ 400,000) which was commissioned in 1958. Two employees of the Neyveli Lignite Corporation received training in the United States for six months each under the project. Total assistance : \$606,000.

"FY," whenever used in this booklet, designates U.S. Fiseal year July 1 to following June 30.

confined to the State of Tamil Nadu

PL 480, TITLE II PROGRAM IN TAMIL NADU

The Title II (formerly Title III) food donation program is a "people-to-people" program through which U.S. citizens express their humanitarian concern for and share their food abundance with needy people and school children. The program is carried out by distributing agencies, i.e. inter-governmental organizations and U.S. non-profit voluntary agencies.

During FY 1968, gift commodities received by Tamil Nadu under this program included bulgur, cornmeal, wheat flour, milk, butter, and vegetable oil. Following is the breakdown of beneficiaries estimated to have received Title II gift commodities during the year :

Number of Beneficiaries

<i>Name of Agency</i>	<i>Mat. & Pre-School</i>	<i>School Feeding</i>	<i>School Hostels</i>	<i>Other Children</i>	<i>Community Development</i>	<i>Institute Feeding</i>	<i>Health Cases</i>	<i>Other Relief Refugees</i>	<i>Total</i>
CARE		1,600,000							1,600,000
CRS	36,500	142,950		35,100	36,800	4,050	10,900		266,300
CWS/LWR	22,400	90,800	4,800	16,000	100,000	5,000	4,000	4,600	247,600
UNICEF	75,000								75,000
TOTAL :	133,900	1,833,750	4,800	51,100	136,800	9,050	14,900	4,600	2,188,900

During FY 1969, it is proposed to provide gift commodities to 2,183,900 persons.

Countrywide projects and activities

<i>Projects and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
A. Active AGRICULTURE Agricultural Production FY 1967-	<p>To strengthen the link among the field, research facilities, and the State Department of Agriculture to facilitate solution of problems as they arise and to insure the rapid communication of research results back to the cultivators. The program is focussed particularly on areas where high-yielding variety programs are being undertaken.</p> <p>In each state where this project is being implemented, a team composed of four to six U.S. technicians is provided in fields such as seed production, plant protection, soil fertility, water use management and drainage, agricultural implements, extension training, and agricultural information. The project also includes non-degree training in the United States for up to six participants each year from each state. Total assistance under this project through June 30, 1968 was \$1,763,000 and Rs 8,957,000.</p>	<p>Through a contract with the University of Tennessee, USAID is providing a team of five subject-matter specialists to work with the Department of Agriculture. Since the project began in FY 1967, a total of \$237,000 and Rs 1,272,000 has been obligated for this activity.</p>

benefitting Tamil Nadu

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
EDUCATION		
Science Education Improvement FY 1963-	To improve the teaching of science, mathematics, and technology by training Indian teachers at the higher secondary and college levels in the most recent developments in their specialities and modern teaching methods. From 1963 through 1968, a total of 517 summer institutes were conducted in biology, physics, chemistry, mathematics, engineering and polytechnics, for approximately 20,680 teachers and professors. A total of 883 U.S. consultants participated in these summer sessions. Total assistance through June 30, 1968 was \$4,717,000 and Rs 19,667,000.	Through FY 1968, 48 USAID-assisted summer institutes have been held in Tamil Nadu and approximately 1,920 teachers and professors have received training.
Multipurpose Secondary Education FY 1956-FY 1969	To help reorganize and improve secondary education in India. The first phase established 54 extension training centers for secondary school teachers. The second phase emphasized vocational education in the multipurpose secondary schools. The third (current) phase emphasizes the development of four regional teacher training colleges with attached demonstration schools, none of which is in Tamil Nadu. Total assistance: \$3,993,000 and Rs 7,832,000.	\$33,947 worth of equipment was provided to seven extension training centers (five in Madras city) under the first phase. Under the second phase, equipment worth \$11,000 was provided to the state's three multipurpose secondary schools (at Saidapet, Chetpet, and Nungambakkam.) The Mysore regional college being assisted by U.S. technicians under the current phase of the project extends teacher training facilities to Tamil Nadu also.
HEALTH		
Malaria Control and Eradication FY 1952-	To assist the GOI in its National Malaria Control and Eradication Program. Prior to 1953, malaria was considered India's greatest health scourge. Every year there were about 75 million malaria cases with 750,000 deaths and with substantial increases during epidemic	Tamil Nadu participated in the national program of malaria control and eradication. As of June 30, 1968, 2.70 units in the state with a population of 2.78 million had passed to the consolidation phase and 28.75 units with 33.64 million had been approved for the main-

(continued on next page)

Countrywide projects and activities

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
	<p>years. After five years of concentrated efforts in the Control Program, there were two million cases and approximately 200,000 deaths annually. In 1958 the program was converted to "eradication." By June 30, 1968, 70.39 units with a population of 90.85 million had passed to the consolidation phase, and 209.88 units with 270 million people had been approved for the maintenance phase. Thus there were 112.97 units with 141 million people in the attack phase of the program. The number of reported cases had been reduced to 278,621.</p> <p>Since, 1952, the United States Agency for International Development has financed the procurement of several hundred vehicles, several thousand tons of DDT, spray equipment, malaria drugs, and technician services. The project also provided training to 32 key National Malaria Eradication Program personnel. Total assistance through June 30, 1968: \$90,216,000 (grant \$80,683,000 and loan \$9,533,000) and Rs 1,126,000. In addition, the GOI had allocated Rs 1,022,400,000 from PL 480 funds (USAID grant to GOI of Rs 851,000,000 and loan of Rs 171,400,000) for meeting the local costs of the project. The above figures do not include the imports made under the USAID Non-Project Loans estimated at \$12.7 million for DDT and anti-malaria drugs.</p>	<p>tenance phase. The remaining 1.78 million were still in the attack phase of the program. The number of reported cases in 1967 had been reduced to only 168.</p> <p>In addition, three National Malaria Eradication Program personnel from the state went abroad for USAID-sponsored training.</p>

benefitting Tamil Nadu (Contd.)

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
Commodity Imports Under Non-Project Loans	<p>To assist the Government of India to procure from the United States essential raw materials, machinery, and spare parts required for the growth of Indian agriculture and industry. Since 1952, the USAID has made available to India \$1,838 million as non-project loans through the Government of India. Industrial commodities imported under the various loans included chemicals, non-ferrous metals, specialized components such as roller bearings and spares for industrial and construction equipment. Some portion of these loans was also used for the import of DDT and anti-malaria drugs.</p>	<p>The agricultural and industrial sectors in Tamil Nadu benefit from these general commodity import loans.</p>
	<p>Prior to 1963, these non-project loans were used mainly for industry and transport. Since that time, however, these loans have been used increasingly for agricultural inputs, primarily fertilizers. Almost 50 per cent of the recently authorized loans has been earmarked for the agricultural sector.</p>	
	<p>None of these loans has been used for the import of consumer goods or luxury items.</p>	

Countrywide projects and activities

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
B. Completed		
AGRICULTURE		
Acquisition & Distribution of Fertilizers FY 1952–FY 1958	<p>To provide fertilizer to promote an immediate increase in agricultural production. At the start of this project, the production of chemical fertilizers was completely inadequate and India was almost entirely dependent on imports. It was also considered essential to test new types of fertilizers on Indian soils and to popularize them, it found suitable.</p> <p>Under the project, approximately 262,350 tons of fertilizers were made available to the GOI to be sold to the Indian farmers through the state governments. A portion of the supply was made available to the states for demonstration purposes.</p> <p>Total USAID assistance through FY 1958 was grant \$4,538,000 and loan \$8,854,000. These figures do not include the allocations made for the import of fertilizers from Non-Project AID Loans.</p> <p>* (See the section on Non-Project AID Loans, page 13).</p>	<p>Tamil Nadu was one of the states which participated in this country-wide program for increasing agricultural production.</p>
Expansion & Modernization of Marine & Inland Fisheries FY 1952–FY 1961	<p>To provide supplies and equipment for the modernization of marine and inland fisheries on the eastern and western coasts of India. Assistance was provided to eight training centers, four off-shore fishing stations and fishermen cooperatives. Six technicians and three short-term consultants were provided; participants were trained in the United States, and commodities worth \$2.5 million were supplied.</p>	<p>USAID financed the training of three participants for a total of 15 months in the United States. In addition, equipment worth \$212,840 was provided to the State Government. This included marine diesel engines, an insulated road van, an audio-visual van, a wooden purse seine vessel and miscellaneous gears. Most of the equipment is at the Central Marine Fisheries Research Station, Mandapam.</p>

benefitting Tamil Nadu (Contd.)

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
Agricultural Extension FY 1951–FY 1967	<p>Total assistance was \$2,902,000 and Rs 63,000.</p> <p>To assist the Central and State Governments in training an efficient corps of extension workers; planning and developing an effective extension program; and implementing the program in the field. The GOI has established 100 Extension and 44 Home Science Training Centers to train Village Level Workers. Total assistance was \$2,999,000 and Rs 2,458,000.</p>	<p>Camp. In addition, two ice plants for Ennore and Nagercoil were provided.</p> <p>USAID financed U.S. training for nine participants for a total of 72 months.</p>
Community Development Program FY 1952–FY 1959	<p>To develop the material and human resources prerequisite for greater agricultural production through rural community development blocks. Agricultural extension centers, panchayats and cooperatives, village schools, community centers and social education programs were initiated in many rural areas. Advisory services were provided, as well as substantial commodity aid including jeeps, audio-visual materials, and agricultural implements. Total assistance was grant \$11,518,000 and loan \$1,991,000.</p>	<p>Assistance was provided to the State Government for the development of rural community development blocks, extension centers, village schools, etc.</p>
Agricultural Education Research and Extension FY 1955–FY 1963	<p>To strengthen and expand agricultural education and research in about 80 colleges and institutions throughout India by providing commodity support, technical advisory services and participant training. Total assistance under this project was \$8,981,000 and Rs 5,144,000.</p>	<p>Books and equipment worth \$187,550 were supplied and the services of four (University of Tennessee Contract) technicians were provided for a total of 96 months to six agricultural institutions (Agriculture College and Research Institute and Home Science College, both at Coimbatore; the Veterinary College and the Department of Animal Husbandry of the</p>

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Countrywide projects and activities

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
Foodgrain Storage FY 1955–FY 1966	To demonstrate efficient grain storage through construction of modern grain elevators and to determine the most economical types of grain handling facilities under Indian conditions. Total assistance was \$1,664,000 and Rs 99,000. In addition, the GOI provided Rs 160,435,000 from PL 480 funds (grant Rs 140,435,000 and loan Rs 20,000,000) for the construction of over 100 godowns.	State Government of Tamil Nadu; the Institute of Veterinary Preventive Medicine, Ranipet; and the Annamalai University). In addition, training was provided to 34 participants for an average of 14 months each in the United States.
Animal Husbandry FY 1955–FY 1967	To assist the Central and state governments in poultry and live-stock development and marketing by training Indian participants and providing commodity support and technical advisory services. Total assistance was \$964,000 and Rs 1,304,000 including \$406,000 for equipment.	USAID provided training to seven Tamil Nadu participants for a total of 42 months in the United States.
Agricultural Economics Research FY 1955–FY 1961	To assist the GOI in collection and evaluation of agro-economic data, through six Agro-economic Research Centers. Total assistance was \$289,000 and Rs 17,000.	USAID provided equipment (tabulators, automatic verifiers, calculators, etc.) worth \$19,641 to the Agro-economic Research Center, Madras under the project.
Crop Production FY 1955–FY 1967	To assist the GOI in production and demonstration of improved seeds of adapted varieties, promotion of correct cultural practices, control of fertilizer quality and its	One seeds testing laboratory costing \$4,000 was established at Coimbatore, and training for 10 participants was provided in the United States.

benefitting Tamil Nadu (Contd.)

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
	widespread use. Assistance included technicians' services, supporting commodities (primarily for seed production and seed testing laboratories) and participant training. Total assistance was \$1,537,000 and Rs 1,711,000.	
Soil & Water Conservation FY 1959–FY 1967	To assist the GOI in effective soil and water use management practices, training Indian soil and water conservation technicians, and demonstrating better conservation techniques to cultivators through pilot projects. Total assistance was \$964,000 and Rs 1,547,000. In addition, the GOI allocated Rs 129,829,000 from PL 480 funds (grant Rs 100,829,000 and loan Rs 29,000,000) for this project.	USAID provided training to seven Tamil Nadu participants for a total of 42 months in the United States.
Dairy Development FY 1956–FY 1964	See description under the Section "PL 480 Rupee Assistance for Development Activities."	
EDUCATION		
Technical Education Institutes FY 1953–FY 1967	To assist in improving teaching methods in technical education. Through contracts with the Universities of Illinois, Wisconsin, and Michigan State, USAID provided U.S. professors, participant training and commodities. Total assistance was \$4,462,000 and Rs 3,886,000. The GOI has allocated Rs 1.2 million PL 480 funds to purchase computer equipment under the project.	USAID financed the training of 19 participants from the state for a total of 266 months and provided the services of eight U.S. technicians and commodities valued at \$10,000 to the College of Engineering, Guindy.
Home Science Education and Research FY 1955–FY 1961	To assist in strengthening home science education and research in Indian colleges and universities. 18 U.S. technicians were provided and 28 Indian participants received	USAID financed the services of five technicians for a total of 112 months to the following institutions: Women's Christian College, the South Indian Educational

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Countrywide projects and activities

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
	training in the United States. Total assistance was \$1,045,000 and Rs 224,000.	Trust, Queen Mary's College, and St. Christopher's Training College, all in Madras. It also provided an average of 10 months training to 11 participants and commodities worth \$9,500 to the above colleges.
Social Welfare Education FY 1955-FY 1962	To strengthen and expand social welfare teaching institutions in India by providing commodity support, technical advisory services and participant training. Total assistance was \$581,000 and Rs 224,000.	USAID provided the services of two technicians for a total of 36 months to the Madras School of Social Work. One participant received training in the United States for one year.
Teacher Training in Engineering Education FY 1958-FY 1961	To assist in improving the facilities and quality of engineering education in India. Under a four-year program, USAID provided an average of 18 months training to 299 Indian engineers. Total assistance was \$2,250,000 and Rs 1,689,000.	USAID financed the training of 42 engineers from the state for a total of 756 months.
HEALTH Assistance to Medical Colleges and Allied Institutions FY 1954-FY 1957	To assist in upgrading and expanding medical education institutions in India. Scientific, laboratory and professional equipment was provided to 55 medical colleges, research and allied institutions. Total assistance : \$1,056,000.	USAID provided one technician for three years to Tamil Nadu Health Department and another for one year to the Christian Medical College and Hospital, Vellore. It also provided equipment worth \$20,000 to the Pasture Institute, Conoor for the manufacture of polio vaccine. Total assistance was \$80,000.
Nursing Colleges FY 1958-FY 1967	To improve the quality of nursing administration, nurse education, and in-service training in hospitals and nursing colleges by providing technicians, participant training and commodity support. Total assistance : \$1,230,000 and Rs 1,024,000.	USAID financed the services of one Nurse Advisor for two years at the Christian Medical College and Hospital, Vellore, and provided training for four of its staff members for 55 months in the United States.

benefitting Tamil Nadu (Contd.)

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
Public Health Education FY 1958–FY 1967	To assist the GOI in its effort to effectively use educational concepts and procedures in the nation's public health program. USAID focussed its efforts on the establishment and operation of the Central Health Education Bureau. Total assistance: \$ 383,000 and Rs 306,000.	USAID provided the services of one technician to Tamil Nadu Health Department for four years, and financed one year's training each for two participants.
INDUSTRY		
Acquisition and Distribution of Iron and Steel FY 1952–FY 1958	The objectives of the project were : 1) to help increase food and agricultural production by making available to farmers improved agricultural implements such as steel-point ploughs, spike-tooth harrows, steel cart-tyres, irrigation devices, etc.; 2) to make steel available for the replacement, rehabilitation, and expansion programs of the Indian railways; and 3) to stimulate general industrial activity in the country. Approximately 459,280 tons of steel and steel products were procured and distributed to several Indian manufacturers and state governments. Total USAID assistance through FY 1958: grant \$ 50,394,000 and loan \$ 10,399,000. These figures do not include the allocation of over \$ 85 million from USAID non-project loans for the import of iron and steel.	Tamil Nadu was one of the states which benefitted in this country-wide program for increasing agricultural and industrial production.
National Productivity Council FY 1958–FY 1966	To assist the GOI in the establishment and operation through the National Productivity Council of a national program for increasing efficiency in industry. USAID	In Tamil Nadu, the U.S. advisors conducted a series of training courses for 49 man-months in which 290 industrial managers and supervisors participated. U.S.

Countrywide projects and activities

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
<p>POWER Technical Services in Water Resources and Power Development FY 1956–FY 1962</p>	<p>provided training facilities for 300 Indian participants and a seven week tour to the United States and elsewhere for 43 Productivity Teams with a membership of six to seven each. Operating through the National Productivity Council and its six Regional Directorates and 45 Local Productivity Councils, the United States technicians organized and conducted training courses, seminars, and workshops within India. Total assistance: \$3,337,000 and Rs 7,897,000.</p> <p>To assist the GOI in the development of its multipurpose river basin program, irrigation, flood control, inland waterway navigation, and electric and power generating and transmission. Thirty-six U.S. technicians and consultants contributed 41 man-years of services; 108 Indian engineers received training in the United States; and technical books and radio gauge equipment were provided under the project. Total assistance: \$1,076,000 and Rs 490,000.</p>	<p>training totaling 183 months was provided for 38 participants and for 44 Productivity Team members.</p> <p>USAID financed the training of eight participants from Tamil Nadu for a total of 48 months.</p>
<p>TRANSPORTATION Aviation Ground Facilities FY 1954–FY 1964</p>	<p>To assist in expanding and modernizing aviation ground facilities and aeronautical communication services by providing modern equipment for all-weather aid to high altitude aircraft. Total assistance: \$2,879,000 and Rs 88,000.</p>	<p>The radio teletype equipment and VHF Omni-Directional Radio Range (VOR) at the Tiruchirapalli and Madras airports were installed under the project.</p>
<p>LABOR Trades Training FY 1955–FY 1959</p>	<p>To assist the Ministry of Labor of the GOI to expand and upgrade</p>	<p>USAID provided workshop equipment and training aids worth</p>

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benefitting Tamil Nadu (Contd.)

<i>Project and Activities</i>	<i>Countrywide Objectives and U.S. Inputs</i>	<i>State Participation and Benefits</i>
<p>C. PL 480 RUPEE ASSISTANCE FOR DEVELOPMENT ACTIVITIES River Valley Development FY 1952-FY 1966</p>	<p>its training facilities in basic trades and crafts for pre-employed youths. Total assistance: \$ 661,000 including \$ 631,000 for commodities.</p> <p>The USAID assisted the GOI with imported heavy earth moving equipment and rupees from PL 480 funds to expand 12 multipurpose river valley projects for hydroelectric power, irrigation and flood control. The combined electric generating capacity of these projects will be over 2,000 megawatts and will irrigate about 12 million acres of land. The Government of India allocated Rs 2,418.4 million (PL 480 grant of Rs 59.4 million and loan of Rs 2,359.0 million) for execution of these projects. The value of the USAID-financed equipment was \$ 7.9 million.</p>	<p>\$49,854 to 23 of the State's 32 Industrial Training Institutes.</p> <p>In Tamil Nadu, Rs 76.3 million were allocated from PL 480 funds for the Kundah Hydroelectric project. It is designed to harness the Kundah basin in the Nilgiris Hills through a series of five main and six small storage and diversion dams and to provide 425 megawatts installed electric power. Two stages consisting of two units of 20 megawatts and four units of 35 megawatts were commissioned in 1960-61 providing a total of 180 megawatts of installed generating capacity. Under stage III, one unit of 35 megawatts, two units of 60 megawatts and one unit of 50 megawatts were commissioned in 1964-65, providing a total planned installed generating capacity of 425 megawatts.</p>
<p>Dairy Development FY 1955-FY 1964</p>	<p>USAID financed equipment totaling \$ 771,000 for developing 15 milk and milk product schemes in the country. Technical advisory services and participant training abroad cost an additional \$ 223,000. The GOI allocated Rs 40.7 million from PL 480 funds for implementation of these schemes.</p>	<p>Rs 13 million were allocated for Madras Dairy and Milk Products, and Madurai Milk Scheme.</p>

Countrywide projects and activities

<i>Projects and Activities</i>	<i>Objectives, Benefits</i>	<i>U.S. Inputs</i>
Higher Technical Education FY 1962-	The GOI is developing 14 regional engineering colleges in India. As of June 30, 1968, Rs 298.4 million (PL 480 grant Rs 165.6 million and loan Rs 132.8 million) had been allocated for the project.	The Regional College at Tiruchirapalli received support.
Elementary Education FY 1962-	In support of its elementary education program throughout the country, the GOI has allocated a total of Rs 1,141.0 million from PL 480 funds (grant Rs 783.1 million and loan Rs 357.9 million).	Part of the assistance was provided to the State Government for development of the elementary education program in the State.
Smallpox Eradication FY 1962-	Rs 122.6 million (PL 480 grant Rs 102.9 million and loan Rs 19.7 million) have been allocated to the countrywide smallpox eradication program.	Operations in Tamil Nadu began in 1963; steady progress has been made by the state. As of September 30, 1968, 46,063,738 re-vaccinations and 8,017,639 primary vaccinations had been performed.

benefitting Tamil Nadu

<i>Project and Activities</i>	<i>Objectives Benefits</i>	<i>U.S. Inputs</i>
Primary Health Centers FY 1962–FY 1967	The GOI is establishing primary health centers throughout the country, each to serve about 60,000 persons. Rs 125.5 million had been allocated (PL 480 grant Rs 105.5 million and loan Rs 20 million) for their establishment through June 30, 1967.	As of September 30, 1968, 293 primary health centers were functioning in the State.
National Highways FY 1963–FY 1966	For its countrywide program of expanding and strengthening roads and bridges, the GOI allocated Rs 196 million from PL 480 grant funds.	Rs 8.5 million were provided for 30 State schemes, including construction of new bridges and strengthening of existing roads.
Craftsmen Training FY 1962–	To expand facilities for the training of craftsmen through seven Central and 357 Industrial Training Institutes. The GOI allocated from PL 480 funds Rs 583.1 million (grant Rs 394.6 million and loan Rs 188.5 million).	32 Industrial Training Institutes including those at Madras, Coimbatore, Salem, Conoor and Madurai have benefitted under the project.

TAMIL NADU

335 Participants

RETURNED PARTICIPANTS

1951 - 1968

AGRICULTURE

Extension	18	
Land and Water	9	
Crop Prod.	9	
Livestock	6	
Ag. Univ. Dev.	36	
Ag. Production	3	
Fertilizer	7	88

EDUCATION

Higher Technical (Regular)	48	
Higher Technical (Contract)	28	
Misc.	2	78

ENGINEERING

Mining	3	
Industrial	75	
Nuclear	1	79

HEALTH

Nursing	5	
Public Health	11	
Family Planning	1	17

MANAGEMENT

Banking	6	
Industrial	7	
Personnel	8	
Misc.	1	22

LABOR

Manpower & Employment	15	
Misc.	2	17

POWER AND WATER 18

TRANSPORTATION 16

335

