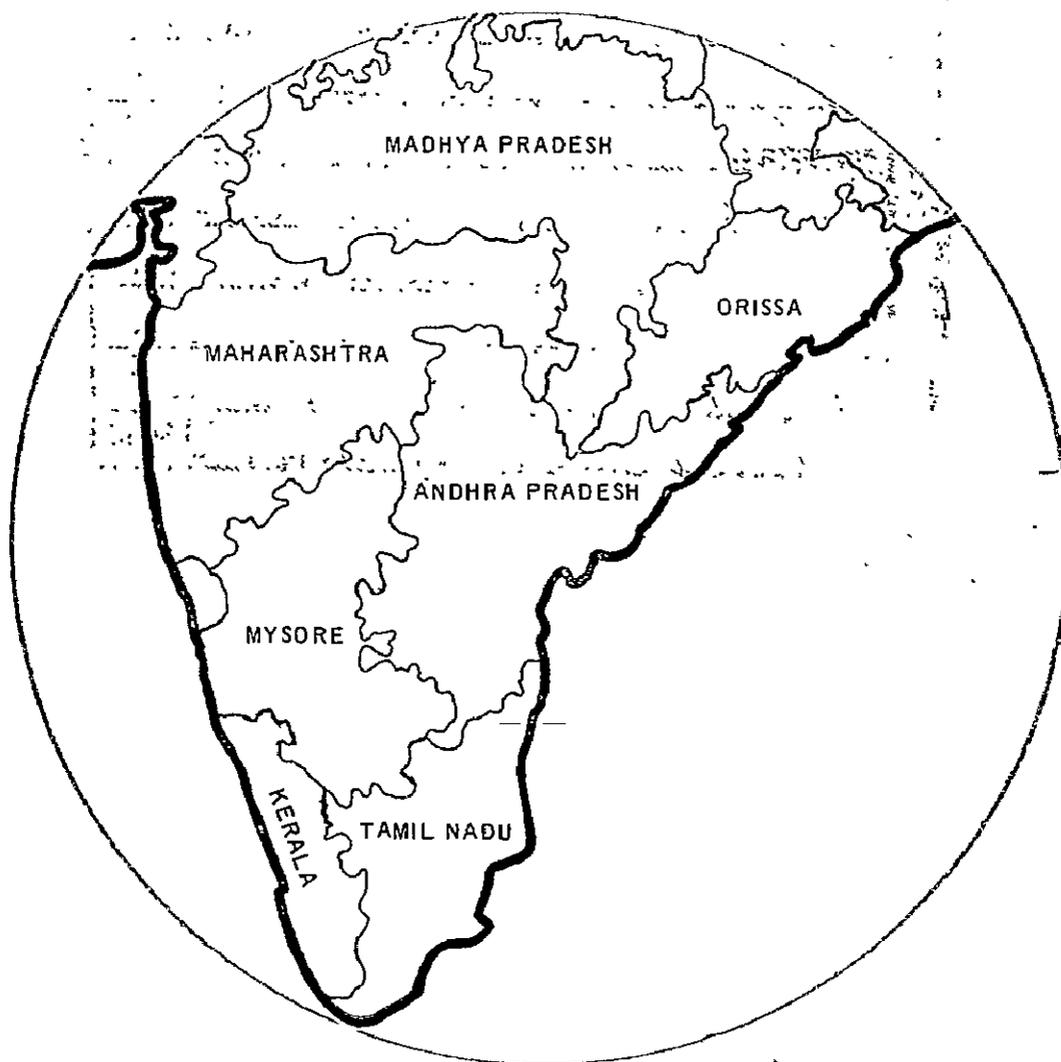


The USAID Contribution to the Economic Development of **ORISSA**



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

JUNE - 1969

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Development of
ORISSA

USAID MISSION TO INDIA
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OFFICE OF DEVELOPMENT POLICY
Program Division

June 1969

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ORISSA

Orissa lies on India's east coast with 300 miles of seacoast, washed by the Bay of Bengal. The alluvial belt along its coast is bordered by rugged tracts, dotted with jungle-clad blue hills, and broken by ravines and deep valleys. Orissa's jungles are rich in game. The countryside consists of innumerable small villages where Oriya — the people of Orissa — live in close harmony with their picturesque environment.

Orissa is a land of temples; the most famous are the Black Pagoda at Konarak and the temple of Jagannath at Puri. In Bhubaneswar, about 500 temples remain of the 7,000 which once lined the sacred lake. These temples and the cave carvings in the Khandagiri hills attract thousands of pilgrims and tourists each year.

The State is bounded on the north by Bihar, on the northeast by West Bengal, on the west by Madhya Pradesh, and on the south by Andhra Pradesh. Its southern districts recede away from the coast with the northern part of Andhra Pradesh wedged between the Bay of Bengal and these districts. Orissa has an area of 60,172 square miles, about 5 per cent of India's total area.

The population of the state in 1968 was estimated at over 20.7 million, giving it a population density of 345 persons per square mile compared to 417 for India as a whole. About five per cent of the people live in cities. Cuttack, the former state capital, is the state's largest city with a population of over 147,000. The other principal cities are Bhubaneswar, the new capital (50,000), Rourkela (91,000), Puri (61,000), and Berhampur (77,000). The remaining 95 per cent of the population lives in villages. A large proportion are "Adivasis" (tribal people), who are mainly concentrated in the hilly tracts.

GEOGRAPHY

Orissa is divided into four well defined geographical regions as follows:

The Northern Plateau has an average elevation of below 3,000 feet. The hill ranges generally sloping from north to south are rich in minerals. Two important rivers, the Brahmani and the Baitarani, flowing from west to east dissect the northern plateau into three blocks and form two river valleys.

The Eastern Ghats are high hill ranges which stretch for about 150 miles, sloping gently from east to west in the southeastern part of the state. They contain some small highly fertile open valleys and are rich in forests.

The River Basins in the west and the center contain the state's most important river valley formed by the Mahanadi river and some highly fertile tracts.

The Coastal Plain is well suited for intensive cultivation and accounts for the major portion of the state's agricultural output. The population is very dense in the heart of the coastal plain in the delta-formed by the three major rivers of the state, the Mahanadi, the Brahmani, and the Baitarani.

CLIMATE

Since the entire state lies in the tropical zone, it is subject to high temperatures. But the sea exercises a moderating influence giving the coastal region a temperate climate.

The cool season lasts from November to February. The hot weather begins in March and terminates with the advent of the monsoon in June. The rainy season continues until October. In the northern districts the average rainfall is about 60 inches, while in the southern region it is about 50 inches.

AGRICULTURE

Agriculture is the mainstay of the state. Of the total area comprising about 38.4 million acres, about 16 million acres (gross) are under cultivation annually. The State has a potential for irrigating 6.2 million acres, although only 2.4 million acres are presently irrigated. The major part of the agricultural land is under food crops including rice, millets, and pulses. Only a small portion of the land is under commercial crops such as oilseeds, fibres, sugarcane, and tobacco. The major crops are as follows:

	<i>AREA</i> (000 acres)	<i>PRODUCTION</i> (000 tons)
<u>FOODGRAINS¹</u>	<u>12,907.2</u>	<u>4,326.9</u>
Rice	10,645.3	3,628.1
Pulses	1,368.5	409.1
Ragi (finger millet)	393.1	146.4
Small millets	330.6	85.8
Jowar, bajra, maize, etc.	169.7	57.5
<u>CASH CROPS²</u>	<u>1,052.7</u>	<u>948.9</u>
Oilseeds	609.3	114.8
Jute, Mesta, etc.	175.2	306.3
Sugarcane (gur)	89.2	176.9
Potato	74.9	313.9
Tobacco	24.5	6.1
Chillies	79.6	30.9

FISHERIES

Fisheries — both inland and marine — occupy an important place in the state's economy. Orissa produces an average of 32,000 tons of fish per year. The State Government has established the Orissa Fisheries Development Corporation to exploit inland, marine, estuarine, and reservoir fisheries on a commercial basis. This will assist Orissa to meet the internal demand for fish and fisheries bi-products as well as to export these products to neighbouring states.

¹ Figures relate to 1967-68

² Figures relate to 1966-67

PORTS

The State of Orissa has a major port at Paradeep, supplemented by two minor ports at Chandbali and Gopalpur.

FORESTS

Orissa has 26,318 square miles of forests, covering 44 per cent of the state's total area. This percentage of the forest area to the total land is the highest in India next to Assam. Orissa's forests constitute 8 per cent of India's total forest area.

Although the forest wealth of the state is considerable, the per acre revenue from the forests is very low compared to other states. In 1966-67, the total forest revenue was Rs 45,924,893. The main reason for the poor return is the preponderance of miscellaneous species of timber which have little or no market value and the improper utilization of marketable timber. The State Government with a view to augmenting the resources from forests has established the Orissa Forest Corporation Limited.

INDUSTRY

While Orissa's full industrial potential is yet to be developed, several important undertakings have been established in recent years. These include the following large public sector undertakings: a steel plant at Rourkela, ferro-manganese factories at Joda and Rayagada, a paper mill and tube factory at Chowdwar, refractories at Belpahar and Rajgangapur and a sugar factory at Rayagada. The making of handloom products is by far the most common industry in the state. Filigree and horn are the principal cottage industries of Orissa.

MINERALS

Orissa has abundant mineral resources comparable to those of Bihar and Madhya Pradesh, the other two mineral-rich states of India. The state is the largest producer of iron ore, having almost 60 per cent of India's iron ore deposits. The State Government has recently begun developing the Daitari mines and is now exporting two million tons of ore annually to Japan through the Paradeep Port. The state also has large deposits of coal, limestone, dolomite, and bauxite.

POWER

Orissa has been endowed with about one-tenth of the total run-off of the country's river systems and with almost unlimited reserves of low-grade coal. Yet at the end of 1950, the installed capacity for power generation was only 4.6 megawatts, excluding 5 megawatts generated by private industry for its own consumption. The state made remarkable progress during the first three Five-Year Plans, and by 1968-1969 the generating capacity was about 505.5 megawatts. Further increases will be registered with the commissioning of two additional 125 megawatt units of the Talcher Thermal Power project and the completion of the 360 megawatt Bali-mela Hydroelectric project in 1970.

The per capita consumption of electricity in 1966-67 was 65 kwh. Spurred by the state's intensified electrification program, the consumption is expected to increase to 104 kwh. by 1969-1970.

Basic data on Orissa

1968

Capital : Bhubaneswar

Language : Oriya

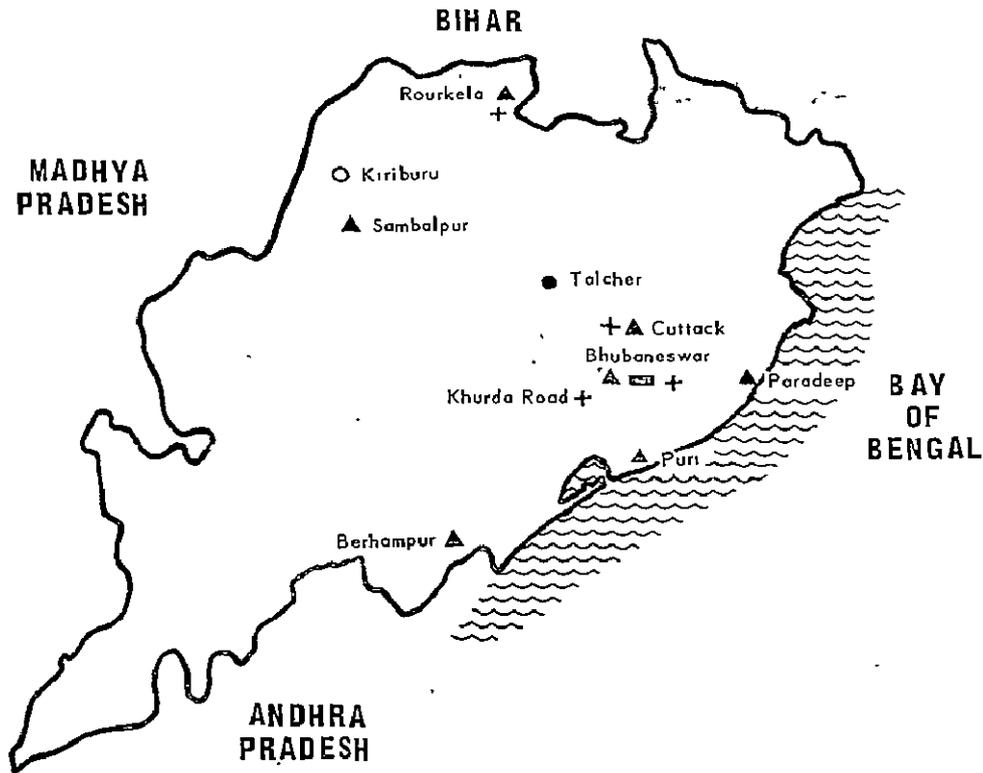
LAND AREA	60,172 square miles	EDUCATION			
Districts	13	Literacy		21.7 per cent	
POPULATION	20,795,000	Universities		4	
Density	345 (per square mile)				
	(Millions of acres)	<i>Type of Schools</i>	<i>No. of Insti- tutions</i>	<i>Enroll- ment</i>	<i>Teachers</i>
GEOGRAPHICAL AREA	38.4	Primary	24,202	1,586,181	46,529
Area Sown	14.8	Middle*	2,442	170,965	8,681
Forest	8.9	High	743	144,803	N.A.
Not available for cultivation	6.3	Higher Sec.	18	8,260	7,264
Permanent pastures, fallow land, culturable waste, etc.	8.4	Colleges for General Educ.	49	19,190	1,055
IRRIGATION	(Millions of acres)	Colleges for Professional Education	19	5,207	560
Potential	6.2	Vocational Education	107	10,629	695
Utilization	2.4	HEALTH			
Major and Medium		Hospitals			183
POWER		Dispensaries			302
Installed Generating Capacity	505.5 MW	Beds			8,588
Per Capita Consumption	65 kwh	Primary Health Centers			306
Villages & Towns Electrified	795	Doctors			1,848
Pump Sets Energized	455	Nurses (trained)			927
INDUSTRY		Nurses (untrained)			729
Factories	894	LABOUR			
Persons Employed	66,700	Craftsmen Training Institutes			10
COOPERATIVES		Enrollment			1,874
Societies	9,323				
Membership (millions)	1.6				
Working Capital (millions of Rs)	530.6				

*Includes Senior Basic Schools

SOURCES :

- 1) Statistical abstract of Indian Union, issued by Central Statistical Organization²-GOI — 1967
- 2) Times of India Directory — 1968
- 3) Statistical Outline of Orissa — Issued by the State Government — 1965.

USAID Assisted Projects in Orissa



DEVELOPMENT LOANS

TALCHER THERMAL POWER PLANT	- Talcher
ORISSA IRON ORE	- Kiriburu

MAJOR TECHNICAL COOPERATION PROJECTS

AGRICULTURAL UNIVERSITY DEVELOPMENT	- Bhubaneswar
MULTIPURPOSE SECONDARY EDUCATION	- Bhubaneswar, Puri, Cuttack, Berhampur
SCIENCE EDUCATION IMPROVEMENT	- Bhubaneswar, Cuttack
SOIL FERTILITY & FERTILIZER USE	- Sambalpur
EXPANSION AND MODERNIZATION OF MARINE AND INLAND FISHERIES	- Paradeep
FOODGRAIN STORAGE	- Rourkela, Bhubaneswar, Khurda Road
CROP PRODUCTION	- Cuttack
ASSISTANCE TO MEDICAL COLLEGES AND ALLIED INSTITUTIONS	- Cuttack
STEEL TRAINING	- Rourkela
AVIATION GROUND FACILITIES	- Bhubaneswar

LEGEND

- Thermal Power Plant
- Mines
- ▲ Institutes & Universities (agricultural, education, technological & research)
- + Foodgrain Storage
- Aviation Ground Facilities

The USAID contribution to the

Since 1952, the United States through the Agency for International Development (USAID) has been assisting India in many fields including agriculture, education, health, industry, transportation, and power. Many of these USAID activities have benefited the State of Orissa. For example, under the

participant training program, 296 Indian technicians and professionals from Orissa received training in the United States, through December 31, 1968 (see page 22). The following section gives a detailed description of the various projects which have assisted the State of Orissa.

Summary of USAID assistance benefiting Orissa As of March 31, 1969

(Figures in Thousands)

<i>US-GOI Projects and Activities</i>	<i>LOANS</i>		<i>GRANTS</i>	
	<i>Dollars</i>	<i>Rupees</i>	<i>Dollars</i>	<i>Rupees</i>
Confined to Orissa	<u>49,929</u>	<u>187,400</u>		
Talcher Thermal Power Plant	31,610	187,400		
Orissa Iron Ore	18,319			
Countrywide	<u>2,059,477</u>	<u>3,588,600</u>	<u>232,853</u>	<u>3,190,730</u>
Agriculture	<u>10,845</u>		<u>64,992</u>	<u>59,470</u>
Agricultural Universities Development			11,123	37,699
Agricultural Production			2,144	10,553
Acquisition & Distribution of Fertilizer	8,854		20,118	
Soil Fertility & Fertilizer Use			1,029	194
Expansion & Modernization of Marine and Inland Fisheries			2,902	63
Agricultural Extension			3,013	2,458
Community Development	1,991		11,518	
Foodgrains Storage			1,664	99
Soil & Water Conservation			964	1,549
Agricultural Education & Research			8,981	5,144
Crop Production			1,536	1,711
Education			<u>12,008</u>	<u>34,122</u>
Science Education Improvement			5,766	24,180
Multipurpose Secondary Education			3,992	8,253
Teacher Training in Engineering Education			2,250	1,689

economic development of Orissa State

Annex I — describes those activities which are designed exclusively for the development of Orissa (total assistance: \$49.9 million and Rs. 187.4 million). These figures do not include the value of the food donation program under PL 480, Title II.

Annex II — describes those projects which are not exclusively for Orissa but which also contribute to the state's development. Total India-wide assistance under such activities: \$2,292.3 million and Rs 6,779.3 million (including PL 480 rupee support for development activities Rs 6,667.5 million).

	(Figures in Thousands)			
	LOANS		GRANTS	
	Dollars	Rupees	Dollars	Rupees
<i>US-GOI Projects and Activities</i>				
Health	11,233		89,003	9,234
Malaria Control & Eradication	9,533		80,721	1,765
Family Welfare Planning	2,700		5,475	5,446
Medical Education Training			1,751	2,023
Assistance to Medical Colleges and Allied Institutions			1,056	
Industry	10,399		54,956	8,472
Acquisition & Distribution of Iron and Steel	10,399		50,394	
Steel Training			1,225	575
National Productivity Council			3,337	7,897
Power			1,076	490
Technical Services in Water Resources and Power Development			1,076	490
Transportation			2,901	88
Aviation Ground Facilities			2,901	88
Commodity Imports Under Non-Project Loans	2,027,000			
PL 480 Rupee Assistance for				
Development Activities	3,588,600		7,917	3,078,854
River Valley Development	2,359,000		7,917	59,400
Higher Technical Education	265,700			165,600
Elementary Education	428,300			783,100
Smallpox Eradication	27,300			102,900
Primary Health Centers	20,000			105,500
National Highways				196,000
Craftsmen Training	235,200			394,600
Malaria Control & Eradication	194,600			851,500
Family Welfare Planning				84,690
Foodgrain Storage	29,500			160,735
Soil & Water Conservation	29,000			100,829
Medical Education Training				74,000

USAID assisted projects and activities

<i>Projects and Activities</i>	<i>Objectives, Benefits</i>	<i>U.S. Inputs</i>
Talcher Thermal Power Project, Talcher Orissa (FY 1963 —)	To increase the electric generating capacity of the State of Orissa. The Talcher Power Station is the major public utility thermal plant in Orissa. Construction of four 62.5 megawatt units for the Talcher plant was started in 1963; three units of the plant were commissioned in 1968 and the remaining one is expected to be commissioned by June 1969. The Talcher project helps to meet Orissa's growing demand for electricity for industry and irrigation. After further transmission grid development, it may also meet some of the demand of the surrounding states.	To finance the foreign exchange costs for construction of a 250 megawatt thermal power station at Talcher. The USAID has made available \$31.6 million for the procurement of equipment. In addition, the GOI has authorized a loan of Rs 187.4 million from PL 480 funds to meet the local costs of the project.
Orissa Iron Ore, Kiriburu, Orissa (FY 1958 —)	To facilitate the export of iron ore to Japan. This project consists of: (i) development of iron ore mines at Kiriburu (Orissa); (ii) construction of railway links from Sambalpur to Titlagarh (113 miles) and from Bimlagari to Kiriburu (26 miles); (iii) provision of rolling stock and motive power to permit rail movement of the ore from the Kiriburu mines to the port of Vishakhapatnam; and (iv) erection of a mechanical ore handling plant at Vishakhapatnam. Under the existing arrangements, the port of Vishakhapatnam can handle about six to eight million tons of ore per annum.	In 1958, the USAID provided \$18.3 million as a loan through the Asian Economic Development Fund for the acquisition of imported commodities and services required for the improvement and expansion of railway and port facilities for the export of iron-ore. Materials and machinery have been placed into operation including 25 diesel locomotives and wharf construction equipment. The mechanical ore handling plant has been completed and is in operation.

"FY" used in this booklet designates U.S. Fiscal Year July 1 to following June 30.

confined to the State of Orissa

PL 480 TITLE II PROGRAM

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 such as non-fat dry milk, bulgur, corn soya milk (CSM), whole wheat, wheat flour and vegetable oil were distributed to approximately 13.2 million beneficiaries in the country. In addition, \$25 million worth of commodities including non-fat dry milk, bulgur, whole wheat, wheat flour, grain sorghum, oil, and Bal Ahar were distributed to approximately 5.1 million beneficiaries for the Drought Relief Program.

In FY 1969, 480,017 metric tons of gift commodities have been programmed for distribution to approximately 17.1 million beneficiaries throughout the country under the program.

Under this program, during FY 1968, a little over one million persons in Orissa benefited from these gift commodities, as shown below:

NUMBER OF BENEFICIARIES

<i>Name of Agency</i>	<i>Mat. and 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		950,000							950,000
CRS	5,750	14,350		4,150	25,750	100	2,000	900	53,000
CWS/LWR	1,200	800	2,000		10,000	200	200	1,000	15,400
UNICEF	7,650								7,650
TOTAL:	14,600	965,150	2,000	4,150	35,750	300	2,200	1,900	1,026,050

Countrywide projects and activities

*Projects and Activities with Countrywide
Objectives and U.S. Inputs*

*State Participation
and Benefits*

A. ACTIVE

Agriculture

Agricultural Universities Development (FY 1964 —) To assist the GOI in developing state agricultural universities capable of planning and administering fully integrated statewide programs in agricultural teaching, research and extension. The seven universities which have been assisted under this project since 1963 are: Andhra Pradesh, Punjab, Rajasthan, Mysore, Madhya Pradesh, Uttar Pradesh, and Orissa. The eighth, Maharashtra University, was added to the project in 1968. U.S. assistance through March 31, 1969 totalled \$11,123,000 and Rs. 37,699,000.

The Orissa University of Agriculture and Technology (OUAT) at Bhubaneswar, with an enrollment of 1,000 students, is one of the eight universities currently receiving USAID technical assistance under this project.

USAID assistance is being provided through a contract with the University of Missouri. As of December 31, 1968, services of 10 U.S. technicians and 3 U.S. consultants for a total of 271 man-months had been provided.

Since the inception of this project in 1964, USAID has sent to the United States for participant training 42 staff members of the University. While 30 staff members have returned to the University after successfully completing the program, 12 are still continuing their training in the United States.

A total of \$1,349,000 and Rs 5,100,000 has been obligated for this activity since FY 1964.

Agricultural Production (FY 1967 —) To strengthen the link between 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 focused particularly on areas where high yielding variety programs are being undertaken.

Through a contract with the University of Missouri, the USAID is providing a team of five subject matter specialists to work with the State Department of Agriculture and the Agricultural University, Bhubaneswar (Orissa): U.S. training is also

benefiting the State of Orissa (cont'd)

Projects and Activities with Countrywide Objectives and U.S. Inputs

State Participation and Benefits

In each state where this project is being implemented, a team consisting 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. This project also includes non-degree training in the United States for up to six participants from each state. Total assistance under this project through March 31, 1969 was \$2,145,000 and Rs 10,553,000.

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 specialties and in 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 of these subjects. A total of 891 U.S. consultants participated in these summer sessions. Total assistance through March 31, 1969 was \$5,766,000 and Rs 24,180,000. U.S. technical assistance is being provided through the National Science Foundation.

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, one of which is located in Bhubaneswar (Orissa). Total assistance through March 31, 1969 was \$3,992,000 and Rs 8,253,000.

being provided for approximately six state agricultural officials each year. Since the project began in FY 1967, a total of \$397,000 and Rs 2,162,000 has been obligated for this activity.

Through FY 1968, 16 USAID-assisted summer institutes have been held in Orissa, and approximately 640 teachers and professors have received training.

During 1969, two institutes are planned to be held in the State of Orissa.

Under the first phase, one school at Cuttack received assistance. In the second phase, four multipurpose high schools — two at Berhampur, one at Cuttack and one at Puri were assisted. In the third (current) phase, the Regional College of Education at Bhubaneswar was set up under the National Council of Education, Research and Training of the Ministry of Education. The college has been in existence since August 1963 and has a current enrollment of 550 students.

Countrywide projects and activities

*Projects and Activities with Countrywide
Objectives and U.S. Inputs*

*State Participation
and Benefits*

Multipurpose Secondary Education

The college serves India's eastern region (West Bengal, Bihar, Orissa, Assam, Nagaland, and the Union Territories of Manipur, Tripura, North East Frontier Agency, and the Andaman and Nicobar Islands). It is affiliated with the Utkal University of Orissa for all degree courses and with the State Council of Technical Education, Orissa for diploma courses. The attached demonstration multipurpose school is affiliated with the Central Board of Secondary Education, Delhi.

The USAID through a contract with Ohio State University provided advisors in the fields of agriculture, commerce, technology, and science.

Health

Malaria Control and Eradication (FY 1953 —): To assist the GOI in its National Malaria Control and Eradication Program. Prior to 1953, malaria was considered to be India's greatest health scourge. Every year there were about 75 million cases resulting in 750,000 deaths, with substantial increases during epidemic years. After five years of concentrated effort 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 annual number of reported cases had been reduced to less than 300,000.

The State of Orissa participates in the national program of malaria control and eradication. As of June 30, 1968, 6.00 units with a population of 7.61 million had passed into the consolidation phase and 2.39 units with 3.12 million people had been approved for the maintenance phase. The remaining 10 million still were in the attack phase of the program.

In addition, three National Malaria Control and Eradication

benefiting the State of Orissa (cont'd)

Projects and Activities with Countrywide Objectives and U.S. Inputs

State Participation and Benefits

Since 1953, the United States Agency for International Development has financed the procurement of several thousand tons of DDT, malaria drugs, spray equipment, vehicles, and has provided the services of technicians. The project has also provided training to 32 key National Malaria Eradication and Control program personnel.

Program personnel from the state went abroad for USAID-sponsored training.

Total assistance through March 31, 1969 was \$90,254,000 (grant \$80,721,000 and loan \$9,533,000) and Rs 1,765,000. In addition, the GOI had allocated from PL 480 funds Rs 1,046,100,000 (USAID grant to GOI of Rs 851,500,000 and loan Rs 194,600,000) 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.

Family Welfare Planning (FY 1966 —): To assist the GOI to achieve its declared goal of reducing India's annual rate of population increase from an estimated 2.5 per cent to 1.5 per cent by 1975. Although the Government of India was the first in the world to adopt a comprehensive national family planning policy as a part of its developmental plans in 1952, the program has gathered real momentum only since 1966.

Orissa is one of the states which is participating in this country-wide program of family planning.

Since 1966, USAID has financed the procurement of one million cycles of oral contraceptives, 170 million condoms, and a large quantity of audio-visual equipment and training aids. In addition, USAID has supplied technical advisory services and participant training in the United States and other countries. Total grant assistance through March 31, 1969 was \$5,475,000 and Rs 5,446,000.

A loan of \$2.7 million in foreign exchange has also been made to the GOI to meet the cost of imported components for vehicles required for the project. The USAID has further agreed to provide a grant of Rs 60 million out of PL 480 funds for the procurement initially of 1,540 vehicles during the first year of the Fourth Five Year Plan period, for capital expenditures for the Central and State

Countrywide projects and activities

*Projects and Activities with Countrywide
Objectives and U.S. Inputs*

*State Participation
and Benefits*

Health Transport Organizations, and for operation and routine maintenance of the vehicles.

A grant of Rs 84.7 million from PL 480 funds has already been made available to the GOI for family planning activities. This grant is now being used for increasing the effectiveness of the program including experimental and innovative activities in research, training, motivation, and mass communication.

Commodity Imports Under AID Non-Project Loans: To assist the Government of India to procure from the United States essential raw materials, machinery, and spare parts required for the growth of India's agriculture and industry. Since 1958, the USAID has made available to India \$2,027,000,000 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 used for the import of DDT and anti-malaria drugs.

The agricultural and industrial sectors in Orissa benefit from these general commodity import loans. In addition, part of the non-project loan financed the procurement of transmission equipment for the Hirakud and Machkund Dams.

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 have been earmarked for the agricultural sector.

None of these loans has been used for the import of consumer goods or luxury items.

B. COMPLETED

Agriculture

Acquisition and Distribution of Fertilizers (FY 1952 — FY 1958): To provide fertilizer to promote an 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.

Orissa was one of the states which participated in this countrywide program for increasing agricultural production.

benefiting the State of Orissa (cont'd)

Projects and Activities with Countrywide Objectives and U.S. Inputs

State Participation and Benefits

It was also considered important to test new types of fertilizers on Indian soils and to popularize them, if found suitable.

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.

Total USAID assistance through FY 1958: grant \$20,118,000 and loan \$8,854,000. These figures do not include the allocations made for the import of fertilizer from USAID Non-Project loans. (See section on Non-Project AID Loans).

Soil Fertility and Fertilizer Use (FY 1952 — FY 1961): To increase agricultural production through the distribution and sale of fertilizers; to establish soil testing laboratories throughout the country; to assist the Central and State governments in training Indian personnel. Total assistance: \$1,029,000 and Rs 194,000.

Equipment was provided for the establishment of a soil testing laboratory at Sambalpur (Orissa).

Expansion and Modernization of Marine and Inland Fisheries (FY 1952—FY 1961): 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 centres, four offshore fishing stations and fishermen's cooperatives. Six U.S. technicians and three short-term consultants were provided. Participants were trained in the United States and commodities worth \$2.5 million were supplied. Total assistance: \$2,902,000 and Rs 63,000.

USAID financed the training of four participants in the United States for a total of 42 man-months. In addition, equipment worth \$80,000 was provided for use in an expanded exploratory fishing program operating out of Paradeep Port.

Agricultural Extension (FY 1951 — FY 1967): 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 programs in these fields. The GOI has with USAID assistance established 100 Extension and 44 Home Science

USAID financed the training of nine participants for a total of 66 man-months in the United States under the project.

Countrywide projects and activities

*Projects and Activities with Countrywide
Objectives and U.S. Inputs*

*State Participation
and Benefits*

Training Centers to train Village Level Workers. Total assistance: \$3,013,000 and Rs 2,458,000.

Community Development Program (FY 1952 — FY 1959): 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: grant \$11,518,000 and loan \$1,991,000.

Assistance was provided to the State Government for the development of rural community development blocks, extension centers, village schools, etc.

Foodgrain Storage (FY 1955 — FY 1966): To demonstrate efficient grain storage through construction of modern grain elevators and to determine the most economical type of grain handling facilities for Indian conditions. Total assistance: \$1,664,000 and Rs 99,000. In addition, the GOI had provided from PL 480 funds Rs 190,235,000 (grant to GOI Rs 165,735,000 and loan Rs 29,500,000) for the construction of over 100 godowns.

Construction of three godowns with a total storage capacity of 20,000 tons (Bhubaneswar 5,000 tons, Rourkela 5,000 tons, and Khurda Road 10,000 tons) was financed under this project.

Soil and Water Conservation (FY 1959 — FY 1967): To assist the GOI in increasing agricultural production through effective soil and water management practices, training Indian soil and water conservation technicians from the Union and State governments, and demonstrating through pilot projects. Total assistance: \$964,000 and Rs 1,549,000. In addition, the GOI had allocated Rs 129,829,000 (grant Rs 100,829,000 and loan Rs 29,000,000) from PL 480 funds for this project.

USAID financed the training of two participants from Orissa for a total of 20 man-months in the United States.

Agricultural Education and Research (FY 1955 — FY 1963) 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 at a total cost of \$8,981,000 and Rs 5,144,000. Assistance to develop eight selected agricultural universities was continued from

The Orissa University of Agriculture and Technology (OUAT), Bhubaneswar was assisted through a contract with the University of Missouri. Under this project, USAID financed the training of 37 participants in the United

benefiting the State of Orissa (cont'd)

Projects and Activities with Countrywide Objectives and U.S. Inputs

State Participation and Benefits

1963 under the Agricultural Universities Development project.

States. USAID assistance to the University is continuing under the Agricultural Universities Development 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 widespread use. Assistance included providing technician services, supporting commodities (primarily for seed production and seed testing laboratories), and participant training. Total assistance: \$1,536,000 and Rs 1,711,000.

USAID provided workshop equipment worth \$2,756 to the Central Rice Research Institute, Cuttack. In addition, two participants received training in the United States for a total of 14 man-months.

Education

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 crash program, USAID provided an average of 18 months training to each of 299 Indian participants. Total assistance: \$2,250,000 and Rs 1,689,000.

USAID financed U.S. training for three engineers from Orissa for a total of 54 man-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 16 medical research institutions, 41 medical colleges and various allied institutions. Total assistance: \$1,056,000, consisting mainly of commodities.

The Chandra Bhanj Medical College at Cuttack received scientific equipment worth \$57,200.

Medical Educator Training (FY 1958 — FY 1967): To improve the quality of medical education by providing technicians, participant training and commodity support. Total assistance: \$1,751,000 and Rs 2,023,000. In addition, the GOI had allocated Rs 74,000,000 from PL 480 funds for improving medical education in India.

USAID financed the training of 11 participants from Orissa for a total of 141 man-months.

Countrywide projects and activities

*Projects and Activities with Countrywide
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and Benefits*

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-tires, irrigation devices, etc.; 2) to make steel available for the replacement and rehabilitation of railways; and 3) to stimulate general industrial activity in the country.

Orissa was one of the states which benefitted from this country-wide program for increasing agricultural and industrial production.

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 for the import of iron and steel under Non-Project AID Loans.

Steel Training (FY 1961 — FY 1965): To train about 300 Indian engineers and technicians in the United States in various aspects of steel production, under the "INSTEP" (Indian Steel Training and Education Program), jointly sponsored by the Ford Foundation, USAID and the Government of India; and to assist the Hindustan Steel Limited, a public sector undertaking, to improve the operating skills through the development of a comprehensive inplant training program for personnel at all levels required to man three of the Government owned steel plants in India — Rourkela Steel Plant, Durgapur Steel Plant, and the Alloy Steel Plant at Durgapur.

177 Indian engineers received training for a total period of 1,614 man-months in the United States and are currently stationed at Rourkela Steel Plant, Rourkela (Orissa).

Under a USAID-financed contract with the Carnegie Institute of Technology, a team of six U.S. technicians was assigned to the steel plants for about 10 man-years. Commodities, such as books, films, filmstrips, and technical periodicals worth about \$13,000 were provided to the four training institutions of Hindustan Steel Limited at Ranchi, Rourkela, Durgapur, and the Alloy Steel Plant. Total assistance: \$1,225,000 and Rs 575,000.

benefiting the State of Orissa (cont'd)

Projects and Activities with Countrywide Objectives and U.S. Inputs

State Participation and Benefits

National Productivity Council (FY 1959.— FY 1966): To assist the GOI through the National Productivity Council to establish and operate a national program for increasing industrial efficiency. USAID provided training facilities for 300 Indians and seven-week observation tours in the United States and elsewhere for 43 productivity teams with six to seven members each. Operating through the National Productivity Council and its six Regional Directorates and 45 Local Productivity Councils, U.S. technicians organized and conducted training courses, seminars, and demonstration workshops within India. Total assistance: \$3,337,000 and Rs 7,897,000.

USAID financed the training of three participants for a total of 20 man-months in the United States and also a seven-week observation tour of the United States and other countries for four participants.

Power

Technical Services in Water Resources and Power Development (FY 1952 — FY 1962): 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 about 41 man-years of service, 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.

USAID financed the training of six participants in the United States for a total 33 man-months.

Transportation

Aviation Ground Facilities (FY 1954 — FY 1966): To assist in expanding and modernizing aviation ground facilities and aeronautical communication services by providing modern equipment. Total assistance: \$2,901,000 and Rs 88,000.

Very High Frequency Omni-Directional Radio Range (VOR) equipment was installed at Bhubaneswar airport. In addition, one participant from the state received advanced training in the United States for a total of six months.

Countrywide projects and activities

*Projects and Activities with Countrywide
Objectives and U.S. Inputs*

*State Participation
and Benefits*

C. PL 480 RUPEE ASSISTANCE FOR DEVELOPMENT ACTIVITIES

River Valley Development: The USAID assisted the GOI by providing heavy earth moving equipment and PL 480 funds in order to expand 12-multipurpose river valley projects in various states. These projects will provide facilities for hydro-electric power generation, irrigation and flood control. The combined electric generating capacity of these projects, when completed, will be about 2,000 megawatts and will irrigate about 12 million acres of land. The GOI allocated from PL 480 funds Rs 2,418.4 million (loan Rs 2,359.0 million and grant Rs 59.4 million) for execution of these projects. The value of the U.S. financed equipment was over \$7.9 million.

Higher Technical Education: The GOI is developing regional engineering colleges and other facilities for higher technical education. As of March 31, 1969, Rs 431.3 million from PL 480 funds had been allocated (grant Rs 165.6 million and loan Rs 265.7 million) for their support.

Elementary Education: In support of its elementary education program throughout the country, the GOI has allocated from PL 480 funds a total of Rs 1,211.4 million (grant Rs 783.1 million and loan Rs 428.3 million).

Smallpox Eradication: Rs 130.2 million from PL 480 funds (grant Rs 102.9 million and loan Rs 27.3 million) were allocated to the countrywide smallpox eradication program.

In Orissa Rs 145.5 million and Rs 49.9 million were allocated for the Mahanadi Delta and the Hirakud Dam project respectively. The Mahanadi Delta project will irrigate approximately 1.6 million acres of land when completed. The Hirakud Dam, three miles long and 200 feet high, was completed in 1957. The dam has main canals with a network of distributaries irrigating about 600,000 acres of land. Besides controlling floods and providing irrigation facilities, the dam has an installed generating capacity of 246 megawatts.

The Regional Engineering College at Rourkela has received support.

Assistance has been provided for development of elementary education in Orissa.

Operations in Orissa State began in December 1962, and steady progress has been made. As of September 30, 1968, 17,369,979 revaccinations and 4,291,263 primary vaccinations had been performed.

benefiting the State of Orissa (cont'd)

*Projects and Activities with Countrywide
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*State Participation
and Benefits*

Primary Health Centers: The GOI is establishing primary health centers throughout the country, each to serve about 60,000 persons. Rs 125.5 million had been allocated from PL 480 funds (grant Rs 105.5 million and loan Rs 20.0 million) for their establishment through March 31, 1969.

As of September 30, 1968, 306 primary health centers were functioning in Orissa.

National Highways: For its countrywide program of expanding and strengthening roads and bridges, the GOI allocated Rs 196 million from PL 480 grant funds.

Rs 24.6 million was made available for the state's 45 schemes, including construction of new bridges and strengthening of existing roads.

Craftsmen Training: To expand facilities for the training of craftsmen through seven Central and 357 Industrial Training Institutes. As of March 31, 1969, the GOI had allocated Rs 629.8 million from PL 480 funds (grant Rs 394.6 million and loan Rs 235.2 million).

Ten Industrial Training Institutes including those at Berhampur, Puri, Cuttack, Rourkela and Talcher have benefitted.

ORISSA

296 Participants

STEEL		168
AGRICULTURE		
EXTENSION	12	
LAND AND WATER	2	
CROP PRODUCTION	2	
LIVESTOCK	7	
AG. UNIV. DEV.	41	
AG. PRODUCTION	<u>4</u>	
		76
EDUCATION		
HIGHER TECHNICAL (Regular)	5	
HIGHER TECHNICAL (Contract)	<u>9</u>	
		14
POWER AND WATER		7
HEALTH		
MEDICAL EDUCATION	11	
MISC.	<u>5</u>	
		16
MANAGEMENT		
INDUSTRIAL	6	
GENERAL	<u>3</u>	
		9
TRANSPORTATION		3
LABOR		3
		<u>296</u>

RETURNED PARTICIPANTS

1951 - 1968

