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United States economic assistance to India

JUNE 1951–APRIL 1971

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A MESSAGE FROM AMBASSADOR KENNETH B. KEATING

This issue of the *Fact Sheet on U.S. Economic Assistance to India* is being published as we approach a significant milestone in the history of Indian-American economic cooperation.

Twenty years ago, on June 15, 1951, President Truman signed the India Emergency Food Assistance Act, by which the U.S. Government extended aid to India for the first time.

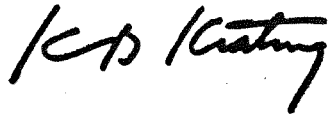
Since then, the United States has contributed to India's development efforts in almost every sector. As this *Fact Sheet* reveals, U.S. aid now totals nearly $9,900 million [Rs. 7,425 crores], making India the top partner of the United States in its worldwide foreign assistance programme. Of the total foreign assistance utilized by India, the U.S. share amounts to more than 56 percent.

In citing these statistics, I would not like to give the impression that financial and technical assistance provided by friendly foreign countries and international institutions has played the dominant role in India's impressive development programme. From its own resources India has invested four times as much as all funds provided by external sources. Without this domestic investment, highly skilled leadership and the dedicated work of the Indian people, economic progress would not have taken place.

While sizable economic problems continue to confront India, the progress achieved during the past 20 years provides cause for optimism. Food production over this period has more than doubled, and India is on the verge of attaining self-sufficiency in this vital sphere. An impressive number of industrial products is now being manufactured in India, for both domestic and foreign markets. Recent trends in the country's export trade are encouraging. India's massive family planning programme has begun to gain momentum.

Over and above all these indicators of economic and social progress, India has preserved the immeasurable values of democracy. Freedom of the individual, a free press, an independent judiciary, an elected executive and legislature . . . these invaluable features of a democratic society have earned India a place of pride among the nations of the world. To developing countries everywhere, India is a beacon of hope and progress.

The United States looks forward to cooperating in India's development efforts until the goal of self-sustaining growth is attained.



U.S. Economic Assistance to India
June 1951 - April 1971

	Dollars (*millions*)	Rupee equivalent at current rate of exchange (*crores*)
1. USAID Mission's Technical Cooperation Programme:		
(a) Development Grants (not repayable)	450.1	337.58
(b) Loans (repayable in rupees or dollars)	154.1	115.58
2. USAID development loans:		
(a) repayable in dollars	2,633.4	1,975.05
(b) repayable in rupees	505.8	379.35
3. Public Law 480, Title I (grants, and loans repayable in rupees)	4,787.0	—*
4. Public Law 480, Title II (donations: not repayable)	649.4	487.05
5. Emergency Flood & Famine Relief Grants (not repayable)	5.5	4.13
6. U.S. Export-Import Bank Loans (repayable in dollars)	521.3	390.97
7. Wheat Loan of 1951 (repayable in dollars)	189.7	142.28
TOTAL	9,896.3	7,422.23

Categories of Aid

	Dollars (*millions*)	% of total
1. Grants (not repayable)	1,943.9	19.6
2. Loans repayable in dollars	3,344.4	33.8
3. Loans repayable in rupees convertible into dollars at U.S. Government option	432.2	4.4
4. Local-currency repayments (loans repayable in rupees or dollars at Government of India option; Cooley Fund Loans to private enterprise; and amounts under PL-480, Title I, agreements reserved for U.S. Government uses)	4,175.8	42.2
TOTAL	9,896.3	100.0

*It is estimated that PL-480 deposits under existing agreements will total approximately Rs. 2,660 crores. (Please see page 4.)

U.S. Economic Assistance to India

United States economic assistance to India commenced in 1951 with a loan of $189.7 million [Rs. 142.28 crores] to purchase two million tons of wheat. Since then the United States has extended support to many aspects of India's development programme. U.S. aid through April 1971 totals $9,896.3 million [Rs. 7,422.23 crores], and consists of both grants and loans.

The U.S. Government presently extends aid to India through three agencies: the United States Agency for International Development [USAID], the Public Law 480 (Food for Peace) programme, and the U.S. Export--Import Bank.

USAID: Created November 3, 1961, this Agency is in charge of activities previously administered by the International Cooperation Administration, which was represented in India by the Technical Cooperation Mission [TCM]; the Development Loan Fund; the Public Law 480 programme in its relation with other countries; and other staff and related functions. A USAID Mission functions in New Delhi. Both grants and loans are extended by the Agency.

Dollar Grants

Technical cooperation: For the Technical Cooperation programme, USAID extends grants and, at the request of the Government of India, makes available the services of American specialists. Support has been extended to malaria and smallpox eradication, agricultural and technological universities, the development of high-yielding cereals, dairy development, the training of craftsmen, community development, and many other nation-building activities.
(Please see pages 6 to 22 for details of U.S. aid to different sectors of Indian development.)

Amount: Dollar grants since the beginning of the programme total $450.1 million [Rs. 337.58 crores].

U.S. specialists: Since 1951, about 3,030 American specialists have served in India, sharing their skills and experience with their Indian colleagues. The figure includes 183 who are presently in the country. The specialists, whose services are made available at the request of the Government of India, belong to many different disci-

plines such as agricultural education, agronomy, engineering, entomology, family planning, malaria eradication, mineral exploration, mining, nutrition, plant breeding, science education, soil and water management, technological education, and transportation. They work with government departments, educational institutions, and other organizations.

Indian participants: Another important aid activity concerns the provision of advanced training in the United States to Indian officials, teachers, engineers, health specialists, and other personnel and facilitating visits by Indian specialists to the United States and other countries to enable them to observe developments in their fields of work. The total number of these Indian participants now stands at 6,229. This includes 227 who are still undergoing training in the United States.

Dollar Loans: Loans extended to India by USAID and its predecessor organizations are of two kinds: (1) those repayable in rupees, and (2) those repayable in dollars.

Loans repayable in rupees: Loans extended to India by the Development Loan Fund (now absorbed into USAID) are repayable in rupees. These loans total $505.8 million [Rs. 379.35 crores]. (Please see pages 23 and 24 for details.)
Prior to November 1961, TCM had extended to the Indian Government loans totalling $154.1 million [Rs. 115.58 crores]. These were repayable in either rupees or dollars at the option of the Government of India. (For the sake of simplicity a sum of $5.8 million [Rs. 4.35 crores], which was made available to the Government of India in the form of Italian, French, and Japanese currencies in exchange for Indian rupees, is included in this item.)

Loans repayable in dollars: USAID has extended 49 loans repayable in dollars. They total $2,633.4 million [Rs. 1,975.05 crores].
Terms: Repayment is scheduled over 40 years, with no payments of principal during a grace period of the first ten years.
Interest: Recent loans bear an interest rate of 2 percent per annum during the grace period and 3 percent thereafter. (Please see pages 24 to 26 for details.)

Public Law 480 (Food for Peace) Programme:

Agricultural commodities supplied to India under the Public Law [PL] 480 programme have played an important role in fighting food-scarcity and inflation. The original PL-480 legislation was enacted in 1954. Through successive acts of the U.S. Congress [parliament], the law has been extended to December 1973.

Title I: Under this title [chapter] the United States sells agricultural commodities to developing nations on concessional terms. India concluded the first PL-480 agreement on August 29, 1956. Since then nine additional agreements and 35 supplemental agreements have been signed—the latest on April 1, 1971.

Commodities: Taken together, the PL-480 agreements with India provide for a total supply of 52.2 million tons of wheat, 5.5 million tons of sorghum and maize, 1.8 million tons of rice, 4.0 million bales of cotton, 500,000 tons of vegetable oil, 170,000 tons of tallow, 7,400 tons of tobacco, 24,900 tons of nonfat dry milk, 13,000 tons of evaporated milk, 230 tons of whole milk powder, 400 tons of tinned fruit, and 80 tons of cheese. Most of these commodities have been received by India.

Value: The value of commodities covered by all PL-480 agreemets is $4,787.0 million (including some ocean transportation costs).

Terms:

India pays for PL-480 supplies in rupees.
For $4,354.8 million, the bulk of PL-480 proceeds, the agreements specify that 80.6 percent should be returned by the United States to the Government of India in grants and loans for economic development (19.3 percent as grants, 61.3 percent as loans). A sum equivalent to 6.4 percent of the total is reserved for loans to private enterprise; and 13.0 percent is reserved for U.S. Government uses, but a substantial part of this amount, too, is utilized to promote a number of activities beneficial to India. PL-480 grants and loans have helped finance a great deal of development work undertaken by the Government of India.

The remaining $432.2 million provided in the PL-480 agreements is repayable in rupees convertible into dollars at the option of the U.S. Government. This portion of the agreements is covered by a 40-year loan with the same provisions relating to interest rates and grace period as USAID loans repayable in dollars (please see page 3).

Rupee deposits:

Under the terms of the PL-480 agreements, the Government of India deposits in the United States Government's account with the Reserve Bank of India rupees equivalent to the dollars paid to U.S. suppliers of agricultural commodities. These rupee deposits are made at the rate of exchange prevailing at the time of the dollar disbursements. As stated earlier, the total value of commodities provided in all the PL-480 agreements with India is $4,787.0 million. The major portion of the rupee deposits had been made before the devaluation of the rupee in June 1966. It is estimated that the total PL-480 rupee deposits will amount to approximately Rs. 2,660 crores, which is considerably less than the rupee equivalent of $4,787.0 million at the current rate of exchange.
(Please see pages 27 to 37 for additional information on the PL-480 programme.)

Title II:

This title provides for donations of agricultural commodities to help meet famine or other urgent or extraordinary relief requirements and to combat malnutrition, especially in children. In India commodities are distributed through voluntary agencies such as CARE [Cooperative for American Relief Everywhere], Catholic Relief Services, Church World Service, and Lutheran World Relief. The total value of commodity donations to India, from the programme's commencement in 1955 up to June 1970, amounts to $649.4 million [Rs. 487.05 crores]. During the current American fiscal year (ending in June 1971) it is planned to distribute an additional 420,000 tons of food valued at $70.5 million or Rs. 52.88 crores (including ocean freight) under Title II. This is the largest donation programme in the world. The food includes wheat, milk, protein foods, and vegetable oils.

Some 91 percent of the total Indian programme is directed toward raising the level of nutrition of 10.5 million schoolchildren and 2.8 million pre-schoolchildren. The schoolchildren are benefited through free lunches, to which local communities and state governments make substantial contributions. This programme has stimulated school attendance and is helping materially to raise the physical standards of the coming generation.

About 1.2 million workers engaged in a number of development projects, such as construction and repairing of roads, digging of irrigation canals and wells, and reclaiming land, receive the food supplies as part payment for the work done. In addition, some 73,000 people in miscellaneous categories, such as institutional feeding, health cases, etc., benefit from the donated supplies.

The U.S. Export-Import Bank: The Bank authorizes loans, guarantees, and insurance to facilitate the foreign trade of the United States. The Bank has authorized 31 loans to India totalling $521.3 million [Rs. 390.97 crores]. Its loans are in dollars and repayable in dollars. In determining interest rates, the Bank considers its own cost of borrowing money. The current standard interest rate is 6.0 percent per annum. (Please see page 38 for a listing of loans.)

The Wheat Loan: As stated earlier, this loan marked the beginning of the programme of U.S. aid to India in 1951. The loan of $189.7 million (Rs. 142.28 crores), which financed the purchase of two million tons of wheat to meet an acute food shortage, is repayable in dollars and carries an interest rate of 2.5 percent per annum.

In view of India's need for foreign exchange, the U.S. Government deferred principal and interest repayments totalling $34.6 million [Rs. 25.95 crores] due during calendar years 1958-67 to 1986-95. In addition, $26.2 million [Rs. 19.65 crores] out of a total of $30 million [Rs. 22.50 crores] due during 1968-70 were deferred to 1978-80. India will pay no additional interest on account of these deferments.

Dollar-Rupee Conversions: For the sake of uniformity and simplicity all dollar figures included in this *Fact Sheet* are shown with conversions into Indian currency at the current rate of Rs. 7.50 per dollar. Prior to June 5, 1966, the rate of exchange was $1 = Rs. 4.76.

In regard to loans repayable in dollars, this *Fact Sheet* lists the equivalent of the entire loan amount in Indian currency at the current rate of exchange. However, in many cases a part of the loan has already been repaid at the old rate.

Loans repayable in rupees fall into two categories. In the first category are loans extended by the former U.S Development Loan Fund [USDLF], and under the USAID Mission's Technical Cooperation Programme. The loans provided foreign exchange in dollars and the loan agreements included clauses providing that repayment would be based on the official rate of exchange at the time repayment was made. Thus devaluation had the effect of changing the outstanding balance in terms of rupees, though not in dollars.

In the second category are loans to the Government of India and to private enterprises from PL-480 funds. These loans are intended for purchasing supplies and services available in India. Devaluation does not affect the repayment terms. The borrower's liability is limited to the amount of rupees specified in the loan agreement.

A Brief Review of the U.S. Aid Programme

The basic purpose of U.S. assistance is to help India become economically self-sufficient on the basis of a balanced economy. The United States has provided more aid—both in amount authorized and in aid utilized—than all other countries assisting India put together. Following is a brief account of American aid to the different sectors of India's development programme:

Agriculture

Indian farmers produced a record foodgrain crop of about 100 million tons in 1969-70.

Production of summer cereals in 1970-71 is estimated at 68 million tons—three million tons above the 1969-70 level. Rice production is estimated at 42 to 43 million tons compared with 40.4 million tons in 1969-70.

Qualified observers have described the remarkable increase in India's food production—from a low of 72 million tons in drought-stricken 1965-66—as a "Green Revolution."

India's highly successful new agricultural strategy is focused on combining high-yielding varieties of cereal grains with a "package" of agricultural requirements—fertilizers, pesticides, improved farm equipment, credit, and grain-storage facilities—in areas assured of sufficient water for irrigation.

At the request of the Government of India, the United States is providing support to vital segments of the new agricultural strategy. The very first technical-cooperation agreement concluded by the United States with India—in 1953—related to agriculture. The United States has always taken a keen interest in helping India progress in this important sector. U.S. assistance has, however, received a new emphasis in the past three years. At present agriculture accounts for 61 percent of the technical-assistance expenditures of the USAID Mission. Six years ago the figure was only 24 percent.

U.S. foreign-exchange assistance for Indian agricultural development exceeds $700 million [Rs. 525 crores]. This amount includes several hundred million dollars worth of fertilizers supplied through non-project loans. In addition, the U.S. has extended for agricultural development loans and grants totalling Rs. 800 crores in Indian currency from the sales proceeds of commodities supplied under Public Law 480. Some 109 American agricultural specialists are now serving in India at the request of the Indian Government.

The New Seeds: The critical element of the new strategy has been high-yielding varieties of cereals: wheat, rice, maize, *bajra*, and *jowar*. The dwarf wheat strains now in widespread use in North India were originally developed in Mexico under a programme assisted by the Rockefeller Foundation. The dwarf rice strains, introduced later, were developed at the International Rice Research Institute, Manila, which has been established with the help of the Ford and Rockefeller foundations. Hybrid varieties of maize, *bajra* and *jowar*, which have met with the enthusiastic response of farmers from Punjab to Kerala, were developed in India by Indian scientists, with some assistance provided by American scientists and institutions. Both the wheat and rice varieties have been adapted by Indian scientists to suit conditions in this country, and new, even more highly productive varieties have been evolved by them through the crossing of local and foreign strains.

Rice Research Improvement: Rice is the most important foodgrain grown in India. However, per-acre yields are among the lowest in the world. The chronic rice shortage has speeded the introduction of high-yielding dwarf varieties. Although these varieties have amply demonstrated their high-yielding capability, disease-susceptibility under Indian conditions has been a major factor limiting their wide introduction and acceptance. Consequently, in an attempt to evolve certain high-yielding, disease-resistant varieties under Indian conditions, the Government of India requested USAID assistance to the All-India Coordinated Rice Improvement Project.

Under contract with the International Rice Research Institute, USAID has been providing technical assistance since 1967. Four rice scientists have been working at the project headquarters at Rajendranagar, Hyderabad, since early 1968, and Indian rice scientists are being sent to the Philippines for advanced training.

Agricultural Production Teams: The introduction of new plant varieties gives rise to several problems. The high-yielding cereals produce large crops, but they require new cultural practices, timely application of water in required quantities, and increased fertilization. Changes in production patterns and in harvesting and marketing techniques are also called for. To help the farmer produce the new crops more effectively, research and extension services in India are being brought closer to each other. At the request of the Government of India, USAID has arranged for teams of Amercian experts to serve in seven states: Andhra Pradesh, Bihar, Gujarat, Maharashtra, Mysore, Orissa, and Tamil Nadu. The teams, which normally consist of half-a-dozen specialists, have helped Indian scientists and extension workers in identifying and solving problems encountered by farmers.

Fertilizers: During the past five years the amount of fertilizers used by Indian farmers has gone up (in terms of nutrients) from 653,000 tons to 2,043,000 tons. This is largely because the new high-yielding varieties respond extremely well to fertilizers, and farmers thus find fertilizer application more profitable than in the past. Indigenous varieties of wheat and rice give an average yield increase of ten pounds of grain per pound of nitrogen. The new varieties yield as much as 25 lb. More important they are capable of profitably using up to four times as much fertilizers per hectare as can indigenous varieties.

Fertilizer Production: The U.S. aid programme has assisted the establishment of three large fertilizer factories, at Visakhapatnam, Trombay, and Madras.

The Rs. 50-crore plant at Visakhapatnam is operated by Coromandel Fertilizers Ltd., a joint Indian-American enterprise. The plant is currently delivering 800 tons of finished fertilizer a day, saving Rs. 16 crores a year in foreign exchange. The U.S. Export-Import Bank has extended a foreign-exchange loan of $27.0 million [Rs. 20.25 crores] to Coromandel, which has also received a loan of Rs. 12.29 crores from the sale proceeds of PL-480 commodities.

The Fertilizer Corporation of India, a public-sector enterprise, operates the Trombay plant, which presently has an annual capacity of 135,000 tons of fertilizer nutrients. The plant has been largely financed by U.S. loans.

Another large fertilizer factory, under construction in Madras, is expected to go into operation in 1971. The Government of India is building the plant in partnership with a private U.S. firm (American International Oil Co.). USAID has helped in the financing of this project by insuring loans extended to it by American banks and pension funds. The factory has an annual capacity of 271,000 tons of fertilizer nutrients.

Construction work has already started on a new plant in Goa and is expected to commence shortly on a two-unit fertilizer complex at Kandla and Kalol. The United States is providing assistance to both these projects.

The Goa fertilizer plant, organized by U.S. and Indian private enterprise, with an annual capacity of 156,000 tons of nitrogen and 45,000 tons of phosphate, will receive the backing of USAID under loan and guarantee agreements. The $70 million [Rs. 52.50 crore] project, undertaken by Zuari Agro-Chemicals Ltd.—a joint venture of the United States Steel Corp. and an Indian industrial firm—will be financed principally by U.S. Steel and a group of U.S. institutional lenders, as well as USAID; the International Finance Corporation, an affiliate of the World Bank; and Indian interests.

USAID has authorized a loan of Rs. 21.66 crores in Indian currency to Zuari Agro-Chemicals.

The $120 million [Rs. 90.00 crore] Kandla-Kalol complex is being built by Indian and American cooperatives, working together.

The project is believed to be the world's largest international business transaction by cooperatives, according to the International Cooperative Development Association. At the request of the Government of India, USAID, under contract with the Cooperative League of the U.S.A. [CLUSA], provided feasibility-study teams to explore the possibility of establishing this fertilizer plant. Their report was the basis for this project.

U.S. cooperatives will contribute $1 million [Rs. 75 lakhs] for technical assistance through Cooperative Fertilizer International to the Indian Farmers Fertilizer Cooperative, the Indian organiza-

tion collaborating with this project.

For one of the principal participants, CLUSA, the project marks a major fruition of 15 years of joint effort with Indians to develop and strengthen co-operatives in India. The League has maintained an office in New Delhi since 1955.

The fertilizer complex will produce, on a 330-day-per-year basis, 229,000 tons of nitrogen, 122,000 tons of phosphate, and 62,000 tons of potash. This amounts to more than 800,000 tons of finished fertilizer products. Experts believe this single plant could account for more than 2.2 million tons of additional wheat or rice in a year.

Fertilizer Imports: Because the demand for fertilizers in recent years greatly exceeded local production, India has imported large quantities of fertilizers, with the United States the largest supplier. U.S. non-project aid for the last three U.S. fiscal years has totalled approximately $255 million [Rs. 191 crores] for the import of fertilizers.

Plant Protection: Plant diseases as well as insects, rodents, and other pests destroy a sizable part of India's food production. The Government of India has launched a large-scale plant-protection programme. The consumption of pesticides increased twelvefold between 1957 and 1969. The area treated with pesticides is expected to rise from 16 million acres in 1961 to 200 million acres in 1974. At the Indian Government's request, USAID is assisting in several sectors of plant protection.

India presently produces 70 percent of all the pesticides used by her farmers. U.S. non-project loans finance the import of technical-grade pesticides, which are then formulated in India. A considerable portion of India's domestic production of pesticides is accounted for by joint Indian-American private enterprises, which have received loans from the U.S. Government.

Spraying pesticides from the air is a quick and highly effective method of pest control for certain crops and conditions. Through aerial spraying, large areas are covered in a short time and pest epidemics controlled before they break out. The Government of India has established aerial spraying units and is providing encouragement to private firms in this field. A considerable part of the fleet of planes now engaged in aerial spraying in India is of American origin. The Indian Government allocated $1.5 million [Rs. 1.13 crores] from a U.S. Export-Import Bank line of credit to purchase 24 additional U.S. spray aircraft.

Rural Electrification: Rural electrification helps increase food production by energizing pump-sets connected to wells and tube-wells. Electric power is also useful in the efficient processing of foodgrains and the creation of modern storage facilities. In the United States, cooperatives play a significant role in this field. At the Government of India's request, USAID arranged for visits by officials of American cooperatives to India to investigate the possibilities of establishing cooperatives to distribute power in rural areas.

Under a contract with USAID, the National Rural Electric Cooperative Association of America [NRECA] sent three teams to India. Along with officials of the Central and state governments and Indian co-operatives, the teams conducted detailed studies on the establishment of five pilot cooperatives—one each in Andhra Pradesh, Gujarat, Maharashtra, Mysore, and Uttar Pradesh. Agreement has been reached between USAID and the Government of India on the organization and construction of these cooperatives. At the request of the Government of India, five NRECA technicians arrived in India in September 1969 for a two-year assignment. The pilot cooperatives are now in operation.

In July 1969 the U.S. Government approved a grant of Rs. 105 crores from PL-480 U.S.-uses rupees to the newly established Rural Electrification Corporation. Together with a sum of Rs. 45 crores made available by the Government of India, the grant will help finance a major acceleration in the spread of electric power.

The Rural Electrification Corporation—whose board of directors consists of representatives of the Planning Commission, Ministry of Irrigation & Power, Ministry of Finance, Ministry of Agriculture and Reserve Bank of India—expects to play an important role in the Fourth Plan's power programme. The Corporation will energize about half-a million new electrically operated pump-sets. These pump-sets will provide irrigation to 2.5 million acres and increase annual food production by 1.5 million tons.

The Corporation will finance rural electrification projects undertaken by the state electricity boards; subscribe to special rural-electrification bonds issued by them; and provide loans to rural electric cooperatives. The programmes to be financed will include not only the extension of electric lines for pump-sets for intensive agriculture, but also power

for small-scale rural industries, lift irrigation from rivers, and domestic lighting.

The Corporation will help select projects in areas of greatest agricultural potential where projects will meet criteria of economic viability. But projects in economically backward areas with future agricultural potential will also be assisted. Capital requirements of rural electric cooperatives will also be financed by the Corporation.

Soil and Water Management: India has made notable progress in increasing the area under irrigation. The gross irrigated area increased from 56 million to 89 million acres over the past 18 years. Emphasis is also being given the efficient utilization of water supply, so as to obtain maximum benefits from costly irrigation projects. At the request of the Government of India, USAID is providing assistance to programmes for developing additional water and properly managing India's soil and water resources.

Several American specialists work with the water management division of the Ministry of Food & Agriculture. They assist the Government of India in developing programmes and establishing technical standards for soil and water management on rainfed and irrigated lands. One specialist assists the resource inventory unit of the Ministry in compiling information about India's soil and water so that it can be used in planning and implementing agricultural programmes. A surface-water hydrologist assists the soil-conservation branch of the Ministry to improve techniques for the prediction of flood flows and water yields from small watersheds. A sedimentationist assists the same branch in developing methods of predicting the volume of sediment which may be expected in reservoirs and channels under different conditions of watershed management. A tube-well specialist is assisting the minor-irrigation division of the Ministry with problems concerning the design, construction, operation, and maintenance of tube-wells.

To assist state governments and to demonstrate improved water-management methods to farmers, USAID is helping three pilot projects—near Bellary (Mysore state), Patiala (Punjab), and Dhorighat (Uttar Pradesh). On these projects, teams of engineers, soil scientists, and agronomists help plan and apply programmes designed to give optimum benefits through proper water use and consistent with the conservation and maintenance of the soil.

Agricultural Universities: During the past decade eight new agricultural universities have been established in India with the cooperation of the U.S. Government and six American universities. The new universities [cooperating U.S. institution indicated in parentheses] are located in Andhra Pradesh (Kansas State University), Madhya Pradesh (University of Illinois), Maharashtra (Pennsylvania State University), Mysore (University of Tennessee), Orissa (University of Missouri), Punjab (Ohio State University), Rajasthan (Ohio State University), and Uttar Pradesh (University of Illinois).

The new Indian universities have effected several radical innovations. Students are encouraged to do a great deal of practical work in the fields. Professors undertake research in problems facing farmers of the adjacent regions.

Four universities—Andhra Pradesh, Madhya Pradesh, Mysore, and Punjab—have taken over the responsibility for all state agricultural research programmes. To an ever-increasing extent, all agricultural universities are participating in extension work—carrying knowledge of improved methods to farmers—by providing training for extension workers and in some cases directly taking over extension education work in large areas.

Research undertaken by the agricultural universities has been of great value to farmers. For instance, several of the new hybrid varieties of maize and *bajra* were developed at the Punjab and Uttar Pradesh agricultural universities. A great deal of the work involved in breeding and testing the phenomenally successful dwarf wheats was carried on at these two universities and also at the agricultural universities of Madhya Pradesh and Rajasthan.

The large number of students graduating from India's agricultural universities are helping increase food production through service in government agricultural departments, research stations, and in the research, promotional, and sales divisions of enterprises producing fertilizers, pesticides, and improved seeds.

Agricultural Research: The Agricultural Research Service, International Programs Division of the U.S. Department of Agriculture, has extended grants for research to Indian universities and other research institutions throughout India. Using PL-480 sales proceeds these research grants are awarded for work by Indian scientists on complex

agricultural research programmes of mutual interest to the governments of India and the United States.

Research results obtained by Indian scientists on these projects have been of much value in the worldwide development of agricultural science. Potential benefits are enormous. In addition to basic scientific studies, grants are awarded in areas of crop improvement, plant protection, marketing, economics, forestry, human nutrition, and other aspects of farm and forest research.

Other Assistance: The United States also has supplied iron and steel for making agricultural implements; soil-testing equipment; trawlers, boats, and cold storage for fishery modernization; tube-well casing and machinery for boring tube-wells; tractors, combines, and other agricultural machines; modern silos; and dairy and poultry equipment.

Education

The United States has assisted India's efforts in virtually every area of education.

Science Education Improvement: The dynamic Summer Science Institutes programme, which began in 1963, seeks to bring college and secondary-school teachers of science and mathematics up to date on new methods of teaching their subjects. In 1970—the last year of U.S. assistance, since Indian organizations have developed the capability to organize and conduct institutes on their own—more than 8,000 Indian teachers attended the institutes, which are held during summer vacations. Some 75 American professors came to India to serve as consultants. In 1967 the United States authorized a loan of $9 million (Rs. 6.75 crores) for Indian education. A part of the loan has been used to purchase laboratory equipment and other supplies required by the summer science institutes.

The original idea (institutes for teachers of high schools, higher secondary schools, pre-university courses, and intermediate colleges) generated such enthusiasm with its practical success that it was expanded to include three more separate categories (institutes for college and university teachers; for teachers in polytechnic institutes; and for teachers in engineering colleges). Subjects now include not only biology, chemistry, physics, and mathematics but also engineering at both college and polytechnic levels.

Representing the U.S. in the project is the National Science Foundation (NSF), which had taken the lead in sponsoring the original summer-institutes programme in the United States. On the Indian side are the Education Ministry, the University Grants Commission (UGC), the Nationl Council for Educacational Research & Training (NCERT), the Indian Society for Technical Education, and the National Council for Science Education.

The teacher-students attending the institutes learn the latest methods of instruction, and how to use new laboratory techniques and teaching-aids. They read the newest and best textbooks. The institutes give them opportunities for study under top-ranking Indian professors and for consultation with leading American scientists and engineers. In the eight years since 1963, more than 31,000 Indian teachers of the pure and applied sciences have taken part in some 876 institutes, with a total of 1,100 American consultants.

Teachers participating in the institutes receive copies of textbooks incorporating new teaching techniques. The books emphasize inquiry and observation rather than memorywork.

Colour slides, special films, and experiment kits are among the important instructional aids used. The experiment kits in some instances are made in India from local materials.

Mathematics teachers attending the institutes discuss the "new mathematics" which has come to the fore in the past decade. They study revised curricula, which include new concepts as well as new ways of looking at old mathematical concepts.

The Government of India plans to continue the summer science institutes as a permanent feature of Indian education—an instrument for the in-service training of teachers at both secondary-school and college levels. U.S. participation has been discontinued from this year, so that the institutes in 1971 are completely self-sufficient.

Both the Indian Government and its American collaborators recognize that the summer institutes alone cannot bring the "new approach" into the science classroom and laboratory instruction methods of all the teacher-participants. The courses in new methods and ideas must be followed up with curricular reform.

The NSF team in India has worked extensively in helping to develop follow-up methods to enhance the lasting impact of the institutes, and is assisting the following programmes: the development and pilot introduction of new curricular materials for

secondary-school science through the NCERT study groups; the UGC college development programme for the substantial improvement of undergraduate physics, chemistry, biology, and mathematics in the affiliated colleges of selected universities; the development of Engineering Development Centres and Polytechnic Development Centres selected and sponsored by the Ministry of Education and the Indian Society for Technical Education; and the comprehensive elementary-science curriculum improvement project of the Bombay Municipal Corporation.

Indian Institute of Technology, Kanpur: The Indian Institute of Technology [IIT], Kanpur, is one of five technological universities established by the Government of India to serve as "pace-setters" for engineering and technical colleges in the country.

The U.S. Government is assisting IIT/Kanpur through a consortium of nine American universities —the California Institute of Technology, Carnegie Mellon University, Case Western Reserve University, the Massachusetts Institute of Technology, the Ohio State University, Princeton University, Purdue University, the University of California, and the University of Michigan—under the auspices of Education Development Centre Inc. Over the years, the collaborating U.S. universities have deputed some 100 members of their faculties to serve at Kanpur.

IIT/Kanpur has an extensive campus covering more than 1,000 acres. The laboratories are fitted with equipment comparable to the best anywhere in Asia.

Almost half of the 250-member faculty was recruited from among Indians working and studying abroad. Because of IIT/Kanpur's excellent reputation, many of them gave up better-paying jobs in foreign countries to return to India. By thus helping to arrest and reverse the "brain drain"—the flight to foreign countries of highly qualified Indian technologists—IIT/Kanpur has performed a notable service.

IIT/Kanpur provides undergraduate (Bachelor of Technology) training in six fields of engineering: aeronautical, chemical, civil, electrical, mechanical, and metallurgical. It also offers the M.Sc. degree in all these fields and science. Postgraduate study and research leading to a Ph.D. are undertaken in all departments, including the humanities and the social sciences. There are 1,300 students on the rolls.

An important part of the institute is the Computer Centre. It now has in operation an IBM computer system, perhaps the most versatile installation in India. The centre works much of the time on problems posed by industries located in Kanpur and other cities.

National Institute of Education: This institute, located in New Delhi, seeks to produce leaders of Indian education. Teachers College, Columbia University, New York, was closely associated with the institute from its founding in 1961 till June 1967.

Elementary Education: U.S. grants and loans, totalling Rs. 121.13 crores, from PL-480 funds are meeting a substantial part of Government of India expenses for the development of elementary education. The money is utilized to improve the quality of instruction through a teacher-training programme, to upgrade science teaching, develop better textbooks, increase teacher salaries, and build schools in rural areas.

Engineering Education: The United States has provided professional services and equipment for five engineering colleges, at Guindy, Howrah, Kharagpur, Poona, and Roorkee. Grants from PL-480 funds have helped establish 14 Regional Engineering Colleges, at Allahabad, Bhopal, Durgapur, Jaipur, Jamshedpur, Kozhikode, Kurukshetra, Mangalore, Nagpur, Rourkela, Silchar, Surat, Tiruchirappalli, and Warangal.

Since 1958 more than 500 Indian engineering educators have received advanced training in the United States.

Multipurpose Secondary Education: The Government of India has established four Regional Colleges of Education, at Ajmer, Bhopal, Bhubaneswar, and Mysore. These colleges, administered by NCERT, promote new patterns and practices in training teachers for multipurpose secondary schools. Under a contract with USAID, the Ohio State University had cooperated with these regional colleges.

Training is provided in these institutions in the fields of science, agriculture, technology, and commerce. Apart from training student-teachers, the colleges provide facilities for teachers and government education department officials to undergo refresher courses. Improved instructional materials for schools are prepared. These include textbooks, teacher's manuals, instructional guides and models.

On each campus there is a demonstration school. On the one hand, these schools function as laboratories of education for students of the college; on the other hand, they have become centres of experiment and demonstration for schools in the four regions.

Home Science Education: In order to develop and strengthen home-science education, professional services and equipment were provided under a contract with the University of Tennessee to selected Indian higher-education institutions in home science: Lady Irwin College, New Delhi; the home-science faculty, Maharaja Sayajirao University of Baroda; Maharani's College, Bangalore; Shrimati Nathibai Damodar Thackersey Women's University, Bombay; Vihari Lal Mitra Institute, Calcutta; Women's Christian College, Queen Mary's College, LW & St. Christopher's Training College, and South India Education Trust, Madras. Four regional demonstration centres were given assistance by the University of Tennessee in the planning, developing, implementing, and evaluation of teacher-training programmes in home science for all educational levels. Some 28 Indian home-science educators received training in the United States.

Social-welfare Education: Professional assistance and commodities were provided in the field of social welfare, primarily to teaching institutions. The institutes which received U.S. assistance are the Delhi School of Social Work; Faculty of Social Work, Baroda University; TK Institute, Lucknow University; Tata Institute of Social Services, Bombay; Madras School of Social Work, Madras; and Kashi Vidyapeeth, Varanasi. Nine teachers from these institutes received intensive training in the United States in the field of social-welfare education.

Rural Institutes: The Government of India has established rural higher education institutes for rural development and rehabilitation. Specialization is offered in these institutes in rural social services, extension services, applied agriculture training, active research, and rural engineering. About 20 staff members from 11 rural instititutes in India attended an international seminar/training programme in rural development in the United States. Professional services and commodities were also provided to these institutes.

Adult Education: India faces a vast adult-education problem. Literacy House, Lucknow, was established in 1953 to help in the eradication of illiteracy and promotion of adult education.

Literacy House has trained over 3,000 teachers (including about 30 from abroad) in methods and practices for the instruction of adult illiterates. More than 100 writers have received training in developing, writing, and evaluating materials for new literates, and have published several books for new literates.

Through a grant to World Education Inc., the United States has provided assistance to Literacy House in construction of buildings and strengthening of its teacher-training, research, publication, and extension departments.

Management

Efficient management of the Indian economic growth programmes, whether in the public or private sector, requires application of modern management techniques. This awareness on the part of the Government of India found ready response from the U.S. Government, and, beginning in 1963, U.S. assistance in this area has been augmented.

USAID management programmes are aimed at helping the Government of India to improve decision-making in key areas, to install modern systems of management planning, scheduling and control, and to improve organization, procedures, executive skill and performance.

To achieve these objects, selective programmes are designed to provide (a) technician services in priority areas, (b) U.S. training to Indian managers in certain areas, and (c) limited commodity assistance. Current efforts are directed toward field training of upper-level enterprise managers in modern management techniques, improvement of financial administration, and enlarging capability for collecting, analysing, and presenting information related to development programmes and administration for use by planners and decision-makers.

Government of India management programmes have extended to a wide variety of agencies, enterprises, universities, and management institutions. Among the areas where U.S. technician services have been provided are: to the Planning Commission to assist in pilot demonstration of management control and information systems; to the Ministry of Finance to help in improvement of income-tax administration; to the Indian Institute of Public Administration and

the universities of Punjab, Jaipur and Lucknow to enlarge and institutionalize Indian capability for survey research; and to the Ministry of Home Affairs to advise on civil-service and police administration.

Advanced training in the United States also has been provided in management of railways, ports, fertilizer production, heavy electricals, posts and telegraphs; financial and tax administration; management analysis; regional and urban development; police administration; management education; statistics management, etc. More than 160 Indian top- and middle-level managers have so far received training in the United States under this programme.

Health and Family Planning

The U.S. has been assisting in a number of projects designed to improve the health of India's people.

Malaria Eradication: In 1953 more than 800,000 people died of malaria in India; today virtually none does. The incidence of the disease has been reduced by 99.6 per cent. The Government of India's Malaria Eradication Programme is one of the world's largest ventures in the field of public health. U.S. assistance to the programme began in 1958. A number of American specialists and consultants assisted the Central Directorate of the National Malaria Eradication Programme and the state governments. Most of the insecticides, drugs, and equipment used have been financed by U.S. dollar aid, and much of the costs incurred within India has been met from PL-480 funds.

Medical Education: Up to 1962 the U.S. assisted all phases of Indian medical education. It supplied scientific and professional equipment, teaching-aids, and laboratory and audiovisual equipment. American professors came to India to assist in expanding medical education. Four hundred and thirty Indian medical teachers received advanced training in the United States. Institutions which received U.S. assistance include the All-India Institute of Medical Sciences, New Delhi, and seven medical colleges at Baroda, Cuttack, Hyderabad, Indore, Jaipur, Mysore, and Trivandrum.

Training Teachers: A grant from PL-480 funds financed the expenditure incurred by the Government of India on the training of 4,500 teachers for medical colleges throughout the country.

Nursing Education: The United States made available nursing educators and equipment for nursing colleges at Hyderabad, Indore, and Jaipur. American specialists helped the Safdarjang Hospital, New Delhi, and the Directorate of Medical Services, Andhra Pradesh, in organizing a central supply service for the use of hospital equipment.

Health Education: American technicians helped the Government of India train individuals and develop suitable administrative and operational patterns in training and research. USAID assisted the Central Health Education Bureau, New Delhi, and Health Education Bureaus in Andhra Pradesh and Tamil Nadu.

Water Supply and Sanitation: With American assistance, the Government of India established a Central Public Health Engineering Organization to administer an All-India Water Supply and Sanitation Programme. The United States made available the services of a number of technicians to the programme. It also supplied equipment for use both by the Central Organization and by the Central Public Health Engineering Research Institute, Nagpur. Indian personnel have been trained in the United States.

Communicable Diseases: The National Institute of Communicable Diseases, located in New Delhi, has received U.S. technical assistance. Special emphasis was given to increasing the institute's capacity to undertake epidemiological investigations and to evaluate the progress of national programmes such as smallpox eradication. A continuing working relationship has been developed with the U.S. Public Health Service and its National Communicable Disease Center at Atlanta, Georgia, for mutual benefit. U.S. help has also been provided for research on diseases, such as rabies and brucellosis, communicable to man from lower animals.

In the field of controlling communicable diseases USAID has also rendered assistance to India's anti-filariasis [elephantiasis] campaign and supplied equipment to the Pasteur Institute at Coonoor, Tamil Nadu, for the production of oral polio vaccine.

Family Planning: The Indian family-planning programme is the largest in the world. Through June 1970 over 7.38 million sterilizations were performed in India. These constitute 50 percent of the

total sterilization operations performed in the world. The achievement in the field of the intra-uterine contraceptive device [IUCD]—otherwise known as the loop—is also impressive. Over 3.3 million loops were inserted by the end of June 1970.

The primary policy initiative, responsibility, and credit for family-planning programme emphasis and progress naturally belongs to the Indian Government. India has sought help from the United States and some other countries and international agencies. However, foreign assistance, while useful, is still marginal and always subordinate to the initiatives of the Government of India.

Several aspects of India's family-planning programme receive U.S. support:

Vehicles: In June 1968 the United States extended a loan of $2.7 million [Rs. 2 crores] to India, to offset the cost of importing components for more than 6,000 vehicles to be manufactured in this country for the family-planning programme. The U.S. Government in June 1969 extended a grant of Rs. 6 crores to finance the rupee costs of 1,540 of these vehicles, which are being put into service during the current year, to meet the cost of operating them for three years, and to finance certain expenditures of the Central and state health transport organizations. The remaining vehicles will be commissioned during the next several years.

The United Nations Children's Fund [UNICEF] is making equipment available for the central and regional workshops and mobile maintenance units which are being established to provide optimum facilities for the repair and maintenance of the vehicles.

The vehicles are intended to increase greatly the mobility of family-planning teams, especially in the rural areas, throughout India. At present it is difficult to provide the services of doctors for family-planning work in villages in the remote interior. The automobiles will help overcome this difficulty.

Some of the vehicles are being used as mobile sterilization and IUCD clinics. This is greatly increasing the effectiveness of medical teams, and should result in a large increase in the number of sterilizations performed and loops inserted.

A number of the vehicles are audiovisual vans used for mass communication and education in even the remotest areas. The Government of India has taken several steps to increase the number and variety of family-planning films. The vehicles enable these films to be shown to a much larger rural audience.

Condoms: With the launching in September 1968 of the Nirodh programme, condoms are now available in retail shops in many parts of India along with common consumer goods such as soap, tea, and cooking-oils. Nirodh [meaning "prevention"] is the special brand name of the condoms made available by the Government of India. A unique feature of the project is that the condoms, which are sold at the subsidized price of five paise each, are distributed by a group of half-a-dozen private firms for sale through over 100,000 retail shops.

USAID has provided a grant of $3 million [Rs. 2.25 crores] to provide 170 million condoms. Technical assistance for the condom distribution project is being provided by the Ford Foundation.

Oral Contraceptives: Although many million women use oral contraceptive pills outside India, the pill has not so far come into widespread use in this country. USAID has extended a grant of $200,000 [Rs. 15 lakhs] to finance the import of pills from the United States.

Essentially, this is a project to test the acceptance of pills by Indian women and their effectiveness in local conditions. If this pilot programme is successful, the pill may become a very useful part of India's family-planning drive.

Demography: USAID technicians are assisting demographic [population] research by helping improve the data-collecting and analysing capabilities of the International Institute of Population Studies, Chembur, Bombay, which has an outstanding record of activity in the field. American as well as United Nations assistance is intended to expand greatly the present scope of its work.

Family-planning Training: Technical consultancy services provided by USAID and the Ford Foundation are helping the Government of India to assess the training loads and training needs in family planning and to develop improved training methods and materials for all levels of workers. Audiovisual and training equipment is being supplied by the United States to various family-planning training centres in order to strengthen their training programmes.

Intensive-districts Programme: The Government of India has selected, initially, 17 of the 51 most populous districts in India for increased family-planning activities to help achieve the goal of reduc-

ing the country's birth rate to 22 per 1,000 as soon as possible. USAID is supplying audiovisual equipment for mass education and information in the intensive districts.

Anaemia Prophylaxis: Maternal and child health and family planning are interrelated. A serious problem affecting many Indian women is anaemia (a condition in which the blood is deficient in red blood cells or the cells are deficient in a protein containing iron). To help them overcome anaemia, the United States has provided 200 kilograms of folic acid (a vitamin of the B complex). In combination with ferrous sulphate (which contains iron), the vitamin is being distributed through primary health centres to pregnant women and nursing mothers, to women who have had IUCDs inserted, and to pre-school-age children, under the Indian Government's anaemia prophylaxis programme.

Communications: USAID is making available mailing-machines, tape recorders for extended family-planning radio coverage, and film-making equipment. Assistance is being given to the Government of India to establish a direct-mailing system to produce and distribute programme fact sheets, technical articles, brochures, and other literature to an ultimate audience of over one million. The recipients include doctors, nurses, government officials, family-planning field workers, schoolteachers, and influential private citizens in both urban and rural areas.

Dollar Grant: In June 1970, the United States extended a grant of $20 million to India to help finance an expanded family-planning programme during the Fourth Five-Year Plan. The grant, in foreign exchange, will be used by India to import commodities such as fertilizer, iron and steel, chemicals, and dyes required by Indian industry and agriculture. India will spend an equivalent amount in rupees (Rs. 15 crores) for increasing family-planning activities in the country.

Rupee Grants: In addition to the grant of Rs. 6 crores for vehicles, the U.S. Government has extended rupee grants totalling Rs. 8.5 crores to the family-planning programme. These have been made from the sales proceeds of agricultural commodities supplied under the PL-480 (Food for Peace) programme.

Nutrition: More and more attention has been paid in India in recent years to improving not only the quantity but also the quality of Indian food. USAID is assisting in a number of aspects of this campaign to assure a better diet and thus improve health conditions.

Indian experts have established that shortage of protein in diet is particularly harmful. Protein malnutrition can result in stunted physical and mental growth. Serious effects on the health of large sections of the population are also caused by dietary shortages of iron (resulting in anaemia) and of vitamin A (blindness). Particularly affected by these three deficiencies are children and pregnant women.

Several projects have been undertaken, with U.S. assistance, to remedy these deficiencies. Bread sold in many cities has been enriched with additional protein. Steps are being taken to utilize the protein present in groundnut cake. Since Indian farmers have demonstrated they can grow soyabeans, intensive efforts have been made to establish processing and utilization facilities for this invaluable protein resource. In all these areas, exchange of scientific data and consultations between scientists of the two countries have been mutually beneficial.

The most vulnerable group—the young children and the pregnant mothers— is presently not reached in any significant way by feeding or intervention programmes. The very commendable mid-day meal programme reaches older schoolchildren and the programmes for pre-schoolers generally reach only those above the age of three. USAID is working actively with the American voluntary agencies and the Indian Government to set up experimental programmes aimed at the younger children and the pregnant mothers.

The important role of the private sector is supported and coordinated by the Protein Foods Association of India [PFAI], which includes over 30 food manufacturers and research organizations. PFAI was established in 1967 with assistance and encouragement from USAID.

Successful experiments have been conducted in fortifying salt with iron and calcium. Salt is a particularly suitable medium for such fortification, since it is consumed by all people, rich and poor, old and young. Intensified laboratory and field research is now in progress.

Another attractive fortification project concerns *atta* (wheat flour). Most of the wheat flour consumed in urban areas is milled by some 185 mills. In February 1970, the mills in Bombay began forti-

fying *atta* with groundnut protein, vitamins, and minerals. Similar projects are expected in Calcutta and Delhi by the end of the year.

Numerous American specialists have visited India and conferred with their Indian counterparts. USAID technicians are working closely with government ministries, research institutions and food-industry leaders in the development, marketing, and promotion of new, high-protein foods and the nutrient-fortification of existing foods. USAID has participated actively in the newly increased attention the Indian Government is giving to education and mass-communication campaigns which will help the consumer make more nutritious food purchases and encourage the producer to develop food products high in important nutrients.

Industries

During the past 17 years the United States has made available machinery, components, spare parts, raw materials, and other industrial supplies valued at more than $2,600 million [Rs. 1,950 crores] to modernize and expand Indian industries.

Industrial projects which have received U.S. foreign-exchange assistance include, among others, a rayon tyre-cord plant at Kota, an aluminium factory at Renukoot, factories manufacturing chemicals and plastics at Bombay, Calcutta, Mettur, and Thana, a paper mill at Amlai, a rayon factory at Kalyan, a pulp factory at Fort Songhad, a plant manufacturing forgings at Poona, a bearings plant at Jaipur, a coal-mine ropeway at Jharia, and two coal washeries at Dugda and Patherdih, besides a large percentage of truck-manufacturing facilities.

Non-project Assistance: In recent years a substantial part of the United States' aid to India has been in the form of non-project loans. These loans are so called because they are not designed for a specific project. They finance many of the import requirements of agriculture and industry as well as education, health, and other sectors of development. Also known as production loans, this form of aid is an important tool in U.S. efforts to assist India's development. Non-project assistance extended to India by USAID totals nearly $2,350 million [Rs.1, 763 crores]. (This amount includes several hundred million dollars for financing fertilizer imports.]

The United States is the leading provider of non-project assistance to India. In recent years the Indian Government's emphasis in aid negotiations has shifted from project to non-project assistance, in response to the changes in the economy brought about by India's development.

Two decades ago India required foreign aid largely to build specific projects: steel mills, power stations, chemical factories, machine-tool plants. But today India has a highly diversified industrial sector. She now makes quality products such as machine tools, trucks and buses, electronic equipment, and a wide variety of industrial equipment, besides many consumer products.

Indian industry can build the machinery needed for most new projects. But India still has to import some components and spare parts for industrial equipment, as well as some key raw materials not available in the country. If these imports cannot be had, production will suffer and, in some cases, come to a halt. U.S. non-project loans provide for much of these essential imports.

Almost all Indian industries have benefited from U.S. non-project assistance. The Government of India allots funds made available by the United States to several thousand private enterprises and government undertakings. Some specific examples of non-project imports are: non-ferrous metals; a wide variety of chemicals; lubricants; components such as specialized roller bearings; and spares for industrial and construction equipment.

It has been calculated that every dollar of raw material or component furnished by U.S. non-project assistance enables Indian industry to turn out an additional two-and-a-half dollars worth of production.

During 1969-70 Indian industry utilized approximately $132 million [Rs. 99 crores] in U.S. non-project loan disbursements. As of November 30, 1970, Indian industry had approximately $116 million (Rs. 87 crores) in U.S. non-project loan funds available for new commitments. The multiplier effect of this amount could generate production of $290 million [Rs. 218 crores] worth of industrial goods.

Mineral Resources: The United States is extending considerable assistance to India in the development of the country's mineral resources. An important agreement provides for a survey to locate ore deposits of copper, lead, zinc, tin, molybdenum, and nickel. The discovery of deposits of these non-ferrous metals is of vital importance to the economy because India now imports most of her needs. At

present the country spends Rs. 80 crores on such imports, and the figure is expected to double by 1974.

Known as Operation Hardrock, the survey has used airborne geophysical techniques which have been developed in recent years and have greatly speeded up mineral exploration. Two airplanes fitted with magnetic, electromagnetic, and radiometric instruments have surveyed large parts of Andhra Pradesh, Rajasthan, and Bihar. Some 11,000 interesting "anomalies" have been located. Diamond drilling on the most promising anomalies has commenced and ore-grade copper mineralization has been located at Baharagora, near the West Bengal-Bihar boundary. Similarly, ore-grade zinc and lead zones of substantial width have been intersected in Rajasthan near Bhilwara. It is too early to evaluate the deposits, but drilling continues.

The U.S. Government has just phased out American technicians associated with Operation Softrock, the exploration programme for phosphate, an essential ingredient of several types of chemical fertilizer. India until recently imported all its requirements of phosphate rock at an annual cost in foreign exchange which, if present trends continue, is likely to be Rs. 45 crores in 1974. The discovery of phosphate-rock deposits is, therefore, of considerable significance to the country's balance of payments.

With assistance provided by USAID, the Geological Survey of India has located large low-grade deposits of phosphate rock in the Himalayan foothills near Mussoorie and in Rajasthan. Work is currently in progress to assess the size of the deposits, the quality of the phosphate rock, and the problems which will have to be solved before the deposits can be exploited commercially.

However, the Rajasthan Directorate of Mines & Geology has located a vast phosphate-rock deposit near Udaipur, using methods pioneered in India by Dr. Richard Sheldon, an American geologist. It is too early for final assessment of this deposit, but all signs so far indicate that it will be large enough to take care of India's phosphate requirements for many years. The metallurgist of Operation Softrock has just completed beneficiation tests on those portions of the Udaipur deposit which cannot be used directly in fertilizer production. The high-grade portion is being mined at the rate of 500 tons a day, saving India nearly $10,000 [Rs. 75,000] daily in foreign exchange.

Another major U.S.-assisted effort is the Orissa iron-ore project. This includes the development of the Kiriburu iron-ore mine in Orissa, the expansion of Visakhapatnam port to enable it to handle large ships, and the construction of railway lines to link the mine with the port. By facilitating the export of four million tons of iron ore annually to Japan, the Kiriburu project helps India earn more than $30 million [Rs. 22.50 crores] in foreign exchange annually.

Export Promotion: The Government of India has given export promotion high priority. In an export policy resolution, passed in July 1970, the Indian Government emphasized that the priority for export promotion was next only to defence.

USAID has been providing technical assistance for the past several years in an effort to promote Indian exports. Basically, the effort has been to engage the best available Indian research talent to survey the export potentials of a wide range of traditional and manufactured commodities. These surveys are designed to analyze the problems affecting export growth and to list specific remedial measures to be considered by both the trade and government.

Commodities already surveyed under this programme include spices, fresh and processed fruits and vegetables, leather, oilcakes, textiles, jute, wood and wood products, machine tools, and marine products. A number of other surveys is in progress. Also being undertaken is a programme to follow up the proposals and recommendations made by the study groups.

In another aspect of the same field, USAID is promoting surveys of functionally oriented subjects related to exports, such as simplification of export procedures and documentation; external and domestic transport of export products; effectiveness of Indian export houses; and incentives which can be best used to improve the export performance of major industrial firms.

A major review of the export potential for Indian products in 25 countries of the Indian Ocean basin was completed recently. The survey set forth a strategy designed to double Indian exports to major countries of this region within the next five years.

Another significant study to identify areas of investment in export-oriented industries is now under way. The model chosen is expected to outline an optional plan of investment within the export sector on the basis of the total investment expected to be available during the Fourth Five-Year Plan period. The finished programme will also demonstrate the benefits of an efficient import-export policy, or, conversely, illustrate the resulting resource costs

of policies which deviate from the optional investment policies.

Overall, the export drive in India is gaining momentum in various quarters. Several well-established organizations have been involved in this effort and a new one, the Trade Development Authority, has been set up to service the needs of small and medium scale firms in the export field.

A new programme that has been included in overall USAID export promotion activity is investigation of new products which India should produce but does not now produce in large quantities for export markets. Initially USAID is sponsoring programmes to examine export prospects in the sports goods, toys and electronics industries.

The concept of producing goods exclusively for export is also gaining acceptance in Government circles. A study of this question is now being made by the Government of India to determine how the nation may emulate the experience of others and set up carefully planned export processing zones in key centres of the country.

USAID continues to provide the services of trade specialists and consultants to assist in the implementation of the various trade development schemes of the Government.

During 1970 USAID sponsored global market tours for three groups of selected medium-sized Indian producers in the fields of machine tools, hand and cutting tools, and castings. USAID has agreed to sponsor a similar programme in 1971 to send abroad approximately 50 selected representatives of medium-sized Indian producers of export goods.

In 1971 USAID expects to collaborate with United Nations Industrial Development Organization in inviting selected foreign buyers of Indian products to visit India. A programme to improve the compilation of India's export statistics is also being undertaken.

In an effort to promote continuing long-term involvement of local institutions in the field of export promotion, USAID is turning over some of its functions to the Trade Development Authority.

Labour

During the past 17 years the United States has provided more than $3 million [Rs. 2.25 crores] in foreign exchange plus Rs. 63 crores in PL-480 rupees to help establish or assist skill-training and other labour-oriented institutions and provide them with modern equipment and technical know-how; to strengthen the growth of shop-level leadership among trade unions; and to provide support for several research and labour-relations institutions in India.

Of all the U.S. assistance for labour programmes, the largest share has gone to skill-improvement. Under a USAID contract, the Dunwoody Institute of Minneapolis has helped the Bombay Central Training Institute in the development and operation of training programmes for such trades as machinist, electrician, grinder, welder, motor mechanic, tool and die maker, and instrument mechanic. Between 1955 and 1968 the United States provided technical assistance and equipment to 60 centres for training skilled workers in six basic industrial and construction trades. Winners of national skill competitions have received specialized training in the U.S. and tool kits and technical books from USAID among their prizes.

The United States has extended grants and loans from PL-480 funds for Central Government expenditures on all the seven Central Training Institutes in the country and 357 industrial training institutes with a capacity of over 100,000 students. Expenses incurred on apprenticeship training programmes have also been met.

Development of harmonious industrial relations, effective administration of labour laws and arbitration and conciliation processes, an analytical approach to manpower planning, and improved industrial safety practices are some of the other important Indian Government aims with which the United States has been associated.

Assistance has been provided in the establishment and initial operation of the Central Labour Institute, Bombay; the Industrial Safety Council, Bombay; and the Indian Institute of Labour Studies [formerly called the Central Institute for Training in Industrial Relations], New Delhi.

A considerable amount of assistance has been given to workers' education programmes and labour-relations and trade-union research activities being undertaken by the Indian Government, trade unions, and several other institutions. The United States is cooperating with the Central Board for Workers' Education in improving the technical capabilities of the education officers and upgrading the audio-visual techniques used in training programmes.

USAID has also provided advisory service and participant training in the United States to the Labour Bureau in Simla. The Bureau gathers and processes statistical and other types of information in the fields of labour and industrial relations, personnel manage-

ment, employment-exchange services, and manpower planning, training, and management. This information is useful to government agencies, business enterprises, labour organizations, and others.

An important part of U.S. aid to Indian institutions in the labour field has been the provision of advanced training in the United States to Indian teachers, officials, and other specialists. More than 200 Indian labour specialists have so far visited the United States and other countries as part of the U.S. participant programme.

Transportation

The United States has provided dollar grants and loans exceeding $400 million [Rs. 300 crores] to help India develop its transport system. In addition, a sum of Rs. 56.60 crores from PL-480 funds has been made available for road building.

Railways: U.S. aid to Indian railways totals $259 million [Rs. 194.25 crores]. This has financed the purchase of several hundred steam and diesel locomotives and 8,700 railway wagons. In addition, it has helped India to acquire a number of electric engines and railcoaches and to import steel, components, and spare parts used in the indigenous fabrication of rolling stock and other equipment.

An important U.S.-aided project is the Diesel Locomotive Factory at Varanasi. It has a capacity of 150 locomotives a year.

Another important American-assisted project is the installation of centralized traffic-control equipment on sections of the North-Eastern Railway and the North-East Frontier Railway to permit faster movement of trains to and from Assam and the Himalayan border.

Motor Vehicle Production: The United States has extended loans totalling $77.2 million [Rs. 57.90 crores] to three Indian firms to expand their production of motor vehicles.

Aviation: U.S. Export-Import Bank credits of $66.4 million [Rs. 49.80 crores] have helped Air-India to finance partially the purchase of its fleet of Boeing 707 jetliners and Boeing 747 "jumbo jet" planes.

The Indian Airlines Corporation is utilizing another U.S. Export-Import Bank loan of $12.5 million [Rs. 9.38 crores] to finance, in part, the purchase of seven Boeing 737 aircraft.

U.S. grants totalling $2.9 million [Rs. 2.18 crores] for improved navigational aids installed at several airports facilitate faster and safer domestic flights.

Power Development

A nation's power output is an index of its economic growth. India has made remarkable progress in this field in the last two decades. Total power-generating capacity is now about 17 million kilowatts—more than seven times as much as in 1950.

As in other fields of Indian development, the bulk of investment in the power projects has been made from domestic resources. At the same time, friendly countries and international institutions have cooperated with the Government of India in developing the country's power resources. The United States has been India's principal partner in this field.

Of the 17 million-kilowatt total of power-generating capacity now available, as much as one-third is accounted for by the 30 power projects aided by the United States. Most of these power stations have been completed. Others are in advanced stages of construction. When all of them reach their targeted output, their generating capacity will total 6.5 million kilowatts.

American cooperation has taken two forms. Some 20 projects, with a total capacity of about four million kilowatts, are equipped with power generators financed by the United States. The generators and auxiliary equipment are the products of the most up-to-date technology to be found in the United States or elsewhere in the world.

The remaining ten U.S.-assisted projects have received assistance from rupee funds derived from the sale of American farm products, or have utilized U.S.-financed construction machinery. Power generators for these projects have been or will be made in India or bought with India's foreign-exchange resources or assistance provided by other countries.

U.S. financial assistance (both loans and grants) for power development totals $423.3 million [Rs. 317.48 crores] in foreign exchange plus Rs. 349 crores in Indian currency from the sales proceeds of U.S. agricultural commodities.

Following is a short description of some major U.S.-assisted projects:

Tarapur Nuclear Power Station: The dedication by Prime Minister Indira Gandhi of the Tarapur nuclear power station on January 19, 1970, was an important landmark in India's economic development. It was also an important milestone in Indian-American economic and technical cooperation.

The 420,000-kilowatt Tarapur project is India's first venture in harnessing atomic energy on a commerical scale. Tarapur has several other distinctions. It is Asia's largest nuclear power plant. It is also the first project of its kind commissioned by any developing nation—in Asia, Africa, or Latin America.

While India has vast deposits of coal, they are concentrated largely in Eastern and Central India. For areas with a heavy demand for electricity which are situated far from coalfields or from possible sites for hydroelectric power stations, nuclear power offers the best means of energizing accelerated economic development.

But the promise of nuclear power does not stop here. Indian and American scientists visualize a stage, within this decade, at which cheap and abundant nuclear power will make it possible for barren deserts to be turned into irrigated breadbaskets and for the remotest hamlet to enjoy the manifold blessings of electricity.

Chandrapura Thermal Power Project: Chandrapura (420,000 kilowatts) is one of the largest thermal power projects in India. The power generated here serves not only the state of Bihar, but also West Bengal's Calcutta-Durgapur-Asansol complex, the most highly industrialized region in India. Largely because of the immense amounts of power generated at Chandrapura, electric trains are utilized to carry goods and passengers at express speeds between Calcutta and Uttar Pradesh.

Bandel, Durgapur and Dhuvaran: With a capacity of 355,600 kilowatts, the Bandel thermal power station, near Calcutta, is almost as large as Chandrapura and plays a vital role in West Bengal's economy. Another U.S.-aided project in the same state is Durgapur (150,000 kilowatts).

A thousand miles across the breadth of India is the Dhuvaran thermal power station, which is located amidst the oilfields of Gujarat and at present depends completely upon natural gas and oil for fuel. Four U.S.-made generators are now in operation and, together, have a generating capacity of just over a quarter-million kilowatts. In the expansion now in progress, also with U.S. cooperation, capacity will be more than doubled to 534,000 kilowatts.

Sharavathi Hydroelectric Power Project: Hydroelectric power development furnishes examples of how man can put to use natural resources which hitherto have merely served to enhance the attractiveness of the natural scenery. At Jog (Mysore state) the Sharavathi, one of India's smallest rivers, tumbles 830 feet down the Western Ghats in India's highest and most scenic waterfall. Indian engineers and workers have constructed a massive dam to store the water which hitherto ran to waste. This water now generates power which serves the aircraft, aluminium, cement, chemical, electronic, engineering, machine-tool, paper, telephone, and textile industries in Mysore and adjoining states. While the project was designed entirely by Indian engineers, the United States helped finance eight generators. Together they have a capacity of 712,800 kilowatts, but ultimately, when all phases of Sharavathi are complete, total generating capacity will exceed a million kilowatts, making it one of the largest sources of power in the world.

Sabarigiri Hydroelectric Power Project: In the adjacent state of Kerala, Indian skills and American money and equipment have succeeded in extracting 300,000 kilowatts of energy from the Pamba and the Kakki, two rivers which cascade more than 3,000 feet down the mountains before plunging into the Arabian Sea. The Sabarigiri project is accelerating the economic development not only of Kerala but also of the neighbouring state of Tamil Nadu.

U.S.-financed Generators: Other power projects in which American-financed generators have been installed include Ahmedabad (Gujarat), Amarkantak (Madhya Pradesh), Barapani (Assam), Barauni (Bihar), Indraprastha (Delhi), Kanpur (Uttar Pradesh), Nahorkatiya (Assam), Ramagundam (Andhra Pradesh), Satpura (Madhya Pradesh), and Talcher (Orissa).

U.S. rupee financing or American construction machinery has been used in the Bhadra (Mysore), Chambal (Rajasthan), Hirakud (Orissa), Kosi (Bihar), Koyna (Maharashtra), Kundah (Tamil Nadu), Tungabhadra (Andhra Pradesh/Mysore), Rihand (Uttar Pradesh), Damodar Valley Corporation, and Beas projects. These power stations are or will be equipped with turbo-generators supplied by countries other than the United States, or manufactured in India.

See tables on following pages

Projects Equipped with U.S.-financed Power-generating Machinery

Project	Capacity	U.S. foreign-exchange assistance	Assistance in Indian currency from the sales proceeds of U.S. agricultural commodities
	(*kilowatts*)	(*$ millions*)	(*Rs. crores*)
1. Ahmedabad extension, Gujarat	30,000	3.7	—
2. Amarkantak (Birsinghpur), Madhya Pradesh	60,000	7.6	6.67
3. Bandel, West Bengal	355,600	37.4	8.20
4. Barapani (Umiam), Assam	27,000	1.7	6.40
5. Barauni, Bihar	30,000	3.5	1.31
6. Chandrapura, Bihar	420,000	39.7	16.60
7. Dhuvaran (Cambay), Gujarat	534,000	51.9	12.72
8. Durgapur, West Bengal	150,000	18.4	3.43
9. Indraprastha, Delhi	36,600	4.0	—
10. Indraprastha extension, Delhi	187,500	13.8	15.05
11. Kanpur, U.P.	15,000	1.5	0.95
12. Nahorkatiya, Assam	69,000	6.7	—
13. Rajasthan power facilities project (Dungarpur, Bharatpur, Alwar, and Jaisalmer)	7,500	1.0	—
14. Ramagundam, Andhra Pradesh	62,500	7.9	3.70
15. Sabarigiri, Kerala	300,000	18.0	21.06
16. Satpura, Madhya Pradesh	312,500	19.1	15.93
17. Sharavathi, Mysore	712,800	22.7	34.45
18. Talcher, Orissa	250,000	28.4	18.74
19. Tarapur, Maharashtra	420,000	72.7	—
20. Trombay, Maharashtra	150,000	17.7	—
Non-project Assistance			
1. U.S. Development Loan Fund credit No. 21 for power-generating machinery	—	9.5	—
2. Amount utilized to purchase power equipment from the first and second lines of credit extended by the U.S. Export-Import Bank	—	4.5	—
Total	4,130,000	391.4	165.21

Power Projects Which Have Received Assistance from Rupee Funds Generated by the Sale of U.S. Agricultural Commodities or Which Have Utilized U.S.-financed Construction Machinery*

	Project	Capacity	U.S. foreign-exchange assistance	Assistance in Indian currency from the sales proceeds of U.S. agricultural commodities
		(*kilowatts*)	($ *millions*)	(*Rs. crores*)
1.	Beas	240,000	18.0	3.00
2.	Bhadra, Mysore	33,000		13.23
3.	Chambal, Madhya Pradesh & Rajasthan	363,000		34.07
4.	Damodar Valley Corporation, Bihar & West Bengal	104,000		11.36
5.	Hirakud, Orissa	270,000		4.99
6.	Kosi, Bihar	20,000	7.9	36.82
7.	Koyna, Maharashtra	540,000		20.51
8.	Kundah, Tamil Nadu	425,000		7.63
9.	Tungabhadra, Andhra Pradesh & Mysore	99,000		23.44
10.	Rihand, U.P.	300,000	6.0	28.75
	Total	2,394,000	31.9	183.80

*The generating equipment of these projects has been or will be imported by India with the assistance of other friendly countries or with its own foreign-exchange earnings, or will be produced locally.

Development Loans Extended by U.S. Agency for International Development and its Predecessor, U. S. Development Loan Fund

Date of agreement	Project	Dollars (*millions*)	Rupee equivalent at current rate of exchange (*crores*)
Loans Repayable in Rupees			
1. June 23, '58	First Railway Loan	30.0	22.50
2. June 23, '58	For Private Enterprises (road transportation: $25 million; cement industry: $5 „; jute industry: $5 „)	34.9	26.18
3. Dec. 24, '58	Second Railway Loan	35.0	26.25
4. Dec. 24, '58	Steel Imports for Public Sector (first loan)	17.6	13.20
5. Dec. 24, '58	Equipment for Power Projects	9.5	7.13
6. Dec. 24, '58	Capital Equipment for Private Industries (first loan)	14.9	11.18
7. Dec. 24, '58	Steel Imports for Private Sector	21.7	16.28
8. July 12, '59	Steel Imports for Private and Public Sector Projects (second loan)	19.5	14.63
9. June 30, '60	Sharavathi Hydroelectric Project, Mysore (first loan)	6.9	5.18
10. June 30, '60	Ahmedabad Electricity Co., Gujarat	3.7	2.78
11. June 30, '60	Barauni Thermal Power Project, Bihar	3.5	2.63
12. June 30, '60	Chandrapura Thermal Power Project, Bihar (first loan)	27.8	20.85
13. June 30, '60	Durgapur Thermal Power Project, West Bengal	18.4	13.80
14. June 30, '60	Road Transport Components	13.0	9.75
15. Dec. 5, '60	Kanpur Thermal Power Project, Uttar Pradesh	1.5	1.13
16. Dec. 5, '60	Barapani Hydroelectric Power Project, Assam	1.7	1.28
17. Dec. 5, '60	Capital Equipment for Private Industries	24.6	18.45
18. Dec. 5, '60	Third Railway Loan	49.6	37.20
19. Dec. 5, '60	Steel Imports for Private and Public Sector Projects (third loan)	25.0	18.75

	Date of agreement	Project	Dollars (*millions*)	Rupee equivalent at current rate of exchange (*crores*)
20.	Dec. 7, '60	Industrial Finance Corporation (first loan)	9.5	7.13
21.	Dec. 29, '60	Trombay Fertilizer Plant, Maharashtra (first loan)	29.4	22.05
22.	Mar. 23, '61	Industrial Credit & Investment Corporation of India	4.5	3.38
23.	Apr. 10, '61	National Small Industries Corporation	8.5	6.38
24.	Aug. 21, '61	Premier Automobiles Ltd., Bombay (first loan)	7.1	5.33
25.	Aug. 16, '61	Talcher Thermal Power Project, Orissa	28.4	21.30
26.	Aug. 16, '61	Amarkantak [Amlai] Thermal Power Project, Birsinghpur, Madhya Pradesh	7.6	5.70
27.	Aug. 16, '61	Sharavathi Hydroelectric Power Project, Mysore (second loan)	14.0	10.50
28.	Oct. 26, '61	Import of Non-ferrous Metals	20.0	15.00
29.	June 16, '66	Beas Dam	18.0	13.50
Loans Repayable in Dollars				
1.	Feb. 26, '62	Dhuvaran Thermal Power Station, Gujarat (first loan)	33.1	24.83
2.	June 21, '62	General Non-Project Loan for Maintenance Imports (first loan)	199.7	149.78
3.	June 21, '62	Bandel Thermal Power Project, West Bengal	37.4	28.05
4.	June 21, '62	Hindustan Steel Ltd., for Patherdih Coal Washery, Bihar	4.0	3.00
5.	June 21, '62	Fourth Railway Loan	42.9	32.18
6.	June 28, '62	Premier Automobiles Ltd., Bombay (second loan)	2.9	2.18
7.	June 28, '62	Industrial Finance Corporation (second loan)	17.5	13.13
8.	June 28, '62	Sabarigiri Hydroelectric Power Project, Kerala	18.0	13.50
9.	June 28, '62	Delhi Cloth Mills Ltd., for a rayon tyre-cord plant at Kota, Rajasthan	8.0	6.00
10.	June 28, '62	Trombay Power Plant (Tatas), Maharashtra	17.7	13.28
11.	July 27, '62	Napco Bevel Gear of India Ltd. (precision gear plant), Faridabad, Haryana	2.3	1.73

	Date of agreement	Project	Dollars (*millions*)	Rupee equivalent at current rate of exchange (*crores*)
12.	Sept. 25, '62	Tata Engineering & Locomotive Co. Ltd., Jamshedpur, Bihar (first loan)	13.6	10.20
13.	Nov. 8, '62	Hindustan Motors Ltd., Calcutta (first loan)	15.6	11.70
14.	Feb. 25, '63	General Non-Project Loan for Maintenance Imports (second loan)	238.4	178.80
15.	Mar. 8, '63	Indraprastha [Delhi "C"] Thermal Power Station	13.8	10.35
16.	Mar. 8, '63	Satpura Thermal Power Station, Madhya Pradesh	19.1	14.33
17.	May 21, '63	Ramagundam Thermal Power Project, Andhra Pradesh	7.9	5.93
18.	Oct. 21, '63	Chandrapura Thermal Power Project, Bihar (second loan)	11.9	8.93
19.	Oct. 21, '63	Fifth Railway Loan	15.7	11.78
20.	Oct. 21, '63	Central Ropeways "F", Jharia, Bihar	7.4	5.55
21.	Nov. 21, '63	Dudga Coal Washery Expansion, Bihar	5.0	3.75
22.	Dec. 17, '63	Tarapur Nuclear Power Station, Maharashtra	72.7	54.53
23.	Feb. 24, '64	General Non-Project Loan for Maintenance Imports (third loan)	224.5	168.37
24.	June 19, '64	Trombay Fertilizer Plant, Maharashtra (second loan)	6.8	5.10
25.	July 21, '64	National Engineering Industries Ltd., Jaipur, Rajasthan	4.3	3.23
26.	Nov. 30, '64	Sharavathi Hydroelectric Power Project, Mysore (third loan)	1.8	1.35
27.	Nov. 30, '64	General Non-Project Loan for Maintenance Imports (fourth loan)	49.3	36.98
28.	Nov. 30, '64	Sixth Railway Loan	7.1	5.33
29.	Dec. 31, '64	Tata Engineering & Locomotive Co. Ltd., Jamshedpur, Bihar (second loan)	11.8	8.85
30.	Mar. 31, '65	U.S. Consulting Services	0.5	0.38
31.	May 3, '65	Hindustan Motors Ltd., Calcutta (second loan for expanding automobile production)	22.3	16.73
32.	May 3, '65	Hindustan Motors Ltd., Calcutta (for production of power shovels)	2.8	2.10

	Date of agreement	Project	Dollars (*millions*)	Rupee equivalent at current rate of exchange (*crores*)
33.	June 17, '65	Seventh Railway Loan	3.8	2.85
34.	June 17, '65	General Non-project Loan for Maintenance Imports (fifth loan)	189.2	141.90
35.	Jan. 4, '66	Fertilizer Imports (first loan)	50.0	37.50
36.	May 13, '66	General Non-Project Loan for Maintenance Imports (sixth loan)	97.5	73.13
37.	May 25, '66	"Operation Hardrock" (survey for non-ferrous metal deposits)	3.5	2.63
38.	June 1, '66	Dhuvaran Thermal Power Station, Gujarat (second loan)	18.8	14.10
39.	July 8, '66	General Non-Project Loan for Maintenance Imports (seventh loan)	149.8	112.35
40.	May 10, '67	General Non-Project Loan for Maintenance Imports (eighth loan)	131.7	98.78
41.	June 2, '67	Education Loan	9.0	6.75
42.	Oct. 20, '67	General Non-Project Loan for Maintenance Imports (ninth loan)	50.0	37.50
43.	May 15, '68	General Non-Project Loan for Maintenance Imports (tenth loan)	224.6	168.45
44.	June 29, '68	Family Planning Programme	2.7	2.03
45.	July 19, '68	Fertilizer Imports (second loan)	23.0	17.25
46.	Dec. 26, '68	General Non-Project Loan for Maintenance Imports (11th loan)	194.0	145.50
47.	Oct. 17, '69	Import of Machinery for Industrial Projects	20.0	15.00
48.	June 23, '70	General Non-Project Loan for Maintenance Imports (12th loan)	160.0	120.00
49.	Mar. 13, '71	General Non-Project Loan for Maintenance Imports (13th Loan) (with amendment)	170.0	127.50
		Total: Loans Repayable in Dollars	2,633.4	1,975.05
		Loans Repayable in Rupees	505.8	379.35
		Total: Loans Repayable in Dollars and Rupees	3,139.2	2,354.40

U. S. Public Law 480

Food for Peace Programme

India has been the largest recipient of U.S. agricultural commodities under Title I, PL-480. The first Title I agreement with India was signed on August 29, 1956. Since then nine additional agreements and 35 supplemental agreements have been signed. The market value of the commodities (including some ocean transport costs) in all these agreements and amendments up to April 1, 1971, totals $4,787.0 million.

The following table shows the total quantities and dollar values of commodities programmed and actual arrivals since the beginning of the Title I, PL-480, programme in India.

	Agreements signed up to April 1, 1971		Commodity arrivals up to Dec. 31, 1970
	Programmed quantity in thousands of metric tons*	Value in millions of dollars	Approximate quantity in thousands of metric tons*
Wheat	52,233.2	3,185.8	50,180.0
Sorghum/maize	5,542.3	278.8	5,347.9
Rice	1,848.1	225.9	1,864.1
Cotton	4,059.6**	464.1	3,080.4**
Tallow	170.0	28.7	165.8
Tobacco	7.4	17.3	7.1
Milk, dry, nonfat	24.9	4.6	21.6
Oil, soyabean/cottonseed	506.7	124.4	409.2
Milk, evaporated	13.0	4.1	14.99
Milk, dry, whole	0.23	0.3	0.23
Cheese, processed	0.08	0.1	0.10
Fruit, tinned	0.40	0.1	0.42
Total market value		4,334.2	
Ocean transport		453.5***	
Total, including ocean transport		4,787.0	

*Programmed quantities are based on prices at time of agreement. Arrivals are based on actual quantities purchased, shipped and received and vary from the programmed amounts with price fluctuations.

**Cotton is reported in thousands of Indian bales (392 lb. each). Cotton arrivals are through June 30, 1970.

***This figure also includes ocean transport differentials.

PROGRAMMED RUPEE USES

The following table shows the programmed currency uses for all PL-480, Title I, rupee repayment agreements and amendments with India up to April 1, 1971:

Agreement Dates (as supplemented and amended)	Grants to Government of India	Loans to Private Enterprise	Loans to Government of India	U.S. Government Uses	Total
	Thousands of dollars				
Aug. 29, 1956	54,000	—	226,256	74,300	354,556
June 23, 1958	—	13,819	33,377	8,081	55,277
Sept. 26, 1958	37,500	65,000	129,700	27,600	259,800
Nov. 13, 1959	119,110	14,910	119,110	44,740	297,870
May 4, 1960	577,565	68,555	577,565	146,115	1,369,800
May 1, 1962	—	393	34,977	3,930	39,300
Nov. 20, 1962	—	5,155	87,635	10,310	103,100
Nov. 30, 1962	—	255	4,338	510	5,103
Sept. 30, 1964	—	80,740	911,893	194,727	1,187,360
Feb. 20, 1967	29,700	6,750	87,750	10,800	135,000
June 24, 1967	—	4,390	76,386	7,027	87,803
Sept. 12, 1967	—	3,375	58,725	5,400	67,500
Dec. 30, 1967	—	8,430	146,682	13,488	168,600
Dec. 23, 1968	21,010	4,775	63,030	6,685	95,500
Apr. 25, 1969	—	1,080	19,008	1,512	21,600
Oct. 13, 1969	—	3,830	65,876	6,894	76,600
Apr. 1, 1971	—	—	27,900	2,100	30,000
Total	838,885	281,457	2,670,208	564,216	4,354,766
Percent	19.3	6.4	61.3	13.0	100.0

Long-term Loan Agreements

(Amounts repayable in rupees convertible into dollars at U.S. Government option)

Agreement Dates	Value of Commodities	Ocean Transportation	Total
	Thousands of dollars		
June 24, 1967	22,000	2,200	24,200
Sept. 12, 1967	17,000	2,000	19,000
Dec. 30, 1967	42,100	4,800	46,900
Dec. 23, 1968	64,700	6,900	71,600
Apr. 25, 1969	32,500	3,100	35,600
Oct. 13, 1969	114,900	—	114,900
Apr. 1, 1971	120,000	—	120,000
Total	413,200	19,000	432,200

Total Value, All Agreements	4,786,966*

*Equivalent to approximately Rs. 2,662 crores at Rs. 4.76 per dollar till June 6, 1966, and Rs. 7.50 per dollar after that date. Total rupee deposits as of Dec. 31, 1970, were Rs, 22.3 billion (Rs. 2,232 crores).

Grants from U.S. Public Law 480 Sales Proceeds

		Rs. Crores
Agriculture		
1.	Agricultural Universities Development	0.62
2.	U.P. Agricultural University	1.22
3.	Modern Storage of Foodgrains	14.04
4.	Dairy Development	4.07
5.	Soil and Water Conservation	10.08
6.	Agricultural Refinance Corporation	5.00
7.	Exploration of Groundwater Resources	0.80
8.	Beas Dam	3.00
Industry		
9.	River Valley Development (Chambal, Hirakud, Damodar Valley, Mahi Right Bank Canal, Kakrapar, Nagarjunasagar, Kosi, Bhadra, Tungabhadra, Mahanadi Delta Irrigation, Kundah, and Koyna projects)	5.94
10.	National Productivity Council	0.04
11.	Indian Investment Centre	0.63
Transportation		
12.	National Highways	19.60
Labour		
13.	Craftsmen Training	39.46
Health		
14.	Medical Educator Training	7.40
15.	Malaria Eradication	85.15
16.	All-India Institute of Medical Sciences, New Delhi	1.45
17.	Primary Health Centres	10.55
18.	Smallpox Eradication	10.29
19.	Family Planning	8.47
20.	Nutrition	1.61
Education		
21.	Indian Institute of Technology, Kanpur	5.20
22.	Higher Technical Education (Regional Engineering Colleges)	16.56
23.	Elementary Education	78.31
24.	Technical Education Institutes	0.12
	Total Grants	329.61

Loans from U.S. Public Law 480 Sales Proceeds

		Rs. Crores
Agriculture		
1.	Minor Irrigation	166.16
2.	Flood Control	25.46
3.	Soil, Forest, and Water Conservation	30.61
4.	Modern Storage of Foodgrains	2.95
5.	Rural Electrification	136.40
6.	Agricultural Production	25.50
7.	Commercial Crops (groundnut, cashew, jute)	1.90
8.	Agricultural Research (Indian Council of Agricultural Research)	18.50
9.	Area Development (Damodar Valley Corporation)	1.50
10.	Fisheries	4.00
11.	Agro-Industries Corporation	4.00
Industry		
12.	River-valley Development	235.90
	(1) Bhadra (Mysore) — Rs. 13.23 crores	
	(2) Chambal (Rajasthan/Madhya Pradesh) — „ 34.07 „	
	(3) Damodar Valley Corporation (Bihar/West Bengal) — „ 11.36 „	
	(4) Hirakud (Orissa) — „ 4.99 „	
	(5) Kakrapar (Gujarat) — „ 4.37 „	
	(6) Kosi (Bihar) — „ 36.82 „	
	(7) Koyna (Maharashtra) — „ 20.51 „	
	(8) Kundah (Tamil Nadu) — „ 7.63 „	
	(9) Mahanadi Delta irrigation (Orissa) — „ 14.55 „	
	(10) Mahi Right Bank Canal (Gujarat) — „ 3.92 „	
	(11) Nagarjunasagar (Andhra Pradesh) — „ 66.95 „	
	(12) Tungabhadra (Andhra Pradesh/Mysore) — „ 23.44 „	
	Total — Rs. 241.84 crores	
	Less Grants — Rs. 5.94 „	
	Loans — Rs. 235.90 crores	
13.	Rihand Valley Hydroelectric Power Project (Uttar Pradesh)	8.92
14.	Industrial Development Bank of India	127.50
15.	Industrial Finance Corporation	37.50
16.	Industrial Credit & Investment Corporation of India	25.00
17.	Sharavathi Hyderoelectric Power Project (Mysore)	34.45
18.	Chandrapura Thermal Power Project (Bihar)	16.60
19.	Barauni Thermal Power Project (Bihar)	1.31
20.	Sabarigiri Hydroelectric Power Project (Kerala)	21.06
21.	Durgapur Thermal Power Project (West Bengal)	3.43

		Rs. Crores
22.	Kanpur Thermal Power Project (Uttar Pradesh)	0.95
23.	Barapani [Umiam] Hydroelectric Power Project (Assam)	6.40
24.	Trombay Fertilizer Plant (Maharashtra)	13.43
25.	Talcher Thermal Power Project (Orissa)	18.74
26.	Amarkantak [Birsinghpur] Thermal Power Project, Amlai (Madhya Pradesh)	6.67
27.	Dhuvaran Thermal Power Project (Gujarat)	12.72
28.	Bandel Thermal Power Project (West Bengal)	8.20
29.	Ramagundam Thermal Power Project (Andhra Pradesh)	3.70
30.	Indraprastha Thermal Power Project (Delhi)	15.05
31.	Satpura Thermal Power Project (Madhya Pradesh)	15.93
32.	Badarpur Thermal Power Project	12.00
33.	Inter-state Power Grid	7.00
Labour		
34.	Rural Works Programme	17.87
35.	Rural Industrialization	6.63
36.	Craftsmen Training	23.52
Health		
37.	Water Supply and Drainage	50.50
38.	Drinking-water Supply and Local Development Works	8.22
39.	National Water Supply and Sanitation	11.47
40.	Malaria Eradication	20.98
41.	Primary Health Centres	6.00
42.	Smallpox Eradication	2.73
Education		
43.	Indian Institute of Technology, Kanpur (Uttar Pradesh)	4.26
44.	Higher Technical Education (Regional Engineering Colleges)	26.57
45.	Elementary Education	42.83
46.	Community Development and National Extension schemes	57.68
47.	Urban Redevelopment and Slum Clearance	6.40
Transport		
48.	Development of Major Ports	38.65
49.	Construction of National Highways	37.00
	Total	1,410.75

Cooley Fund

The Cooley Amendment to U.S. Public Law 480 (named after Mr. Harold D. Cooley, former chairman of the Committee on Agriculture of the U.S. House of Representatives) provides that a portion of the local-currency proceeds from the sale of American agricultural commodities shall be made available for lending in the private sector to two categories of borrowers:

(1) U.S. firms or their subsidiaries operating in the host country (India), or local (Indian) firms having an affiliation with an American firm;
(2) Firms of the host country which have no U. S. affiliation but are facilitating the disposal of American agricultural products, e.g., local private warehouses storing grain, or flour mills processing grain.

The following loans have been extended from the Cooley Fund. The name of the U.S. affiliate and the principal products or services of the Indian firm are shown in parentheses.

		Rupees
1.	Acme Pig Iron & Centrifugal Pipe Works Ltd., Bombay (Wheelabrator Corp., Mishawaka, Indiana) (steel abrasives, alloy steel castings)	6,562,000
2.	Agricultural Association Ltd., New Delhi (DeKalb Agricultural Association Inc., DeKalb, Illinois) (high-yielding seeds)	2,800,000
3.	American Express International Banking Corp., Calcutta (American Express International Banking Corp., New York) (banking)	60,000,000
4.	American Universal Electric (India) Ltd., Faridabad, Haryana (Universal Electric Co., Owosso, Michigan) (fractional-horsepower electric motors)	2,100,000
5.	Arbor Acres Farm India Pvt. Ltd., Talegaon, Maharashtra (Arbor Acres Farm Inc., Glastonbury, Connecticut) (poultry breeding)	1,250,000
6.	Bank of America, Bombay (Bank of America, San Francisco) (banking)	60,000,000
7.	Bharat Steel Tubes Ltd., Ganaur, Haryana (Abbey Etna Machine Co., Perrysburg, Ohio) (steel tubes)	2,500,000
8.	Borosil Glass Works Ltd., Andheri, Maharashtra (Corning Glass Works, New York) (glassware)	7,618,000
9.	Chemicals & Plastics India Ltd., Mettur, Tamil Nadu (B.F. Goodrich Chemical Co., Cleveland, Ohio) (polyvinyl chloride plastics)	3,261,000
10.	Corn Products India Pvt. Ltd., Bombay (Corn Products Co., New York) (starch, glucose)	2,388,000
11.	Coromandel Fertilizers Ltd., Visakhapatnam, Andhra Pradesh (California Chemicals Co., San Francisco; and International Minerals & Chemicals Corp., Skokie, Illinois) (fertilizers)	122,927,100
12.	Cutler-Hammer India Ltd., Calcutta (Cutler-Hammer Inc., Milwaukee, Wisconsin) (electrical relays, thermostats)	3,000,000
13.	Cyanamid India Ltd., Bombay (American Cyanamid Co., New York) (antibiotics)	2,500,000
14.	East India Hotels Ltd., New Delhi (Intercontinental Hotels Corp., New York) (hotels)	51,119,000

		Rupees
15.	Elpro International Ltd., Bombay (General Electric, New York) (X-ray equipment, magnets)	4,000,000
16.	Escorts Tractors Ltd., Faridabad, Haryana (Ford Motor Co., Detroit, Michigan) (tractors)	14,000,000
17.	Everest Refrigerants Ltd., Bombay (Technical Enterprises Inc., New York) (refrigerant gases, aerosol dispensers)	6,000,000
18.	Ex-Cell-O (India) Pvt. Ltd., Bombay (Ex-Cell-O Corp., Detroit, Michigan) (machine tools)	2,000,000
19.	Ferro Coating & Colours Ltd., Calcutta (Ferro Corp., Cleveland, Ohio) (colours, pigments, fritted elements for the fertilizer industry)	2,500,000
20.	First National City Bank, Bombay (First National City Bank, New York) (banking)	60,000,000
21.	Frick India Ltd., New Delhi (Frick Co., Waynesboro, Pennsylvania) (refrigeration)	4,500,000
22.	Gabriel India Pvt. Ltd., Mulund, Bombay (Gabriel Co., Cleveland, Ohio) (shock absorbers)	1,900,000
23.	Goodyear Tyre & Rubber Co. of India Ltd., Ballabgarh, Haryana (Goodyear Tire & Rubber Co., Akron, Ohio) (rubber products)	37,500,000
24.	Graphite India Ltd., Calcutta (Great Lakes Carbon Corp., New York) (carbon products)	10,000,000
25.	Harig India Pvt. Ltd., Ghaziabad, U.P. (Harig Mfg. Corp., Chicago) (tools, dies, gauges)	1,485,000
26.	Herdillia Chemicals Ltd., Thana, Maharashtra (Hercules Powder Co. Inc., Wilmington, Delaware) (heavy organic chemicals)	26,484,000
27.	Hindustan Aluminium Ltd., Renukoot, U.P. (Kaiser Aluminium & Chemicals Corp., Oakland, California) (aluminium)	50,000,000
28.	I.A. & I.C. Pvt. Ltd., Bombay (Lapic Inc., Philadelphia) (sulphur-grinding plant)	500,000
29.	Indabrator Ltd., Bombay (Wheelabrator Corp., Mishawaka, Indiana) (air blast and shot blast equipment, dust collectors)	1,428,000
30.	Indofil Chemicals Ltd., Bombay (Rohm & Haas Co. Inc., Philadelphia) (fungicides, plasticizers)	2,975,000
31.	Kirloskar-Cummins Ltd., Poona, Maharashtra (Cummins Engine Co., Columbus, Indiana) (engines)	12,500,000
32.	Kumardhubi Fireclay & Silica Works Ltd., Calcutta (A.P. Green Refractories Co., Mexico, Missouri) (specialized refractories)	12,000,000
33.	Lal-Roe Measuring Tools Pvt. Ltd., Bombay (Justus Roe & Sons Inc., New York) (steel measuring-tapes)	1,300,000
34.	Lube India Ltd., Bombay (Standard Oil of New Jersey) (petroleum products)	64,345,000

		Rupees
35.	Madras Rubber Factory Ltd., Madras (Mansfield Tire & Rubber Co., Mansfield, Ohio) (rubber tyres)	15,000,000
36.	Mandya Paper Mills Ltd., Belagula, Mysore (Parsons & Whittemore, New York) (paper)	11,700,000
37.	McNally-Bird Engineering Co. Ltd., Kumardhubi, Bihar (McNally-Pittsburg Mfg. Co., Pittsburg, Kansas) (coal washeries and allied equipment)	10,000,000
38.	Metropolition Hotels, Bombay (Hilton International Co., New York) (hotel)	20,000,000
39.	Modipon Ltd., Modinagar, U.P. (Rohm & Haas Co. Inc., Philadelphia) (nylon-filament yarn)	18,200,000
40.	Mysore Cements Ltd., Ammasandra, Mysore (Kaiser Industries Corp., Oakland, California) (cement)	36,061,000
41.	Mysore Lamp Works Ltd., Bangalore (General Electric, New York) (electric lighting equipment)	3,000,000
42.	Napco Bevel Gear of India Ltd., Faridabad, Haryana (Napco Industries Inc., Minneapolis, Minnesota) (gears, joints, and allied parts)	8,000,000
43.	Otis Elevator of India Ltd., Bombay (Otis Elevator Co., New York) (elevators)	7,000,000
44.	Pibco Ltd., Durgapur, West Bengal (Johns-Manville Corp., New York) (insulating materials)	4,000,000
45.	Precision Bearings India Ltd., Baroda, Gujarat (Norma-Hoffman Bearings Corp., Stamford, Connecticut) (ball and cylindrical bearings)	4,500,000
46.	Premier Tyres Ltd., Kalamaseri, Kerala (Dayton Rubber Co., Dayton, Ohio) (rubber tyres)	3,000,000
47.	Raymon Engineering Works Ltd., Calcutta (World Investments Inc., Wichita, Kansas) (spiral welded pipes)	15,800,000
48.	Renusagar Power Co. Ltd., Renukoot, U.P. (Kaiser Aluminum & Chemical Corp., Oakland, California) (thermal power station)	48,146,000
49.	Richardson Hindustan Ltd., Bombay (Richardson Merrell Inc., New York) (drugs)	6,250,000
50.	Rockwell India Ltd., Udhna, Gujarat (Rockwell Mfg. Co., Pittsburgh) (power tools)	1,690,000
51.	Searle (India) Ltd., Bombay (G.D. Searle & Co., Chicago) (oral contraceptives)	8,000,000
52.	Semiconductors Ltd., Bombay (Raytheon Co. Inc., Lexington, Massachusetts) (transistors, diodes)	1,350,000
53.	Seshasayee Paper & Board Ltd., Erode, Tamil Nadu (Parsons & Whittemore, New York) (bagasse pulp and paper)	20,000,000

		Rupees
54.	Shama Forge Co. Ltd., Bhopal, Madhya Pradesh (Kropp Forge Co., Chicago) (steel forgings)	4,750,000
55.	Shavo-Norgren (India) Pvt. Ltd., Bombay (C.A. Norgren Co., Littleton, Colorado) (pressure regulators, air filters, air lubricators)	800,000
56.	Sylvania & Laxman Ltd., New Delhi (Sylvania International, New York) (fluorescent tubes, mercury-vapour lamps)	5,000,000
57.	Synbiotics Ltd., Ahmedabad, Gujarat (Olin Mathieson International, New York) (antibiotics and fine chemicals)	13,440,000
58.	Synthetics & Chemicals Ltd., Bareilly, U.P. (Firestone Tire & Rubber, Co., Akron, Ohio) (synthetic rubber)	65,000,000
59.	Taylor Instrument Co. India Ltd., Ballabgarh, Haryana (Taylor Instrument Co. Inc., Rochester, New York) (process control instruments)	1,500,000
60.	Tractor Engineers Ltd., Bombay (Caterpillar Overseas Inc., Peoria, Illinois) (spare parts for tractors)	6,000,000
61.	Union Carbide (India) Ltd., Calcutta (Union Carbide Corp., New York) (chemicals)	21,600,000
62.	United Carbon India Ltd., Bombay (United Carbon Co., Ashland, Ky.) (carbon black)	20,101,000
63.	Vazir Glass Works Ltd., Bombay (Wheaton Glass Co., Millville, New Jersey) (glass)	2,500,000
64.	Vickers Sperry of India Ltd., Bombay (Sperry Rand Corp., New York) (hydraulic equipment and accessories)	2,000,000
65.	Victor Gasket India (Pvt.) Ltd., Mulund, Bombay (Victor Mfg. & Gasket Co., Chicago) (gaskets)	750,000
66.	Warner-Hindustan Ltd., Bombay (Warner-Lambert Pharmaceutical Co., Morris Plains, New Jersey) (pharmaceuticals and chemicals)	8,750,000
67.	Wyeth Laboratories Pvt. Ltd., Bombay (American Home Products Corp., New York) (steroid compounds and hormones)	1,700,000
68.	Wyman-Gordon Ltd., Bombay (Wyman-Gordon Co., Worcester, Massachusetts) (precision forgings)	5,500,000
69.	York India Ltd., Faridabad, Haryana (Borg-Warner Corp., Chicago) (air-conditioning and refrigeration equipment)	1,500,000
70.	Zuari Agro-Chemicals Ltd., Bombay (U.S. Steel Crop., Pittsburgh) (fertilizers)	216,600,000
	Total	1,262,630,100

U.S.-uses Rupees

PL-480 agreements between India and the United States provide for a sum of approximately Rs. 300 crores to be reserved for U.S. Government uses. Principal repayments and interest on certain development loans to the Government of India and private firms are also available for U.S. uses.

In spending U.S.-uses rupees, the United States is careful not to add to inflationary forces in India or to purchase an undue proportion of goods in scarce supply.

U.S.-owned rupees are used to meet the expenses of the U.S. Government in India. These expenses can be met only after the U.S. Congress has authorized them.

But expenditure from U.S.-owned rupee funds is not confined to this purpose. A portion is used to finance the U.S. aid programme in Nepal and a small part is converted into foreign currencies for agricultural market development and educational exchange programmes in other countries.

A considerable share of U.S.-uses rupees is being spent on programmes which are of direct benefit to India. These include:

Agricultural Development: The United States Government has approved a grant of Rs. 105 crores to the Rural Electrification Corporation to help finance an ambitious programme of bringing the benefits of electricity to hundreds of thousands of farmers (please see page 8).

Educational Exchange: The Fulbright programme, under which this exchange is conducted, benefits Indian scholars travelling to the United States and American scholars coming to this country.

Low-cost Textbooks: More than 1,000 titles in physics, chemistry, biology, aeronautics, economics, and other subjects for the use of Indian college students have been issued at one-third to one-fourth of the American retail price. The rest of the cost is subsidized from U.S.-owned rupees. All books are chosen in consultation with the Indian Ministry of Education.

Procurement of Indian Books and Periodicals: U.S.-owned rupees are also utilized for supplying Indian books, newspapers, magazines, and documents to the U.S. Library of Congress and 18 other libraries in a number of American universities and one city. This helps spread knowledge of India in the U.S.

American Studies in India: Some U.S.-uses rupees provide an opportunity for many Americans, outside the educational exchange under the Fulbright programme, to learn more about India. A good example of this scholarly pursuit is the American Institute of Indian Studies, Poona.

Research: U.S.-owned rupees also have financed research in agricultural, medical, educational, and social sciences undertaken by a number of Indian universities and other institutions. The results of these scientific activities benefit not only India but also the United States and other nations throughout the world.

Expenditures from U.S.-uses Rupees

Through December 31, 1970

	(*Rs. crores*)	Totals (*Rs. crores*)
1. Expenditures of the U.S. Embassy on:		
(i) Administrative and programme expenditures, including financing for research in medicine, education, and the social sciences.	71.65	
(ii) Educational exchange programme in India.	11.90	
(iii) Agricultural research programme in India.	12.18	95.73
2. Expenditure of the USAID Mission		58.96*
3. Expenditure of the U.S. Information Service		33.61
4. Expenditure of the Peace Corps		10.07
5. Aid to Nepal		56.56
6. Aid to Burma		2.18
7. Conversions into foreign currencies:		
(i) for agricultural market development	23.12	
(ii) for educational exchange	10.91	
(iii) for sale to American tourists	0.22	
(iv) for sale to U.S. citizens and foundations	8.17	42.42
Total expenditures		299.53**

*Includes freight payment for PL-480, Title II, agricultural commodities granted to India and grants to the Government of India.
**Does not include undisbursed grants to the Government of India for projects such as rural electrification.

U.S. Export-Import Bank Loans

	Name	Amount in dollars	Rupee equivalent at current rate of exchange (*Crores*)	Date authorized or signed
1.	Sundatta Foods & Fibres Ltd., Bombay	60,000	0.05	Mar. 29, '57
2.	National Rayon Corporation, Kalyan (Maharashtra)	1,800,000	1.35	Oct. 5, '57
3.	Government of India (first line of credit)	150,000,000	112.50	Feb. 27, '58
4.	Hindustan Aluminium Ltd., Renukoot (U.P.)	13,650,000	10.24	Jan. 7, '60
5.	Air-India (first loan)	4,080,000	3.06	Sept. 8, '60
6.	Government of India (second line of credit)	50,000,000	37.50	Dec. 23, '60
7.	Orient Paper Mills Ltd., Amlai (Madhya Pradesh)	18,500,000	13.88	Jan. 6, '61
8.	Air-India (second loan)	6,936,000	5.20	June 8, '61
9.	East India Hotels Ltd., New Delhi	717,000	0.54	July 13, '61
10.	Government of India (third line of credit)	25,000,000	18.75	Apr. 19, '62
11.	Union Carbide India Ltd., Calcutta	7,650,000	5.74	Jan. 17, '63
12.	Hindustan Aluminium Ltd., Renukoot (U.P.) (second loan)	5,000,000	3.75	Mar. 28, '63
13.	Varanasi Diesel Locomotive Factory (Indian Railways), U.P. (first loan)	19,000,000	14.25	Mar. 28, '63
14.	Bharat Forge Co. Ltd., Poona (Maharashtra)	3,908,000	2.93	Apr. 9, '63
15.	Coromandel Fertilizers Ltd., Visakhapatnam (Andhra Pradesh)	27,000,000	20.25	Sept. 25, '63
16.	Mysore Acetate Chemical Co. Ltd., Mandya (Mysore)	2,100,000	1.58	Nov. 27, '63
17.	Chemicals & Plastics (India) Ltd., Mettur (Tamil Nadu) and Bombay	3,150,000	2.36	Dec., 11, '63
18.	Government of India (fourth line of credit)	25,000,000	18.75	June 11, '64
19.	Hindustan Aluminium Ltd., Renukoot (U.P.) (third loan)	11,000,000	8.25	July 30, '64
20.	Central Pulp Mills Ltd., Fort Songhad (Gujarat)	6,825,000	5.12	Aug. 20, '64
21.	Varanasi Diesel Locomotive Factory (Indian Railways), U.P. (second loan)	17,000,000	12.75	Jan. 14, '65
22.	Herdillia Chemicals Ltd., Thana (Maharashtra)	3,340,000	2.51	Apr. 6, '65
23.	Varanasi Diesel Locomotive Factory (Indian Railways), U.P. (third loan)	12,750,000	9.56	Oct. '66
24.	Indian Aluminium Co. (for factory at Belgaum, Mysore)	2,000,000	1.50	Mar. '67
25.	Government of India (fifth line of credit)	20,000,000	15.00	June 3, '68
26.	Air-India (third loan)	25,000,000	18.75	June 27, '68
27.	Air-India (fourth loan)	18,000,000	13.50	Aug. 13, '69
28.	Shree Synthetics Ltd., Calcutta (for nylon-filament factory at Bhopal, Madhya Pradesh)	1,943,000	1.46	Jan. 31, '70
29.	Government of India (sixth line of credit)	15,000,000	11.25	Dec. 4, '69
30.	Indian Airlines Corporation	12,527,000	9.40	June 18, '70
31.	Air-India (fifth loan)	12,353,000	9.26	Nov. 13, '70
	Total	521,289,000	390.97	

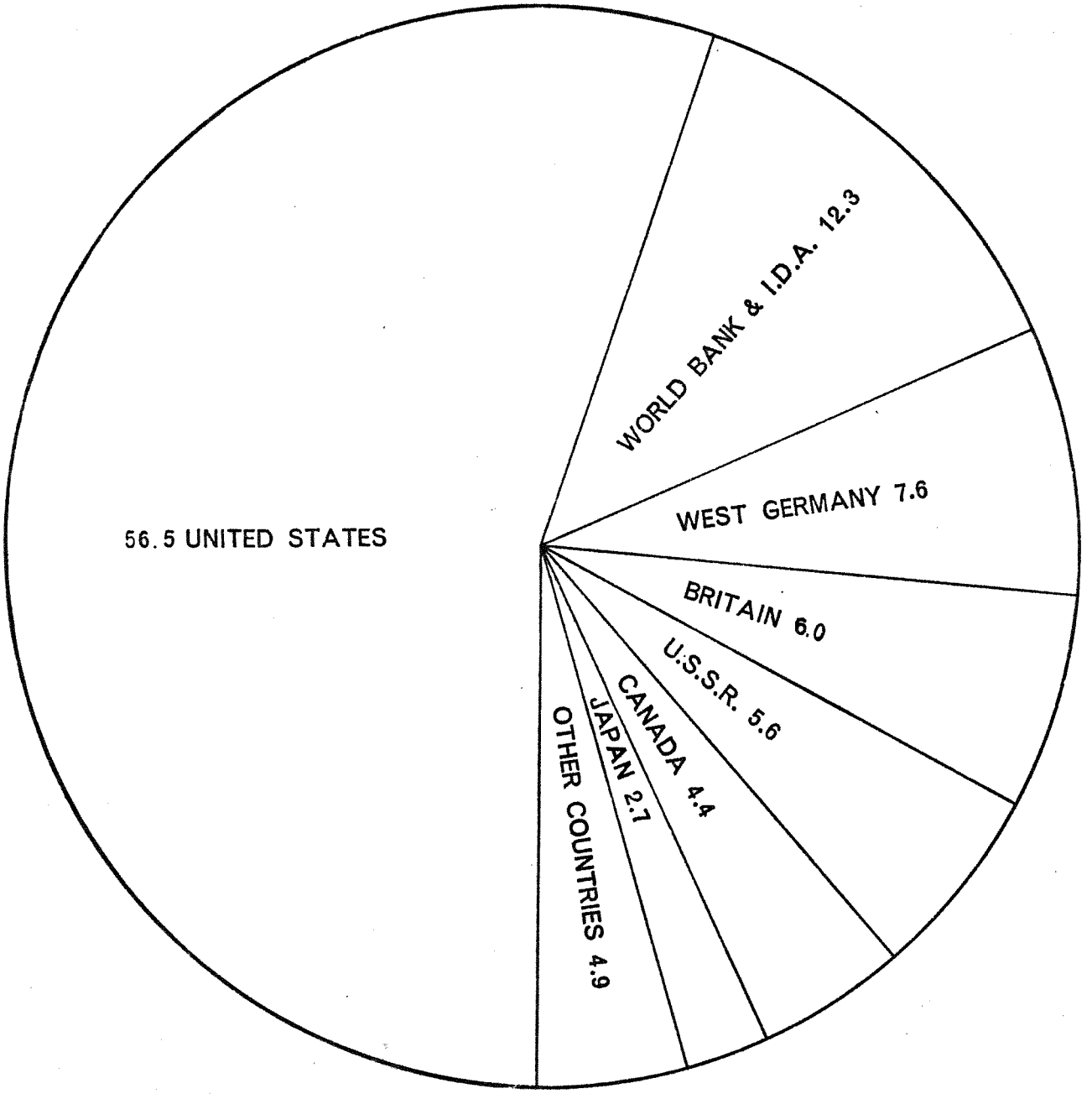
Foreign Aid to India from All Sources

Foreign Aid Utilized for India's Development from April 1951 to October 1970

SOURCE*	AMOUNT AUTHORIZED BY AID-PROVIDING SOURCE CRORES OF RS.**	AMOUNT UTILIZED BY INDIA CRORES OF RS.**	SHARE OF TOTAL FOREIGN AID UTILIZED BY INDIA PERCENT
UNITED STATES	7,184	6,784	56.5
WORLD BANK & I.D.A.	1,764	1,478	12.3
WEST GERMANY	1,004	907	7.6
BRITAIN	849	715	6.0
U.S.S.R.	1,031	670	5.6
CANADA	648	532	4.4
JAPAN	372	328	2.7
ITALY	184	132	1.1
FRANCE	181	102	0.9
CZECHOSLOVAKIA	97	66	0.6
AUSTRALIA	63	61	0.5
THE NETHERLANDS	76	55	0.5
YUGOSLAVIA	29	29	0.2
POLAND	57	28	0.2
SWITZERLAND	36	26	0.2
BELGIUM	32	22	0.2
AUSTRIA	24	21	0.2
SWEDEN	26	14	0.1
DENMARK	14	10	0.1
NORWAY	12	10	0.1
NEW ZEALAND	6	5	***
HUNGARY	13	—	—
BULGARIA	11	—	—
TOTAL	13,713	11,995	100.0

*AID PROVIDING SOURCES RANKED IN ORDER OF AMOUNT OF AID UTILIZED BY INDIA.
**INCLUDES BOTH GRANTS AND LOANS. RUPEE EQUIVALENTS AT CURRENT RATE OF EXCHANGE.
***LESS THAN 0.05%

Eighty percent of the resources employed in India's economic development comes from India herself. Foreign aid accounts for the remainder. The United States, which provides 56.5 percent of all foreign aid utilized by India, is pleased to be associated with India's progress.



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