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CAPITAL ASSISTANCE PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

PAKISTAN: CONSULTING SERVICES FOR EAST PAKISTAN WATER
AND POWER DEVELOPMENT AUTHORITY

AID-DLC/P-589

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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

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AID-DLC/P-589
May 31, 1967

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Pakistan: Consulting Services for East Pakistan Water and Power Development Authority

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed \$2,400,000 to the President of the Government of Pakistan to assist in financing the foreign exchange costs of services and goods required for the providing of general and specialized consulting and training services to the East Pakistan Water and Power Development Authority (EPWAPDA) to assist in its program for water and power development.

If any member of the DLC has a basic policy issue arising out of this proposal, it is requested that you communicate this to us as early as possible but in no event later than close of business on Wednesday, June 7, 1967. In the absence of any indication that there is a fundamental policy problem, we propose to proceed with the authorization of this loan promptly after June 7.

Rachel C. Rogers
Assistant Secretary
Development Loan Committee

Attachments:
Summary and Recommendations
Project Analysis
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EAST PAKISTAN

CONSULTING SERVICES FOR THE EAST PAKISTAN

WATER AND POWER DEVELOPMENT AUTHORITY

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CONSULTING SERVICES FOR THE
EAST PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY
SUMMARY AND RECOMMENDATIONS

1. APPLICANT

The Government of Pakistan (GOP). The loan funds will be relent by the GOP to the Government of East Pakistan (GOEP) and through it to the implementing agency for the project, which is the East Pakistan Water and Power Development Authority (EPWAPDA), a semi-autonomous agency of the GOP.

2. AMOUNT OF LOAN

\$2,400,000

3. PURPOSE OF LOAN

To assist in financing the dollar costs for a period of approximately two years or 54 man years of general and special consulting services for EPWAPDA.

4. DESCRIPTION OF PROJECT

Up to 22 specialists will be provided for approximately a two-year period under a general consultants' contract with a U.S. firm. The general consultants will supplement the EPWAPDA technical staff in the Power and Water Wings, and be integrated into the EPWAPDA organization. Individual consultants will be provided for the Dredger Organization and Mechanical Equipment Organization (MEO) of EPWAPDA to carry on the work of earlier consulting groups. Short-term consultants may be required to perform special studies needed in planning and project evaluation which are beyond the capability of the general consultants.

Emphasis will be placed on training under the loan in order to develop EPWAPDA's capacity to carry on its operations without expatriate assistance. However, in view of the size and complexity of the water and power development programs to be carried out by EPWAPDA and the shortage of trained personnel, it is expected that the need for consulting services may continue beyond 1970.

5. COST OF PROJECT

The loan would finance the following services and equipment for the period July 1967 through about June 1969 at the following estimated costs:

(In thousands of dollars)			
Dollar Equivalent			
in			
	<u>Dollars</u>	<u>Rupees</u>	<u>Total</u>
a. Employment of a firm of general consultants to EFWAPDA	1,906.5	1,116.3	3,002.8
b. Eight man years of individual consulting services for the Dredger Organization and the MEO of EFWAPDA	200.0	194.0	394.0
c. Employment of short-term consultants to EFWAPDA for special studies	122.0	28.3	150.3
d. Contingency	171.5	-	171.5
	<hr/> 2,400.0	1,338.6	3,738.6

This loan would finance the dollar costs of the project. The GOP will provide the rupees.

6. BACKGROUND OF PROJECT

EFWAPDA was established in 1959, and has responsibility for the unified and coordinated development of the water and power resources of East Pakistan. Its tasks include (a) preparation of long-range plans for the systematic control and development of the waters of East Pakistan, including three of the largest rivers in the world, the Ganges, Brahmaputra and Meghna, (b) execution of works to control and use the waters of these rivers, and (c) planning, execution, and operation of power generation, transmission and distribution facilities to meet the rapidly increasing power needs of East Pakistan.

Having a great shortage of trained personnel, including less than 100 trained engineers, at the time of its creation, EPWAPDA in 1959 contracted with the International Engineering Company (IECO) of San Francisco, California, to assist in carrying out its responsibilities. A.I.D. assumed financing of the foreign exchange costs of IECO's services in 1963 with AID Loan 391-H-062. Funds from this loan will expire at the end of this fiscal year, and another loan is needed if the services are to be continued. Following discussions between A.I.D. and EPWAPDA last year, application for a new loan was made to A.I.D. in November 1966.

7. EXPORT-IMPORT BANK CLEARANCE

The Export-Import Bank decided on March 6, 1967 that it would not consider a loan for this project.

8. MISSION VIEWS

The Mission recommends approval of the loan with the terms and conditions indicated below.

9. STATUTORY CRITERIA

A.I.D. statutory criteria have been met. See Annex I.

10. ISSUES

None. A.I.D. is satisfied that Loan 391-H-062 has been and is being effectively implemented. EPWAPDA, through the Government of Pakistan, applied for a loan of \$3.4 million to fund approximately three years (or 75 man years) of general and other consulting services. Due to (1) continuing tightness of DL project funds, (2) the two-year contract cycle of IECO hiring and (3) the desire of A.I.D. to be in a position to re-evaluate the needs for further services of this type at an earlier date, A.I.D. has determined to base its loan on the number of man years requested for a two-year period, or \$2.4 million. This alternative has been discussed with EPWAPDA and is acceptable.

11. RECOMMENDATIONS

Authorization of a loan of Two Million Four Hundred Thousand Dollars (\$2,400,000) to the Government of Pakistan subject to the following terms and conditions:

(a) Borrower to repay the loan to A.I.D. in U.S. Dollars within forty (40) years from the date of the first disbursement under the loan, including a grace period of not to exceed ten (10) years from the date of such first disbursement.

(b) Borrower to pay interest to A.I.D. in U.S. Dollars of one percent (1%) per annum on the amount of principal outstanding during the grace period. From and after the expiration of the grace period, Borrower to pay interest in U.S. Dollars of two and one-half percent (2- $\frac{1}{2}$ %) per annum on the amount of principal outstanding.

(c) Terms and conditions of relending or other financial arrangements between the GOP and EPWAFDA to be acceptable to A.I.D.

(d) Borrower to assure A.I.D. that adequate rupee funds for the project have been and/or will be made available.

(e) All procurement of goods and services to be from the United States.

(f) The amendment to the existing contract or the new contract between general consultants and EPWAFDA must be acceptable to A.I.D. as a condition precedent to disbursement of loan funds.

(g) Such other terms and conditions as A.I.D. may deem advisable.

CAPITAL ASSISTANCE COMMITTEE

	<u>At the Mission</u>	<u>At AID/W</u>
Loan Officer	SVRutherford/ KGreiner	EGardner
Engineer	JCassanos/ FLocher	WORomig
Lawyer	NBAngell/ KHarbinson	JRLiebman
Desk		TMArndt

DRAFTING OFFICERS

SVRutherford/RThomas
RCMalley/KGreiner

CONSULTING SERVICES FOR THE
EAST PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY

I. THE ECONOMY OF EAST PAKISTAN

A. Introduction

East Pakistan is largely a flat deltaic plain dominated by three of the largest rivers in the world, all of which rise outside the country: the Brahmaputra, which divides the province approximately in half, the Ganges and the Meghna. Its land area is 56,000 square miles and its population approximately 65 million people, which gives it density of well over 1,000 people per square mile. Agriculture contributes about two-thirds of the Gross Provincial Product. Natural resources are limited, and there is a paucity of entrepreneurial skills. Agricultural growth has kept pace with that in West Pakistan, but industrial development has lagged behind. Rice and jute are the main crops, with jute and jute processed goods exports from East Pakistan making up to 60% of Pakistan's total foreign exchange earnings. (See Exhibit 1 for map of East Pakistan.)

East Pakistan faces a number of problems in stepping up its rate of economic growth. The three most critical are:

- (1) Controlling the growth of population, which is increasing at a rate in excess of 3% per year, and could surpass 100 million by 1985.
- (2) Increasing food production to make up the present gap of over one million tons between consumption and production and then to sustain production at a level of self-sufficiency.
- (3) Accelerating industrial growth, partly to provide jobs and income for the rising number of unemployed.

The East Pakistan Water and Power Development Authority (EPWAPDA), which has responsibility for the unified and coordinated development of water and power resources, plays a crucial role in the province's economy.

B. The Agricultural Program

Agriculture presents the most formidable problem to sustained economic development. Until about 1955 East Pakistan was able to maintain a balance between population and food grain production. For the past twelve years, however, the province has had to rely increasingly on food grain imports to make up the difference between production and consumption. This year, with rice production at an estimated level of 9.5 million tons - roughly the level of the past three years - the deficit is estimated to be about one million tons. In an effort to achieve self-sufficiency in food grains by 1969-70, the last year of the Third Five Year Plan, the Government of East Pakistan (GOEP) has decided that agriculture, which already was among the highest priority sectors in the Third Plan, now will be given first priority, and that resources will be diverted to agriculture from other development sectors.

There are two facets to the agriculture development program being carried out in East Pakistan. One is the provision of improved and larger inputs such as fertilizer, seeds, pesticides, and small pumps for use by locally organized groups of farmers. The other is EPWAPDA's program for the construction of small and large scale flood control and irrigation projects.

The relative priority of these two efforts was defined in an agreement reached between the International Bank for Reconstruction and Development (IBRD) and the GOEP in March 1966 on a broad strategy for accelerating agriculture development. This agreement is supported by A.I.D. The agreement states that priority will be given to meeting the requirements of the agriculture sector for technical and capital inputs. However, new large scale flood control and irrigation schemes will be deferred until the Fourth, and possibly the Fifth Five Year Plan. During the balance of the Third Plan EPWAPDA will concentrate on completion of ongoing projects, the collection of hydrological and other data needed

as the basis for feasibility studies of large scale projects, the performance of feasibility studies, and possibly the initiation of some small pilot projects. The agreement recognizes the need for strengthening EPWAPDA's capability to plan and carry out projects.

Three factors underlie the IBRD-GOEP agreement. They are:

(1) The limited resources available should be directed into inputs which provide a reasonably quick return, such as fertilizer, seeds, and small scale irrigation. Too many of EPWAPDA's projects have had long gestation periods.

(2) A better organizational and acceptance base must be laid in the rural sector before large scale irrigation schemes can be implemented with maximum effects. Irrigated agriculture is a new concept to the farmers of East Pakistan. It requires a degree of organization and cooperation among the farmers which heretofore has been lacking, as well as the adoption of new cropping practices. Small scale irrigation or flood control schemes have the advantage of bringing the farmers into small manageable groups on which extension efforts can be focused and to which needed inputs can be directed. The farmers become aware of the benefits of irrigation and accustomed to using and sharing irrigation water and giving up part of their land to obtain the water. They learn new cropping techniques. Over the course of time production is increased and the basis for larger scale projects is laid.

(3) EPWAPDA must expand in quality and quantity if its water development program is to grow very far beyond its present size.

Implementation of the above program calls for concerted efforts by all the organizations concerned with agriculture and water development - EPWAPDA, the Department of Agriculture, the Agriculture Development Corporation (ADC), and the GOEP Planning Department. It also requires great volumes of capital and technical assistance, and the coordination of this assistance to ensure that it achieves maximum impact. The IBRD has

been especially concerned with the need of technical assistance by agencies operating in the agricultural area. Later this year the IBRD will send teams to East Pakistan to make an assessment of technical assistance requirements.

A.I.D.'s programs in support of agriculture and water development are in keeping with the strategy developed by the IBRD and the GOEP and, indeed, their success in some areas contributed to development of the strategy. A.I.D. has sponsored since 1963 the Rural Works Program, which is making a notable contribution to development of small scale infrastructure in the rural sector and establishment of an organizational base for agriculture development programs. Program building, which is the GOEP's official extension program, was developed with the assistance of A.I.D. extension advisors. In addition to supplying extension specialists, A.I.D. also has supplied technical assistance in irrigation and power pump operation, in rural credit, and in seed improvement. Of considerable importance has been our financing of fertilizer and pesticides under our commodity loans. In water development, we are financing the Coastal Embankments Project, which in effect is a series of small development schemes spread out over the southern tidal regions of East Pakistan, as well as three water feasibility studies for EPWAPDA. To assist in developing EPWAPDA's capability to plan, execute and operate water and power development projects, we are financing under development loan the services of general consultants, and under development grant a team of specialists in organization and management from the State of California Department of Water Resources.

C. The Industrial Program

Prior to Independence in 1947, Calcutta was the focal point for commercial and industrial activity for all Bengal. The eastern region of Bengal, which became East Pakistan, had virtually no medium and large scale industries.

Efforts began immediately after partition to develop industry in East Pakistan, with major emphasis placed on jute processing and the manufacture of jute goods. The discovery of natural gas in 1958 gave impetus to industrialization, and discoveries of additional reserves in the 1960's have provided

East Pakistan with a means for development of fertilizer production and a low cost indigenous fuel source for power production and industrial uses. The base for expansion of metal fabricating industries also has been broadened by the construction of a steel mill at Chittagong with 150,000 tons annual capacity, which now is coming into production.

These activities have increased industry's share in gross provincial product from probably less than 2% in 1947 to over 8% today. The remainder of the Third Plan will see further growth in industrial production. The industrial investment target for East Pakistan in the Plan is Rs. 6,500 million, of which approximately 60% is expected to be provided by the private sector. This investment is expected to result in an industrial growth rate of about 15% annually, and increase further industry's share of gross provincial product.

An important adjunct of the industry program is the development of electric power facilities by EPWAPDA to support industrial enterprises. The power system is divided into two major sectors by the Brahmaputra River, which splits East Pakistan into eastern and western sectors. Power demand in each of these sectors has been growing rapidly, and will probably reach roughly 400 megawatts (MW) by the end of the Third Plan and about 1,000 MW by 1975. Generating units and transmission/distribution lines necessary to help meet these demands are under construction. The two isolated power sectors are being interconnected by a major transmission line across the Brahmaputra. A.I.D. is playing an important role in development of the power sector through the financing of power plants, transmission/distribution lines, and the General Consultants to EPWAPDA. A.I.D. also has assisted the industrial sector directly through commodity loans and loans to development banks for relending to industry.

II. THE EAST PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY

A. Organization

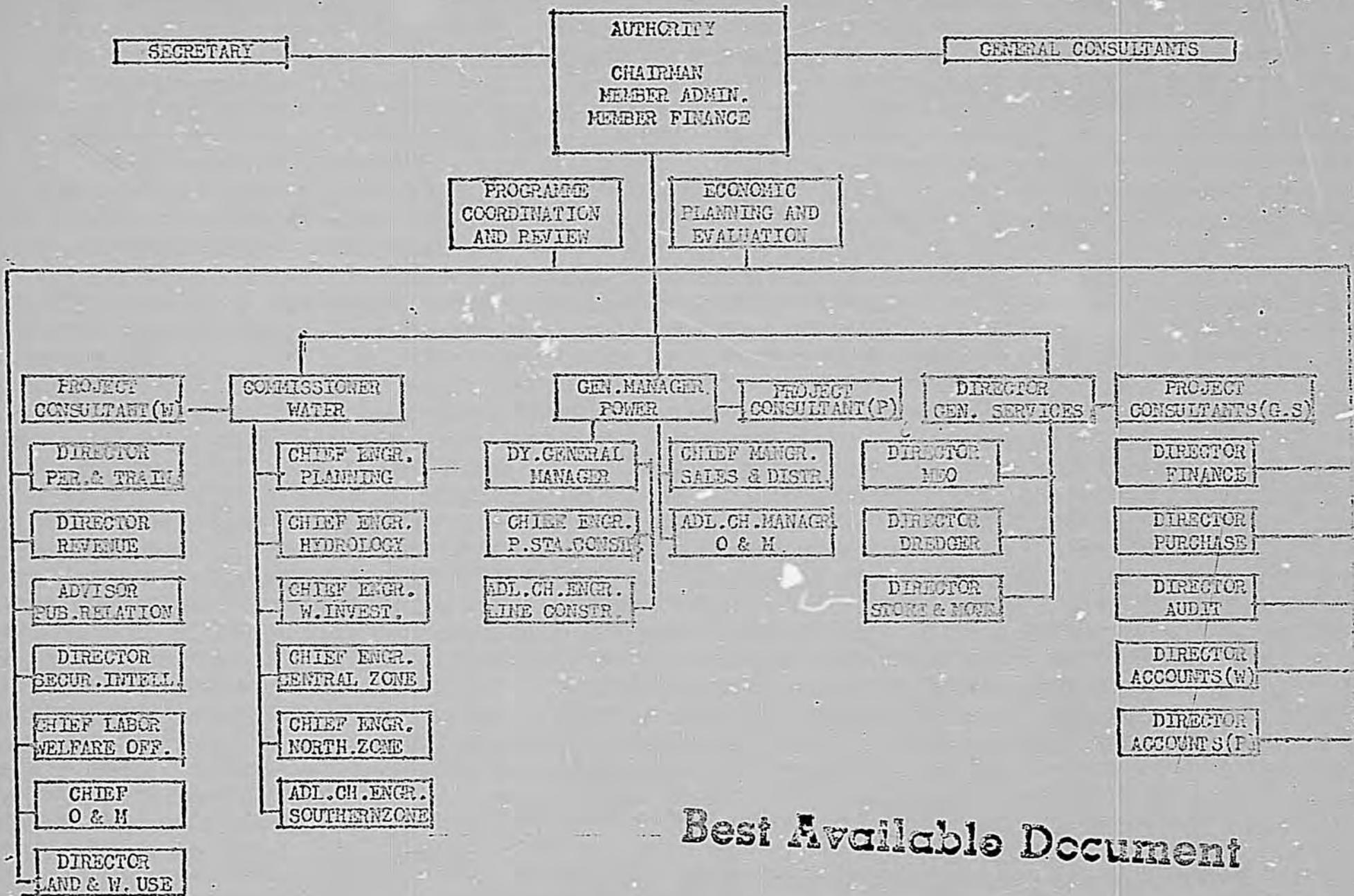
The East Pakistan Water and Power Development Authority

(EPWAPDA), created by East Pakistan Ordinance No.1 of 1959, has responsibility for the unified and coordinated development of the water and power resources of East Pakistan. It is organized as a semi-autonomous body, but is subject to many of the same governmental controls as other public bodies. The creation of EPWAPDA followed the recommendations of the Krug Mission Report of 1957. The Krug Mission was headed by a former U.S. Secretary of the Interior and organized under the auspices of the United Nations Technical Assistance Board (UNTAB), to advise the Government of East Pakistan on approaches to solving the water and power problems of the province.

In organizing EPWAPDA, all activities which had been executed by the Irrigation Directorate of the Works, Housing and Settlement Department and by the Electricity Directorate of the Commerce, Labor and Industries Department were transferred to the new agency. EPWAPDA was granted exclusive control over planning for development of the rivers of the province, as well as control over the flow of water in all rivers and channels, although in practice the Inland Water Transport Authority (IWTA) of the GOEP has shared this responsibility with EPWAPDA in so far as the development and maintenance of navigable channels is concerned. EPWAPDA also was granted broad powers of control and authority over electric power generation, transmission and distribution, and over a wide range of miscellaneous aspects of water and power development.

The Authority, which is the governing body of EPWAPDA, consists of a Chairman, a Member for Finance, and a Member for Administration. Its headquarters is in Dacca, the capital of East Pakistan, and subordinate offices are scattered throughout the province. Attached to the Authority is a Secretariat, a Program Coordination and Review Office, and an Economic Planning and Evaluation Office. The three line organizations subordinate to the Authority are the Water Wing, Power Wing, and General Services. The General Consultants are attached to the Authority, and individual project consultants assist each of the line organizations. EPWAPDA's organization chart is set forth on the following page.

EFWAPDA ORGANIZATION CHART



Best Available Document

1. The Water Wing

The Water Wing is headed by a Commissioner and has a large staff of engineers, hydrologists, financial men, and the like. It has, or is carrying out, important flood control and irrigation schemes, such as the Ganges-Kobadak Project, the Chandpur Project, the Brahmaputra Right Bank Flood Embankment, the Coastal Project, and a host of smaller activities. The Water Wing has experienced difficulty in planning and implementing project activities, and these difficulties in part led to the agreement mentioned earlier between the IBRD and the GOEP to shift emphasis from the large scale projects being carried on by EPWAPDA to quicker yielding programs in the agriculture sector.

The Water Wing's problems have an historic base inasmuch as East Pakistan until the 1950's was a surplus agriculture area and there was no need to apply technology on a vast scale to the problems of flood control and irrigation. No serious attempt was made to control or utilize energy from the rivers of the province until construction was begun on the Karnafuli Dam at Kaptai on the Karnafuli River in 1955. This contrasts with the situation in West Pakistan where irrigated agriculture was introduced in the Punjab during the 19th century. In the latter case, not only were institutions created to control and manage water, but a sense of organization and discipline was imparted to an entire rural society. This made the transition to more intensive and sophisticated project planning and execution relatively easy. In East Pakistan, on the other hand, institutions were created only following independence, and the society has had to be educated and reoriented to a new technology and new forms of organization and cooperation.

These underlying problems have manifested themselves in a number of different ways. Among the most important are the following:

a. There is an acute shortage of trained manpower in the Water Wing. For example, there were less than 50 civil engineers in 1960, and the seven-fold increase to 350 today still is far from enough. Equivalent shortages exist in other areas. The Water Wing has about 30,000 employees.

b. The organizational structure and the administrative procedures that have been followed are based on those of the Irrigation Directorate and are poorly suited to solving the problems the Water Wing faces. The accounting and reporting system is particularly deficient.

c. There is inadequate statistical data on which to base plans and projects. Virtually non-existent until 1960, such data is only now becoming available in the quantity and quality needed.

d. Land acquisition and land consolidation for flood control and irrigation present obstacles to project implementation. Land is exceedingly scarce in East Pakistan, and there is no tradition of collective action in agricultural production. Furthermore, responsibility for actually obtaining land is divided between EPWAPDA and other departments, and until recently there was little coordinated effort to acquire land.

e. There has not been enough effective coordination or cooperation between the provincial government and EPWAPDA on water development policy.

Considering the nature and magnitude of these and other problems faced by the Water Wing, considerable progress is being made to place operations on a more rational and efficient basis. The development of the Master Plan for water by IECO has contributed significantly, and provides the basis for further development of the Water Wing's program. Among other measures the Water Wing and EPWAPDA have taken to improve operations are the following:

a. IECO has prepared a report containing recommendations on reorganization of the Water Wing. This report is now being reviewed by EPWAPDA.

b. A hydrological survey is being performed with the support of the United Nations.

c. Better policy direction is now being provided by the GOEP, as reflected in the agreement with the IBRD on a strategy for agricultural development.

d. A system of program controls is being established, and the California team has been asked to supply short term consultants to review accounting procedures in the Water Wing and possibly draw up terms of reference for a longer term study.

e. Training is now being approached in the context of comprehensive technical and managerial program which is being developed by EPWAPDA with the assistance of the California team. A training committee has been established. A survey of the Water Wing's manpower requirements is being completed and a recruitment schedule has been drawn up. From this information training needs are being developed.

The Water Wing's activity for the balance of the Third Plan period is being devoted basically to consolidation of present operations. Efforts are being made to define goals and objectives more clearly. Resources are being concentrated on completing ongoing schemes rather than on starting new ones. Revision of the water section of the Master Plan will begin as needed data is obtained and objectives clarified. A

limited number of feasibility studies will be undertaken as a basis for execution of new projects in the Fourth and Fifth Five Year Plans. Arrangements are being made to assist other government departments in carrying out small scale irrigation schemes. Most important emphasis is being placed on training of personnel both in management and in engineering.

2. The Power Wing

The Power Wing of EPWAPDA is headed by a General Manager and has a staff of engineers, power specialists, financial men, and the like. It has underway an ambitious program, to increase total generating capacity under control of EPWAPDA from 138 MW to 613 MW during the Third Five Year Plan, as well as substantial additional transmission/distribution lines.

The Power Wing has many of the same organizational and personnel problems as the Water Wing. Recently it has undertaken a number of steps to improve operations. These include:

a. An appraisal of manpower requirements for the next five years. This is necessary because of the great shortage of trained and experienced personnel. Only about 250 engineers are in the Power Wing, a number which must increase substantially if EPWAPDA's expanding power system is to be run efficiently. When the appraisal is completed, a recruiting and training program will be developed. The appraisal is being made with support of the California team. The General Consultants to EPWAPDA will assist in establishing the substantive content of the program, and will help give on-the-job and class room training.

b. A reorganization of departments, now in the process of being effected, based largely on proposals made in 1965 and 1966 by the U.S. firm of Stone and Webster Service Corporation, financed under an A.I.D. loan.

c. Installation of some new elements in the accounting system, including mechanized billing for Dacca Electric Supply, also based partly on Stone and Webster recommendations. The California team is going to provide a short term consultant to EPWAPDA to look into the possibility of foreign assistance in cost accounting.

d. Establishment of a program control system with the help of the California group.

3. General Services

The Mechanical Equipment Organization (MEO) maintains EPWAPDA's equipment pool. For the past two years it has had assistance in

improving its operation from a group of five specialists provided by the Vinnel Corporation and financed under A.I.D. Loan 391-H-073. Dredging for all GOEP agencies and private sector organizations is carried on by EPWAPDA's Dredger Organization. Equipment operated by the Dredger Organization consists of twenty-two 12 inch dredgers, including one recently acquired from the United States, two 24 inch dredge, and various support facilities including a workshop equipped under A.I.D. Loan 391-H-033.

The Stores and Movement Directorate has recently been brought under close scrutiny by the Authority, and a study of its operation will be initiated shortly. Past assistance in warehousing procedures inventory control and purchasing procedures from Stone and Webster does not appear to have solved its problems. Last year a warehouse fire at Kaptai destroyed many spare parts for the Karnafuli Power Station - and no complete inventory was available of the equipment which was lost. The fire was followed by the flooding of a warehouse area at Chittagong during a cyclone in October which destroyed thousands of dollars of power equipment, on all of which insurance had lapsed. EPWAPDA with the assistance of Mission personnel is identifying the conditions reflected by these and other situations and has already remedied some of the causes.

The Purchasing Directorate was once part of General Services. In an effort to improve procurement, purchasing was brought under direct control of the Chairman of the Authority in 1964.

4. General Comments on Management and Training

As can be seen from the above, EPWAPDA's problems generally stem from organizational and management deficiencies and a shortage of trained personnel. Budget and fiscal procedures often do not supply information on a timely basis for decision making; the accounting system sometimes creates only bottlenecks instead of positive controls on expenditures. Procurement often is slow, and inventories are not maintained properly.

A.I.D. financed in 1964 a study of organization and administration in EPWAPDA by a two man team from the State of California Department of Water Resources. The findings of this team provided the basis for a two year A.I.D. contract using grant funds totalling \$349,794 with the State of California to provide assistance to EPWAPDA in (a) developing and installing a system of program controls, (b) achieving organizational and procedural improvements, including establishment of an organization and management directorate, and (c) assisting with the training program. The technicians were assigned to East Pakistan in April 1965. Only general interest was given by EPWAPDA to the California program during the first year, and active support was not forthcoming from the Authority until the spring of 1966. The situation changed markedly at that time because of the criticism of EPWAPDA's management and operating

capability in the IBRD review of the Master Plan, plus the appointment of a new Chairman of the Authority, selected largely on the basis of his reputation as a strong aggressive administrator. Since then then the California group has made considerable headway.

Major accomplishments of the group to date are the following:

a. An Economic Planning and Evaluation Office to help develop long range programs in the power and water fields has been established and staffed with a Pakistani economist trained at the University of Pittsburgh and other personnel.

b. Program control offices have been established at the Authority level and in both wings. These offices are now fully staffed. Progress reports for a number of projects in the Water Wing now are being prepared in a manner suitable for incorporation in the program control system.

c. An Organization and Management Directorate has been established at the Authority level and is now almost at full strength. A number of O&M studies have been completed, including one of the Secretariat's operation and of the Water Wing's accounting system. Others are scheduled to begin shortly including examination of the operations of the Finance, Purchasing and Stores and Movement directorates.

d. A number of management conferences have been held in which for the first time senior officials of the Authority and of the two Wings exchange frank views about the problems facing EPWAPDA in organization and administration.

e. The first steps have been taken to establish a comprehensive in-service training program.

California's contract has been extended and will now expire in 1968. In the year remaining attention will be given primarily to training personnel to take over programs which are now underway. EPWAPDA and A.I.D. will be examining whether extension of the contract beyond 1968 is possible and desirable.

With the assistance of the California team and the General Consultants. EPWAPDA is drawing up its first comprehensive in-service training program to raise both the administrative and technical proficiency of its personnel. California has assisted by preparing an outline of possible training needs for all parts of EPWAPDA and has helped in the performance of a survey of the key management positions to be filled over the next five years. The surveys were made by training committees in both Wings, who now are drawing up detailed training plans. The General Consultants are helping by determining specialized technical training requirements in both Wings. These consultants, and possibly others as well, will help in implementation of the programs by on-the-job training and formal classroom presentations. Training will be given to the maximum extent

feasible in East Pakistan, with foreign training to be given only in subjects that cannot be taught in East Pakistan.

EPWAPDA's Engineering Academy at Kaptai has an important role to play in the program. Established in 1963, the Academy has heretofore not been adequately staffed or equipped to realize fully its potential as a training center. Over the past year the California team has begun to utilize the Academy increasingly for its management training programs, and believes the Academy can be employed for the comprehensive training program if training equipment is purchased and additional staff acquired. Support for the Academy is a long term objective of A.I.D., and we will be examining with EPWAPDA how such support can best be given. It may be that a portion of the contingency funds from the proposed new loan will be used for this purpose.

A.I.D. agrees with and supports the steps that EPWAPDA is taking and plans to take, with the support of the General Consultants, the California team, and others, to improve its operations. The steps should continue to lead to improvements in EPWAPDA. A.I.D. believes that EPWAPDA will effectively utilize the assistance to be provided by the loan reviewed in this CAP, and is capable of effectively implementing the loan.

B. U. S. Assistance to EPWAPDA

A.I.D. has made nine dollar development loans to the GOP for use by EPWAPDA. They are:

(1) Loan 391-H-011 of \$18,000,000 for the Karnafuli Dam, which is a major hydroelectric facility in the Chittagong Hill Tracts at Kaptai on the Karnafuli River. The project included installation of the two 40 MW units now in operation, as well as space for the third unit. In addition to Loan 011, the U. S. contributed \$19,450,000 in supporting assistance dollar funds, and the equivalent of about \$30,000,000 in rupees, or total equivalent of about \$67,400,000. The project was effectively implemented. A.I.D. now is considering another loan to help finance the third unit.

(2) Loan 391-H-033 of \$2,300,000 to assist the Dredger Organization. This loan has been slowly but reasonably well utilized. Provision of two additional advisors for the Dredger Organization is discussed in this CAP.

(3) Loan 391-H-043 of \$8,600,000 for expansion and improvement of the power distribution system in Dacca and Chittagong. The high voltage portion of the project is scheduled for completion in 1968, and the low voltage in 1971. The management assistance contract with Stone and Webster mentioned earlier also was financed from this loan. Project implementation is behind schedule, but is progressing.

(4) Loan 391-H-059 of \$4,330,000 for assistance in building coastal embankments along the sea coasts of East Pakistan. This project has been quite successful. The equivalent of about \$33,000,000 in rupees also has been provided for this project.

(5) Loan 391-H-062 of \$4,400,000 to finance the General Consultants to EPWAPDA. An extension of these services with a new loan is discussed in this paper. This loan has been effectively implemented.

(6) Loan 391-H-073 of \$1,500,000 to finance equipment and services for the MEO. Implementation is satisfactory. Provision of two additional advisors for the MEO is discussed in this paper.

(7) Loan 391-H-081 of \$3,800,000 for the third power unit at the Karnafuli Power Station. An additional loan of \$1,200,000 for this project now is under consideration by A.I.D.

(8) Loan 391-H-082 of \$8,500,000 for the Sidderganj Thermal Power Station near Dacca. This loan is financing installation of a 50 MW thermal power station. Project implementation is behind schedule, but work is progressing and completion now is expected in 1970.

(9) Loan 391-H-091 of \$2,800,000 for the installation of a sub-station and two transmission lines to connect Chandpur and Noakhali to the eastern grid. The project has been very slow in implementation, but EPWAPDA now is in the final stages of negotiations with Commonwealth Associates for engineering services.

The total of the above nine project dollar development loans is \$54,230,000. The most disturbing feature of such implementation of these loans has been delays due to lengthy approval procedures in EPWAPDA, communications problems between EPWAPDA, the GOP, and A.I.D., and long lead times on procurement of equipment. The war with India and the aftermath of it also caused delays in all projects. Projects financed by the IBRD and other countries encounter similar delays. As suggested earlier in this paper, EPWAPDA and the GOP are making determined efforts to improve the situation. A.I.D. supports these efforts and the assistance to be provided under this loan paper would help in this direction.

C. Other Foreign Assistance to EPWAPDA

EPWAPDA has received assistance from the IBRD and a number of other foreign countries. Canada, the USSR, and Czechoslovakia have provided important credits for power generation facilities and transmission and distribution lines. A number of other countries also are assisting the

Power Wing. The Water Wing has profited from three loans for irrigation projects made by the IBRD, and from assistance from West Germany, the U.N., FAO and the Colombo Plan. The USSR and UK have provided financing for the MEO unit of EPWAPDA. This aid has totalled \$101,960,000. Exhibits 2 and 3 give further information on this assistance.

III. BACKGROUND OF THE PROJECT

A. Application for the New Loan

EPWAPDA engaged the U. S. firm International Engineering Co. (IECO), San Francisco, California, as its General Consultants in 1959, shortly after its formation. The scope and thrust of IECO's work for EPWAPDA has been adjusted over the years as circumstances dictated, first by negotiation of a second contract in 1961 and then by the use of amendments to the second contract. Amendment Number 4 was most significant in that it made provision for preparation of the Master Plan for water and power development in East Pakistan, which was mentioned earlier. The latest amendment is Number 7 which carries the contract through May 1968, although EPWAPDA does not as yet have the foreign exchange to finance the contract beyond June 30, 1967.

A.I.D. began financing the dollar costs of the EPWAPDA-IECO contract in 1963 with Loan 391-H-062 in the amount of \$4,400,000. One of the major changes that occurred with the assumption of foreign exchange financing by A.I.D. was that IECO was no longer to perform feasibility studies. It was felt by A.I.D., and concurred in by EPWAPDA, that this work should be entrusted to other firms or performed by EPWAPDA's own staff as its capabilities developed - with IECO being responsible for assisting EPWAPDA in preparing scopes of work for such studies and reviewing reports to ensure they are adequately prepared. Loan 062 originally was to terminate in November 1965, but it was not utilized as rapidly as originally expected, for one reason because of the substantial slowdown in the General Consultants activities in the wake of the Pakistan-India War. The loan was extended to June 30, 1967, at which time the funds will be nearly exhausted and the new loan should be available.

It should be noted that for a time during 1965 and the early part of 1966, EPWAPDA did not fully utilize the services of IECO (as well as many other foreign consultants) because of the concentration of Government and the country in general on political and military matters stemming from relations with India, and some suspicion of foreign consultants in the country, especially American. Relations between EPWAPDA and IECO were not at their best during this period. However, in 1966 relations took a decided turn for the better due to several factors, including the reconcentration of the GOP on economic development matters, renewed recognition of the great value of foreign consultants and the appointment of a new Chairman of the Authority. Since then IECO has been able to make excellent headway in its work with the support of EPWAPDA. The California team has had the same experience.

Beginning in the summer of 1966, A.I.D. has had numerous meetings with EPWAPDA concerning the implementation of and accomplishments under the existing loan and the possibility of a new loan. The General Consultants also have been involved in these discussions at various points. The following agreements resulted:

(1) The General Consultants team beginning next July would consist of a maximum of 22 experts in enumerated disciplines, subject to adjustment by mutual agreement and A.I.D. approval as circumstances and the passage of time dictate. This is discussed later in this CAP. IECO had provided up to 38 experts at one point in time, but this number has been reduced since. The present contract, as amended, provides for 19 positions. The IERD agreement resulting from the review of the Master Plan supported a number of between 15 and 25, and is not out of line with the EPWAPDA - A.I.D. discussions.

(2) It is desirable that A.I.D.-financed consulting work now being provided to the Dredger Organization and MEO under Loans 391-H-033 and 391-H-073 respectively be continued at a reduced scale, and application for the financing of such services would be made by EPWAPDA to A.I.D. along with application for continued financing of the General Consultants. It is desirable that the General Consultants work continue to be limited to the Water and Power Wings and the Authority as such.

(3) Short term consultants sometimes are needed by EPWAPDA for studies or assistance outside the scope of existing contracts with consulting firms. To provide a vehicle for funding such work, a small sum would be provided for in the new loan application.

(4) A.I.D. would consider assistance to bolster and make more effective EPWAPDA's Engineering Academy at Kaptai. Both A.I.D. and EPWAPDA recognize the importance of strengthening this Academy.

(5) EPWAPDA would prefer financing from a new loan to carry through the first year of the Fourth Five Year Plan, that is, until June 30, 1971. A.I.D. thought it might prefer to finance only for two additional years at this time (that is, through June 30, 1969) because of the apparent shortage of development loan funds and desire to reassess the project after two years. EPWAPDA and the GOP are agreeable to this.

(6) Work to be financed with the new loan would dovetail with that being carried out by the California group.

The GOP applied in November 1966 for another loan on the basis of the above agreements between EPWAPDA and A.I.D. The application was put under intensive review by A.I.D. in January 1967.

B. Accomplishments of the General Consultants

A summary of accomplishments for IECO's entire period of service from 1959 to date is given as follows.

1. Water Wing

In the first two years of full operations, from the fall of 1960 to the fall of 1962, the water planning group of IECO completed feasibility reports for five projects, two appraisal reports, one reconnaissance report and three special study reports, and reviewed several feasibility reports prepared by special consultants and by personnel with WAPDA. In addition, it prepared the detailed design for the pumping plant, D-N-D Project, and the regulators for the Little Feni and Noakhali Projects including all construction drawings and specifications, procurement specifications and bid analyses. Four of the five water development projects financed by foreign loans and now under construction are based on feasibility reports or appraisal reports prepared by IECO.

From 1962 until 1964 the water planning group was engaged mostly on preparation of the water section of the Master Plan. This included special, preliminary and economic studies as well as the collection of basic data in the field, all of which was provided to IECO at San Francisco for inclusion in the Master Plan. Other accomplishments during this period were the preparation of two review reports, two reconnaissance studies, and two special studies, and the review and analysis of a number of feasibility reports prepared by special consultants and by WAPDA.

Throughout the period 1960-65, and especially during 1964-65, a large number of scopes of work were prepared as a basis for soliciting proposals for feasibility studies. Field investigations, inspections, and reports regarding specific problems were similarly performed.

During the entire period and more particularly in the early formative stage a major effort was carried on in connection with training the Pakistani staff. Pakistani personnel have had the advantage of training and experience with IECO personnel in all facets of planning starting with collection of field data through design.

A considerable amount of time has been spent by IECO on matters concerned with foreign loan applications, processing through approval stages and implementation. Seven or eight IBRD missions, for example, visited East Pakistan with their economic or technical teams to investigate project feasibility or progress. Each visit required the efforts of one or more IECO experts with varying expenditures of man hours.

Other work with the Water Wing has included the following:

(1) An organized program for flood control in East Pakistan, including reconnaissance-type studies and recommendations to the Authority for overall planning and implementation was established.

(2) Cooperative assistance was given in the continued improvement of the Hydraulic Research Laboratory, with an approximate 50% expansion in overall activities and in the volume of model studies performed.

(3) Basic research on river bank and channel stabilization, erosion and scour, and permeability of embankments, was performed by IECCO.

(4) Advice and assistance was given on model studies in connection with the Ganges-Kobodak and Old Brahmaputra Intake Structures, the Magura Barrage, and sluices for control of tidal waters, as well as on numerous other projects.

(5) Suggestions and recommendations were made for the continued improvement in the soils and concrete laboratories including enhancement of testing capabilities and accelerated training of technical personnel.

(6) A review, reconciliation, and correction of water level records and computation of daily discharge data for hydrologic records collected by the Authority prior to 1963 was made for use in current and future planning. Training of deputed hydrology personnel was carried on.

(7) Continued assistance was provided by the design engineer to the activities of the Water Wing design directorate.

(8) Through the counterpart system, training was given to Water Wing personnel in the preparation of feasibility studies. A series of formal training lectures were given to these Pakistani personnel in order to provide better understanding and coordination in every phase of feasibility studies.

(9) Preliminary investigations and field reconnaissance were performed continuously for projects such as the Brahmaputra Barrage at Bahadurabad, the Dinajpur Low-Lift Pump Plan, and a large number of projects envisaged in the Master Plan.

2. Power Wing

The first requirement for power planning was to create and develop the necessary information and basic data from which planning proceeds. To this end IECO and EPWAPDA conducted a thorough and comprehensive survey of all electric facilities in the province. This survey included the identification and evaluation by classes of existing and potential loads in each significant locality. The initial results were published in three volumes under the title "Power Survey" in April 1960.

Interpretation followed the accumulation of essential data. Deficiencies in physical plant were defined and the most urgent projects for correlation and expansion were drawn up on general terms. Notable among the resulting studies in 1960 and 1961 were the "Power Distribution Project" and "Isolated Power Generation and Distribution Project". The former served as the basis for two foreign assistance loans for projects now under construction, the latter for another.

A comprehensive plan for immediate and short range power development was submitted by IECO 1961. It presented seven specific recommendations for action, all of which were eventually implemented in some form.

Subsequently IECO and EPWAPDA continued collecting and refining the necessary data for preparing a load growth forecast suitable for making plans for medium and long term development of the WAPDA power system. Nine reports were produced in the latter part of 1962 and early 1963 which document the plans of the nation-building agencies of the province. These plans facilitated determination of the rate and amount of growth of electrical load in East Pakistan. These nine reports, with continual revision and up-dating, provide the basis for the power section of the Master Plan and establish the programs and budgets for the Third Five Year Plan period, and tentatively beyond. Continuing assistance was provided by the General Consultants to WAPDA in preparing scopes of work for and reviewing feasibility reports, on engagement of special consultants, and in negotiations for foreign exchange financing. Feasibility reports and loan application data were prepared and submitted to A.I.D. covering the Karnafuli Third Unit Project, the Siddhirganj Thermal Plan Extension and certain transmission lines. These projects ultimately were financed by A.I.D. loans.

Other work with the Power Wing has included the following:

(1) Assistance was given by a design engineer to activities of the Power Wing design directorate and the technical training of Power Wing personnel.

(2) The preparation of reconnaissance-type reports on undertakings such as the Khowal and Muhuri River Projects, Ganges-Kobadak Jessore Unit Phase I, the Third Generating Unit for the Karnafuli Power Project, and the performance of supplemental studies to the Monu River Project Reports, were carried on throughout the period.

(3) A set of thirteen manuals covering construction of substations and installation of equipment was prepared and distributed for field use.

(4) Manuals for application of relays, reclosers and power capacitors were prepared and distributed for field use.

(5) A set of electrical distribution standards for overhead and underground electrical systems was prepared.

(6) A proposal for standardized domestic and small store service entrance method was prepared.

(7) A study of Karnafuli hydro station dry season operation was prepared.

3. General

General work done by IECCO includes:

(1) A major continuing effort of IECCO has been coordination of construction activities for WAPDA. This work has concerned 20 consultants on 28 projects.

(2) An overall training program was developed and conducted. This program was primarily oriented for on-the-job type training; however, formal training classes were provided to give specific specialized training when it was required. During this period, some 150 technical lectures were provided by IECCO specialists.

(3) Assistance was provided to the Directorate of Economic Research and Evaluation on various economic studies and problems.

(4) Numerous special studies and many treatises were prepared for the Authority, for example:

"General Guidelines for Preparation of Feasibility Reports";

"A Study on Repayment Plans for Irrigation Projects in East Pakistan", which led to enactment of a new Irrigation Ordinance by the GOEP;

"Land Consolidation in East Pakistan";

"Hydrologic & Hydraulic Design Procedures for Drainage Structures"

(5) The Water and Power Wing personnel prepared an elaborate Operating Maintenance Manual for the Dacca-Demra Pumphouse.

(6) Assistance to the Authority was given by IECCO in the preparation of construction specifications and project requirements for equipment, supplies and materials; construction budgeting; and bid document preparation.

(7) Advice and assistance was given to EPWAPDA engineers, project directors, and purchasing officials in their review and analyses of proposals from suppliers and contractors and in their selection.

(8) Purchasing procedures were studied and recommendations were made based upon this study. The magnitude of the backlog of outstanding indents was determined during the review.

(9) Standard contract documents were drafted by IECCO for EPWAPDA's use in negotiations with companies.

(10) Provision was made for project-level training of EPWAPDA's engineers in construction methods, supervision and quality control, and the efficient utilization of construction equipment and materials.

(11) Assistance to the Director of Programs was given in project planning, coordination and control requirements of all major programs carried on under the Authority.

The experts hired by IECCO for work with EPWAPDA over the years have, as a group, been well qualified for their jobs and well led, as is suggested by their output and performance indicated above. A.I.D. has been satisfied in general with the men provided. Before an individual is assigned, his qualifications are submitted to EPWAPDA for approval or rejection. A.I.D. also has the right of rejection. This will continue under the new loan.

4. Conclusion

One measure of IECCO's impact on EPWAPDA since 1959 is the amount and types of work done by IECCO and their relation to the physical accomplishments of EPWAPDA in both the water and power sectors. The broad nature and scope of IECCO's work has been discussed above, and earlier we indicated the substantial growth in EPWAPDA operations in recent years. As measures of this growth, for example, the annual rate of expenditure in the Water Wing has increased from Rs. 154,020,000

in 1960-61 to Rs. 253,200,000 in 1964-65; electric power demand has almost tripled from 40.8 MW in 1959 to 138 MW in 1966. IECO has contributed very directly to EPWAPDA's ability to both plan and carry out its greatly increased operations. This assistance has been rendered both at the policy level and in the performance of specific tasks such as those listed earlier.

The knowledge and professional growth imparted to EPWAPDA personnel by IECO experts over the years cannot of course be measured precisely, but IECO's contribution in this area has been very substantial. In the context of the new loan, A.I.D. again will be reviewing the number and quality of EPWAPDA people being trained by IECO, and assure itself that EPWAPDA will provide the required number and type of people for IECO's training program.

In summary then the increasing number of programs and operations that EPWAPDA has been able to mount and the improvement in the quality of these programs has been favorably influenced to a very great extent by IECO. A.I.D.'s assessment is that Loan 391-H-062 has been successful, that the continued services of General Consultants is important to EPWAPDA, and that a new loan by A.I.D. to continue financing of the General Consultants is warranted. EPWAPDA and the GOP agree in general with this assessment.

IV. DESCRIPTION OF THE PROJECT

The purpose of the project described in this CAP is to assist in financing the dollar costs for approximately 54 man years of general and special consulting services for EPWAPDA. Each of the three major elements in the project is discussed below.

A. General Consultants

General Consultants services under the new loan will be directed primarily to support EPWAPDA's technical operations in the two Wings. Services will be directed to assistance in planning and in project implementation leading to an improvement in the technical capability of EPWAPDA to undertake such tasks independently. Feasibility studies will not be performed, nor will the General Consultants be called upon to supervise project construction. Special reports, however, may be prepared from time to time. The principal activities which will be carried out by the General Consultants are:

- (1) Up-grading of EPWAPDA personnel through on-the-job training, classroom presentations, and personal consultation.
- (2) Guidance and assistance in the improvement of various technical aspects of the Power Wing's operation, including systems analysis, load dispatching, thermal plant operations, metering, adoption of protective devices, research on material and equipment, and such other matters as may be agreed to.
- (3) Assistance in the preparation of loan applications and in the negotiation of foreign assistance.
- (4) Assistance to EPWAPDA in preparation of its annual development programs for water and power.
- (5) In full collaboration with EPWAPDA, the development of design criteria and construction standards for both the Water and Power Wings, including monitoring of their application through review of projects developed by foreign and local consultants and by WAPDA through assistance to EPWAPDA in supervising project construction.
- (6) Guidance and advice in the formulation of long range flood control and irrigation programs.
- (7) Guidance and advice in the formulation of long range power generation, transmission and distribution programs.
- (8) Assistance in the coordination and utilization of other foreign consultants.

(9) Training and assistance in the collection and evaluation of hydrologic data for use in the updating of the water plan and for use in feasibility and other studies.

(10) Assistance and advice in the preparation of terms of reference for feasibility studies and other studies.

(11) Assistance to WAPDA in the modification and updating of the various programs and projects in the Master Plan for water and power developments.

This scope of work is essentially the same as that set forth in Amendment Number 7 to IECO's contract (see Exhibit 4). There may be other activities which should be included in the scope of work to be financed by this loan, such as establishing an adequate organizational unit for analyzing and designing power rates and examining the existing power rate structure and recommending revisions as necessary. This was part of the scope of work of Stone & Webster Service Corporation under its contract dated January 24, 1964, but little was accomplished in this regard. It is an activity which requires more attention by EPWAPDA, as is evidenced by

the requirements of A.I.D. loans (e.g. Karnafuli Third Unit) that power operations at least be self supporting. This and other areas which might logically be included in IECO's scope of work will be more fully reviewed with EPWAPDA in relation to the contract amendment to be issued subsequent to this loan.

Under the new loan the General Consultants will provide up to 22 experts to carry out the above work. These experts are listed below, but it should be stressed that the enumeration of discipline is subject to adjustment by EPWAPDA and the General Consultants, with the approval of A.I.D., as circumstances and the passage of time dictate. Such adjustment in the work of consultants undoubtedly will continue into the Fourth Plan. A more detailed illustrative list of the qualifications and functions of each expert is contained in Exhibit 5. These positions are the same as those provided for under the current contract, except as footnoted.

<u>Administrative Group - (4)</u>	<u>Primary Area of Support in EPWAPDA</u>
General Manager (Project Director)	Chairman of Authority
Office Manager	-
Economist	Economic Evaluation Officer
Administrative Assistant	-

Water Wing Group - (12)

Primary Area of Support
in EPWAPDA

Water Resources Development Engineer	Commissioner (Water)
Flood Control Engineer	Water Investigations Directorate
Planning & Design Engineer*	Planning Directorate
Hydrologist	Planning Directorate
Ground Water Engineer	Planning Directorate
Hydraulic Machinery Engineer	Operating and Construction Zones
Design Engineer	Design Directorate
Hydraulic Research Engineer	Hydraulic Research Laboratory
Maintenance and Operation Engineer **	Operating Zones
Construction Engineer **	Operating Zones
Soil Engineer (Structural)** ***	Planning Directorate
Agronomist	Planning Directorate
<u>Power Wing Group</u>	
Power Development Engineer**	General Manager (Power) and Deputy General Manager
Thermal Generation Engineer	Operations
Electrical Design & Standards Engineer	Design Directorate
Transmission and Distribution Engineer	Sales and Distribution and Line Construction
System Operations and Load Dispatching Engineer	Operations
Meter, Relays and Instrumentation Engineer	Materials Laboratory and Workshop

* Two positions provided for under current contract.

** These positions are in addition to those provided for under the current contract.

*** (Note: Land classification is a function of the agricultural departments of the GOEP, and not of EPWAPDA, and thus no expert is provided in this are).

The project envisages the integration to the extent practical of the General Consultants with respective specialists of EPWADA, although the General Consultants also will function as a team when requested to do so by the Authority. This is a shift in approach from that taken in the past, and reflects the position taken by A.I.D., the IBRD, and the GOEP that the General Consultants now should be used principally as trainers and reviewers rather than merely as advisors to supplement EPWAPDA's own staff capability. Studies which previously might have been undertaken by the General Consultants now will be performed by EPWAPDA's own forces or contracted out to other consultants. Each specialist will be assigned to one operating area where he will support both the officer in charge and his staff in carrying out their activities. The Pakistani will maintain responsibility for operating his department. While the term counterpart is used in the loan application, an insufficient number of General Consultants have been assigned to allow each one to concentrate his attention on only one staff member; however, the head of each directorate will receive a considerable portion of each specialist's time. Thus, for example, the General Consultants' planning and design engineer will work primarily with the Chief Engineer Planning, but on particular problems will work with other engineers in the design directorate. The physical location of each expert will be arranged to suit the convenience of work in each case. This shift in emphasis to EPWAPDA doing more of the work will be reflected in the contract between IECO and EPWAPDA. Decision making is to rest as much as possible on EPWAPDA's technical staff. To assure that EPWAPDA personnel carry this responsibility, the project envisages that the General Consultants will work through the departments heads.

The activities of the General Consultants will not overlap with those of the California team. The primary thrust of General Consultants' team is directed toward improving the technical and engineering operations within EPWAPDA. The assistance of the California group is centered upon improving administrative organization and practice with emphasis upon (a) program control, (b) organization and management analysis and (c) development of training facilities and programs (see Exhibit 7, Selected Provisions of State of California Contract).

B. Consultants for the Dredger Organization

Much of East Pakistan is accessible only by its waterways. The delta conditions preclude the substitution of land transport in large areas. Delta conditions also produce sediment deposits that require periodic dredging to maintain the waterways. In 1961, AID loan 391-H-033 provided imported equipment, materials and services to rehabilitate and expand the EPWAPDA dredger fleet and organization. Originally a five-man management team (under contract to IECO) was obtained under this loan. That contract was completed in 1964 and subsequently one advisor has been retained by means of a loan-financed individual contract which will expire in March 1968. WAPDA and A.I.D. agree that continuing advisory services are needed. The dredger activity, involving the use of 24 dredges, was reviewed by Mr. O. L. Adams (a retired District and over 1,300 employees,

Engineer of the U. S. Corps of Engineers) and his report was submitted to A.I.D. on August 30, 1966. He reported a need for reducing the non-effective time and lost time of the dredger fleet. He also recommended two man-years of advisory services in the field directly on dredge operations. It seems evident that two advisors are needed for a period of not less than two years. One will serve as an advisor to the Director, concerned primarily with matters of management and scheduling of the program. The other will be generally concerned with the mechanical and operational aspects of the equipment. The details of these assignments will be determined by the current advisor and the Director of the Dredger Organization in consultation with A.I.D. and subject to approval by A.I.D.

C. Consultants For The Mechanical Equipment Organization

EPWAPDA consolidates the ownership and maintenance of most of its construction equipment into the Mechanical Equipment Organization (MEO). This equipment is rented to the specific jobs carried out by WAPDA. In 1963, A.I.D. made Loan No. 391-H-073 to provide additional equipment and advisory services. Under this loan, EPWAPDA obtained a five-man team of specialists from the Vinnell Corporation. The contract team has made considerable headway in improving the capability of the MEO, but much remains to be done. East Pakistan presents problems of both of the lack of trained personnel and of difficulty of access to job sites for the servicing of equipment. A fully effective organization will require a number of years to perfect. The Director of MEO and A.I.D. believe that advisory services should be continued and consolidated by a team of two specialists. One would serve as advisor to the Director. The other would be a maintenance specialist and would be concerned primarily with training. The new loan provides funding for two men for a two year period. Terms of reference and qualifications will be developed by EPWAPDA in consultation with A.I.D. upon evaluation of the Vinnell contract.

D. Short Term Consultants for Special Studies

In an organization with such wide scope and responsibilities as EPWAPDA, there is from time to time requirement for highly trained short term consultants to handle specialized problems that cannot be solved by existing consultants. It is of course difficult to assess beforehand the number and type of such occasions that may arise over the course of this loan period. Nevertheless, it is assumed that five such special studies requiring experts from the U. S. and lasting on an average four months each may arise during the life of the loan, and to cover the dollar costs of such assistance a small sum has been set aside in the loan.

E. Contingency

A contingency factor of about 7.7 percent also has been included in the loan. The most likely use of this contingency in this loan will be inflation of costs.

A.I.D. considered setting aside a separate sum in the loan to finance equipment and books for EPWAFDA's Engineering Academy at Kaptai. However, it was decided that the needs of the Academy were not closely enough defined for an accurate cost estimate to be made. Further consideration will be given to this matter, however, and it may be that a relatively small portion of the contingency funds in this loan will be used for such a purpose if A.I.D. and EPWAFDA agree. On the other hand, other types of assistance outside the scope of this loan may be found more desirable. Foreign training needs of the Academy also should be assessed. The General Consultants and the California team will assist in this assessment.

V. FINANCES

A. Project Cost

The total estimated cost of the project described in this CAP is the equivalent of \$3,738,500 of which \$2,400,000 is dollars and the equivalent of \$1,338,500 is rupees. This is detailed in the table below.

	<u>Dollars</u>	<u>Rupees</u>	<u>Total</u>
a. The employment of a firm of General Consultants to EPWAPDA	\$1,906.4	1,116.2	3,022.6
b. Eight man years of individual consulting services for the Dredger Organization and the MEO	200.0	194.0	394.0
c. The employment of short-term consultants to EPWAPDA for special studies.	122.0	28.3	150.3
d. Contingency	171.6	-	171.6
	<u>\$2,400.0</u>	<u>1,338.5</u>	<u>3,738.5</u>

These cost estimates are set forth in detail in Exhibit 6. The estimates for the General Consultants were carefully prepared by EPWAPDA and IECO on the basis of their experience and the probable cost of hiring experts of the type needed during the loan period. EPWAPDA and the General Consultants realize that wages have increased in recent years. The new contract will reflect the higher salaries presently paid foreign consultants. The largest items are for payroll, home office overhead (calculated at 42% of the dollar payroll cost), and the fixed fee (calculated at 18.7% of the estimated total dollar expenditures related to this loan). These fees will be more closely examined in the course of reviewing the contract renewal or extension to take place in May 1968. Rupee costs for office space, housing, and the like will be borne by EPWAPDA. Estimates for consultants for the Dredger Organization and MEO are made on the basis of four man years services to each organization at \$25,000 total dollar cost per man per year, giving a total of \$200,000, plus the rupee component. The cost of special studies (\$122,000 in dollars and the equivalent of \$28,300 in rupees) is calculated on the basis of five such studies being performed lasting an average of 120 days each. A contingency figure of about 7.7% has been added to bring the dollar cost of the project to \$2,400,000.

B. EPWAPDA's Finances

EPWAPDA is financed by annual budget allocations from the Government of East Pakistan (GOEP). Its budgets are broken down into a development (capital) budget and a revenue budget, and further by the Power Wing, Water Wing and other activities. The following figures pertain only to the annual development budget and expenditures, which gives an indication of the growth in magnitude of the programs of each Wing.

In the Water Wing, most expenditures are financed from foreign aid loans. The development budget and actual expenditure for the Second Five Year Plan were as follows:

<u>Year</u>	<u>(In Millions of Dollars Equivalent)</u>	
	<u>Budget</u>	<u>Expenditure</u>
1960-61	32.24	32.24
1961-62	41.12	73.51
1962-63	56.95	42.03
1963-64	72.22	47.69
1964-65	72.83	53.17
	<hr/>	<hr/>
	275.36	248.12

The Third Five Year Plan (1965-66 through 1969-70) envisages a development expenditure of \$480 million equivalent or an average of \$96 million equivalent per year. In 1965-66, the allocation was only \$53 million equivalent; the 1966-67 allocation is \$65 million equivalent. It is expected the annual allocation will be increased during the remainder of the Plan to make up the deficiency, partly attributable to the hostilities and the suspension of new aid commitments, of these first two years.

In the Power Wing, again almost all of the expenditures are financed from development loans. The development budget and actual expenditures for the Second Five Year Plan were as follows:

(In Million of Dollars Equivalent)

<u>Year</u>	<u>Budget</u>	<u>Expenditure</u>
1960-61	7.432	6.777
1961-62	7.960	8.803
1962-63	19.869	10.645
1963-64	22.283	19.623
1964-65	35.952	37.615
	93.496	83.463

The Third Five Year Plan envisages development expenditure of \$301 million equivalent or an average of \$60.2 million equivalent per year. In 1965-66, the allocation was \$28.32 million equivalent; the 1966-67 allocation is \$80.2 million equivalent. The allocation is expected to be increased in 1967-68 and 1968-69, and reduced in 1969-70.

Expenditures in this order are one measure of the substantial growth of the development work to be undertaken by EFWAPDA, and the need for an increasing number of trained administrators, engineers and technicians, as well as continued advisory services.

VI. IMPLEMENTATION OF THE PROJECT

EPWAPDA's current contract with IECO expires in May 1968. Financing from A.I.D. Loan 391-H-062 will expire on about June 30, 1967, after which time it is anticipated that financing under the new loan would commence. EPWAPDA has not yet decided whether to negotiate a completely new contract with IECO to start with commencement of the new loan and carry through the two year period, or amend the existing contract as necessary commencing July 1, 1967, through May 1968, and then negotiate a new contract beyond that date. At a minimum an amendment will be necessary to increase the number from 19 experts called for in the present amendment to 22 called for in the new scheme. A.I.D. would prefer a new contract; however, time will likely not permit the negotiation of a new contract. In the more likely event that the present contract is amended, a letter of commitment would be issued for the period through May 1968. As a condition precedent to funds disbursement to a new Letter of Commitment, A.I.D. would be required to approve the new contract that would commence in May 1968.

Whatever is done will of course be subject to A.I.D. approval, and will have to be accomplished prior to the commencement of disbursement under the new loan.

In anticipation of the slightly revised scheme and new loan, IECO is taking preliminary steps to recruit necessary experts that it does not now have on board. We believe that this recruitment will proceed in an orderly and efficient way.

A.I.D. also would approve the contracts for consultants for the Dredger Organization, and the MEO and special consultants before funds were made available to finance such contracts.

The assumption is that A.I.D. will authorize the new loan in May/June 1967 and the Loan Agreement between A.I.D. and the GOP will be executed in June/July 1967. The conditions precedent to disbursement under the new loan should be met by EPWAPDA during July, and disbursement then could commence. Negotiation of an amendment or a new contract between EPWAPDA and IECO, acceptable to A.I.D., could be a delaying factor. If disbursement are delayed beyond July 1967, IECO probably will have to carry its own dollar costs until it can be reimbursed from the new A.I.D. loan. IECO is prepared to do this for a limited period of time. Rupee payments should present no problem.

Recruitment of consultants for the Dredger Organization and the MEO would take place during the summer, and they should be on board by the end of calendar year 1967.

A.I.D. feels that this implementation plan for the project is sound.

VII. MISCELLANEOUS

A. Impact on the U.S. Economy

The loan funds will be used for the purchase of services (and possibly a small amount of goods associated with these services) in the U.S. U.S. firms and experts will be employed. Local currency costs of contracts will be met by the GOP - thus there will be no direct outflow of dollars. The effect of the loan on the balance of payments initially will be neutral, except to the limited extent to which contractor employees convert their dollar earnings to Rupees for local purchases (if such conversions are handled through the U.S. Disbursing Officer, no outflow of dollars will occur). In the long run, the loan will have a favorable effect on the balance of payments, because the full amount of the loan including interest will be repaid to the U.S. in dollars.

B. Repayment Prospects

The Borrower will be the Government of Pakistan and the implementing agency the East Pakistan Water and Power Development Authority (EPWAPDA). It will be the obligation of the GOP to make interest and principal payments on this loan to A.I.D.

An assessment of Pakistan's external debt position and prospects leads us to share the view of other observers, including the IBRD, that Pakistan can support additional debt as long as the blend of terms continues to be soft. Pakistan's external public debt amounted to less than \$200 million at the end of the First Plan. By June 1966, Pakistan had received long and medium term loan aid commitments or contracted for loan aid totaling \$2.4 billion requiring service in foreign exchange, of which \$1.3 billion had actually been disbursed and was subject to such debt service as specified by the loan terms. The service on this debt calls for about \$110.5 million in 1967, of which \$16 million is for privately placed debt and the balance of \$95 million is for publicly placed debt. This service is equivalent to about 12-14 percent of prospective foreign exchange earnings. During FY67 Pakistan has been offered about \$600 million of additional credits and expects disbursements of about \$500 million. If Pakistan's additional requirements for foreign capital are met on the existing average terms (after adjusting for recent changes in the rates of interest and terms of payment from some sources) its debt service on long and medium term debt will probably average over \$200 million a year for the Fourth Plan. However, if earnings of foreign exchange continue to rise by 10 percent a year for the balance of the Third Plan and in a range of at least 7-10 percent thereafter, the foreseeable debt service should remain within the range of 15-20 percent of earnings for the next decade. Even if every effort is made to sustain

the good export performance there remain uncertainties outside Pakistan's control, such as the future of jute, on which its foreign exchange earnings are heavily dependent. It would, therefore, not be prudent to propose any significant hardening of terms at present. Although Pakistan can continue to accept some debt on conventional terms, its ability to do so depends on a degree of continuity in such relations and on the availability of the bulk of its requirements on soft terms.

We consider that Pakistan's favorable development prospects support its long term capability to repay debt on the scale and terms projected. It is the judgment of A.I.D. that there is a reasonable prospect of repayment of this loan under the terms and conditions being recommended.

VIII. CONCLUSIONS AND RECOMMENDATIONS

With respect to this loan to continue financing consulting services for EPWAPDA, A.I.D. has concluded that:

- (1) EPWAPDA needs the services that would be provided by the loan. The number and types of experts to be provided make sense.
- (2) EPWAPDA is taking steps to improve its management and operations, and is making effective use of foreign consultants in this regard.
- (3) EPWAPDA has made effective use of Loan 391-H-062 and is capable of effectively implementing the new loan.
- (4) The implementation plan for the project is sound.
- (5) The cost estimates for the new loan are realistic.
- (6) There is reasonable expectation that the GOP can repay the loan under the terms and conditions recommended.

As indicated in Annex I, all A.I.D. statutory criteria have been met. In the light of the above we recommend authorization of a loan of \$2,400,000 to the GOP subject to the following terms and conditions:

- (1) The GOP to repay the Loan to A.I.D. in U.S. dollars over 40 years including a grace period of not to exceed 10 years.
- (2) The GOP to pay interest to A.I.D. in U.S. dollars of 1% per annum during the grace period, and 2-1/2% per annum from and after expiration of the grace period.

(3) Terms and conditions of relending to EPWAPDA to be acceptable to A.I.D.

(4) The GOP to assure A.I.D. that adequate rupee funds for the project have been and/or will be made available.

(5) All procurement of goods and services to be from the U.S.

(6) The amendment to the existing contract and/or the new contrast between the General Consultants and EPWAPDA to be acceptable to A.I.D.

(7) Such other terms and conditions as A.I.D. may deem advisable.

Exhibit 1

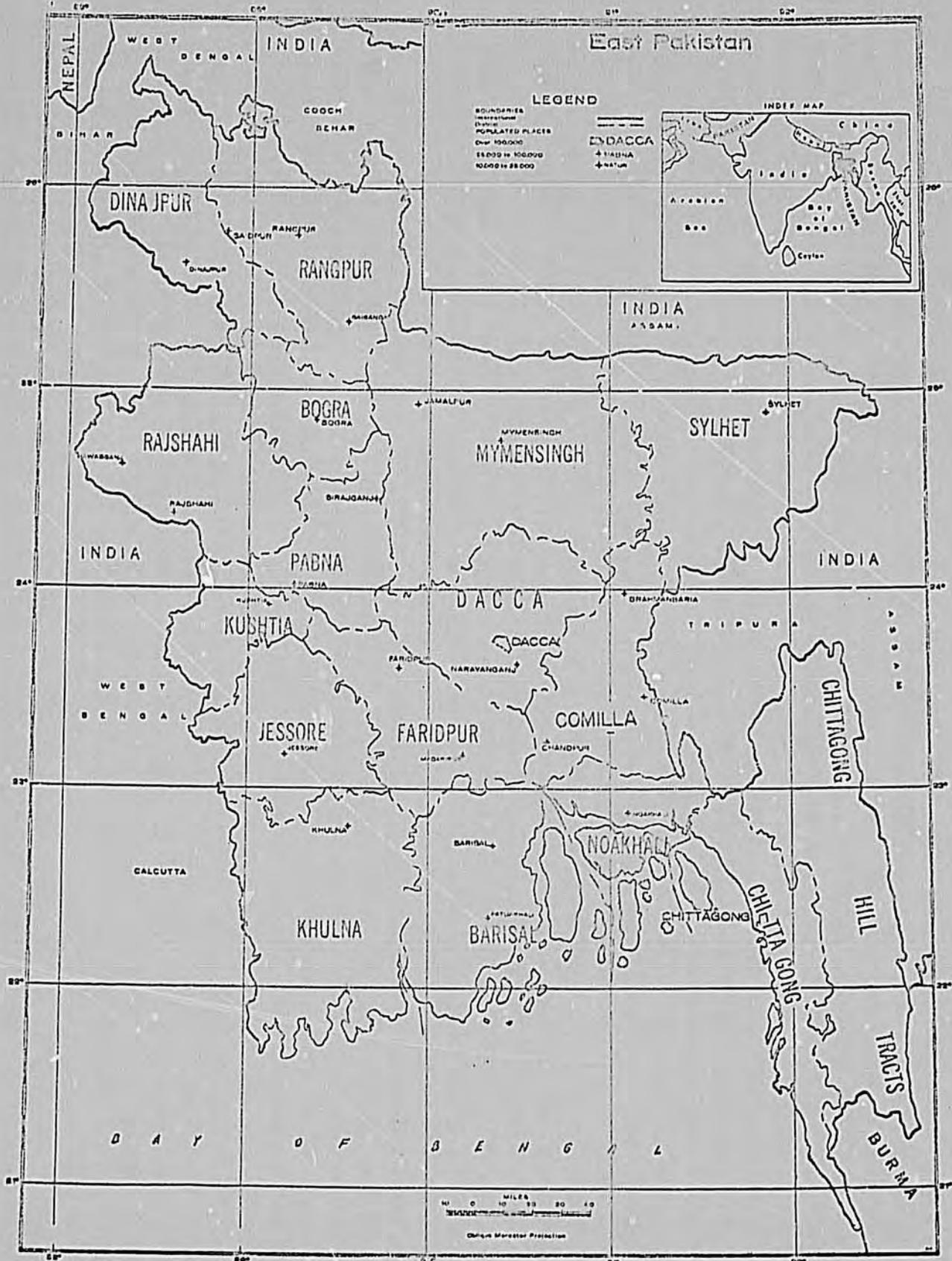


Exhibit 2

FOREIGN ASSISTANCE TO WATER AND POWER PROJECTS IN
EAST PAKISTAN (EPWARD) BY COUNTRY 1959-1966

Source	\$ in Millions
<u>Free World</u>	
United States	77.50
Canada	41.57
IDA	15.00
France	10.19
West Germany	7.30
Italy	5.57
Japan	5.00
UNEP	3.42
U.K.	0.70
FAO	0.60
	<u>146.78</u>
<u>Bloc</u>	
Czechoslovakia	16.80
USSR	14.70
Mainland	0.21
	<u>31.71</u>
Total Foreign Assistance	178.49

FOREIGN CONSULTANTSCURRENTLY EMPLOYED BY EPWAPDAAND WORK THEY ARE PERFORMING

1. International Engineering Company
General Consultants to EPWAPDA
2. Leeds Hill-Deleuw
Coastal Embankment and Brahmaputra Right Flood Embankment
Projects (Final design and supervision of construction)
3. Justin-Courtney-Hohlweg-Watts
Feasibility Study Karnafuli Irrigation Project
4. Dr. Ing. Erich Lackner of Germany
Rangour Tubewell Project (Feasibility)
Groundwater Development Thakurgaon Area (Design and
Construction Supervision)
Pumphouse Design of G-K Project
5. Associated Consulting Engineers - Haigh Zinn & Associates
Final design and supervision of Construction Chandpur Project
6. Technoconsult-Justin-Courtney-Hohlweg-Watts
Feasibility Study Small Electric Pump Irrigation
7. Associated Consulting Engineers - Engineering
Consultants Incorporated
Feasibility Study of Dacca-Southwest Project
8. Associated Consulting Engineers
Feasibility study of Khowai Project
9. M/s. Johan Keller
Sub Soil exploration in Tentulia Rachagarh Project
10. Swissboring Overseas Corporation
Ground water exploration in North Mymensingh Tubewell Project
11. Black & Veatch International
Power Distribution System Design
Siddhirganj Thermal Extension

12. M/s. Pelletier Eng. (Int'l) Ltd.
Isolated Power Project Design
Siddhirganj Sylhet Project Design
13. M/s. W. P. London and Partners
13 KV Line from Goalpara - Bheramara (Design)
14. Sverdrup & Parcel - Assoc. Cons. Engrs. Ltd.
Karnafuli Third Unit Design
15. Vinnell Corporation
Mechanical Equipment Organization - Management
16. Commonwealth Services
Transmission System - Comilla & Noakhali Project
17. Consulting Engineers (Pakistan) Limited
G. K. Project Jessore Unit Phase III
Hail Haor Project Feasibility Study
18. Techconsult
Feasibility Studies of Meghna - Dhunagoda
19. M/s. Fichtner
Ashuganj Power Station
20. Sofrelec
Khulna-Kustia Distribution Design
21. Dr. Mubashir Hasan
G-K Project, Jessore Unit Phase II
22. State of California Department of Water Resources
Advises on organization and management of EPWAPDA

Exhibit 4SELECTED PROVISIONS OF IECO CONTRACT (AMENDMENT 7)(Amendment Effective June 14, 1966)

- B. Article 2.3 Scope of Work - After, "on behalf of the AUTHORITY, INTERNATIONAL shall furnish the following services as defined by the AUTHORITY" delete sub-articles 2.31 through 2.35 and substitute the following therefor:

2.31 Assistance will be provided:

- a. To modify and update the various programs, outlined in the Master Plan in the context of current circumstances and conditions.
- b. In formulating general policies in Planning, Programming and implementation of the long range development programs in the fields of Power and Water Resources.
- c. In the preparation of loan applications for the purpose of negotiating foreign financial assistance.
- d. In negotiations with international organizations such as the World Bank, A.I.D., Export-Import Bank, United Nations, Colombo Plan and others when requested by the Authority.
- e. To the Chief Engineer, Planning, Water, on general Planning, designing and execution of water development projects.
- f. To the Engineer in charge of Planning, Water, in assessing the requirements for collecting the hydrological information necessary for study of flood problems.
- g. On flood control aspects of projects under planning design and and execution stages.
- h. To the Hydrological Directorate in data collection and processing.
- i. To the Planning Directorate in hydrological studies.
- j. In the formulation of basic policy and programme for ground water exploration and development.
- k. To the Geophysics Directorate to carry out the ground water exploration.
- l. On the design, selection and purchase of hydraulic equipment.
- m. To the MEO in installation, maintenance and operational phases of the technical equipment.

- n. To review the suitability of special hydraulic equipment proposed by Special Consultants or the Authority.
- o. On the review of hydraulic structural design in the Design Directorate.
- p. To the Hydraulic Research Laboratory in performing model studies and related research.
- q. In reviewing agricultural aspects of different schemes both in the feasibility studies and under construction.
- r. In making economic review of projects both under feasibility studies and under construction.
- s. On strengthening the Authority's organization such as hydraulics, soils and concrete laboratories and advise on design, selection and maintenance of technical equipment for these organization.
- t. To the Chief Engineer, Power, in general planning, designing and execution of Power Development projects and operations within the field of competence of the CONSULTANTS technical experts.
- u. In the review of the design of Power Development projects as performed by Special Consultants or the staff of the Authority.
- v. In the design, selection, purchasing, installation, maintenance and operation of technical equipment of the Power Wing.
- w. To the Directorates of the Power Wing in the planning and conduct of technical and economic studies as required for planning and execution of development projects and improvement of operation and maintenance.
- x. To strengthen the Power Wing's specialized technical organizations such as systems analysis, lean dispatching, thermal generation, design and standards, transmission and distribution, and the laboratories specializing in meters, instruments, protective devices and in research on materials and equipment.
- y. In the preparation of the annual development program of the Authority.

- C. Article 2.32 Assist the AUTHORITY in updating flood control studies recommended in the Master Plan.
- D. Article 2.33 When requested by the AUTHORITY review feasibility studies as prepared by Special Consultants and the AUTHORITY's staff.
- E. Article 2.34 Provide general guidance in the design of water development projects as performed by Special Consultants or the staff of the Authority.
- F. Article 2.34 In coordination with the staff of the AUTHORITY conduct economic studies and research as may be mutually determined.
- G. Article 2.36 Assistance by the staff of INTERNATIONAL will to the greatest degree possible, be performed in a counterpart capacity within the organization of the AUTHORITY. The counterparts will be integrated into functional areas as may be specified by the Authority, but at the same time will retain their identity as members of the INTERNATIONAL staff team.

PROPOSED QUALIFICATIONS AND FUNCTIONS
OF THE GENERAL CONSULTANTS STAFF

General Manager:

Qualifications

An engineer of standing repute with wide experience in engineering as well as managerial aspects of major development programme.

Functions

To assist WAPDA in formulating development policy programme.

Overall supervision and coordination of the work to be performed by the General Consultants.

To assist WAPDA in special functions - such as loan application, negotiation, etc.

Office Engineer:

Qualifications

An engineer with broad experience in conducting engineering studies and solving engineering problems. Some field experience would be desirable. He must be able to supervise a large engineering staff.

Functions

To assist the General Manager in supervising and guiding design and drafting, and formulate design and drafting standards.

Administrative Asst.

Qualifications

A qualified administrator of wide international experience specifically related to the operation of foreign contracts. Must have knowledge of business accounting methods and procedures.

Functions

To assist the General Manager in administrative affairs of the General Consultants.

Power Development
Expert

Qualifications

An engineer having wide experience in power development with intimate knowledge in connection with functional operations of public utilities. He should have active experience of about 20 to 25 years in these fields.

Functions

To advise on and coordinate all technical functions of power development; his special attention is directed to the specific field not performed by the other experts as well as to assist in formulating the power rate structure.

Expert on Thermal
Generation

Qualifications

Must be well conversant with theory, practice, design, construction and operation of thermal plants with major emphasis on steam generating plants using advance steam cycles as well as common types of internal combustion engines including diesel engines and gas turbines. Should have practical experience in operation and maintenance of steam plants and preferably of gas turbines also. Holding responsible positions in suitable power stations. Good academic background necessary. Total experience in the field of the thermal generation should not be less than 20 years.

Functions

To prepare and review technical specifications, plans, drawings and schedules covering all aspects of planning, procurement, construction and operation of thermal generation. Assist in solving specific problems in operation, maintenance and repair of all features of thermal generating stations and their appurtenances. Assist in training Pakistani engineers and technicians in operation and maintenance of thermal stations.

Expert on Electrical
Design & Standard:

Qualifications

Good academic qualification and at least 20 years experience in planning and design of power facilities. Must be familiar with design, drafting practices, estimating calculations and specification writing for electrical, mechanical and civil works, must be familiar with the standard equipment specifications of various countries. Should have adequate practical experience in construction and operation in different aspects of electrical power system.

Functions

Prepare and review design and specifications of electrical sub-stations, transmission and distribution lines, minor generating stations as a part of integrated power system and also as isolated facilities. Prepare and review technical specifications of various stores for procurement by power wing. Prepare standard specifications for electrical and mechanical equipment to be used for WAPDA Power system. Assist in solving specific problems in operation, maintenance, relaying and control of the transmission and distribution system. Assist in training Pakistani personnel in various aspects of power system design.

Expert on Trans-
mission &
Distribution System:

Qualifications

Must have good academic background and not less than 20 years practical experience in design, construction operation and maintenance of low and high voltage distribution and transmission system including extra high voltage transmission lines and sub-stations. Must have experience in performance calculations, testing, coordination and distribution lines and system including protective devices. Should also be familiar with civil, mechanical and structural design of line supports.

Experience in design, construction, operation and maintenance of under ground distribution system is also desirable.

Functions

To prepare and review plans, design and specifications of overhead and underground transmission and distribution lines and associated sub-station facilities. Assist in field planning and construction work and progressing the job. Assist in developing standard practices for design, construction, operation and maintenance of transmission and distribution facilities. Assist in solving specific problems of construction, operation and maintenance in the above fields. Assist in training Pakistani personnel.

Expert on System
Operation and Load
Despatches:

Qualifications

Must have good academic background and have long experience of not less than 15 years, in the field of operation of interconnected power system including load despatching. Must be capable of analysing and designing high voltage grid net work and should also be well versed with design, application and performance of equipment for system control, protection, metering, relaying and communication, should be acquainted with the principle of economic loading of generation and transmission facilities.

Functions

Assist in establishing, organizing and operating .. Control Load Despatching Centre for the WAPDA power system. Assist in control and management of the electrical system of electric supplies. Evolve standard procedures for normal and emergency operation of generation, transmission and distribution facilities. Assist in systems studies including study of power flow and stability problems and coordination of relays and protection use of analogue and digital computers.

Expert on Meters
Relays, Instruments,
& Protective Devices:

Qualifications

Must have theoretical background and 20-25 years' experience in construction, calibrations, repairs and application of various instruments, relays and precision instruments and similar devices used in power systems. Adequate knowledge and experience in maintenance and repairs of heavy electrical equipment and control gears is also desirable.

Functions

Assist in organizing, and maintaining a test and research laboratory devoted to the application, calibration, testing, maintaining repair of all meters, relays, instruments, protective devices and communication equipment used in electrical utility systems. Assist in onsite maintenance of such equipment like transformers, meters, switchgears, etc. Assist in training Pakistani personnel in the above fields.

Water Resources
Development Engineer:

Qualifications

An engineer with wide experience in planning, design and execution of water development projects. Active experience of about 20 to 25 years in this field. His experience should be comparable to the type of development to be encountered in East Pakistan.

Functions

To advise on and coordinate all technical functions of water development; his special attention is directed to the functions of planning and design.

Flood Control
Engineer

Qualifications

An engineer having wide experience in flood control and river training works in deltaic areas. He should have more than 15 years of experience in this field.

Functions

To advise on all phases of flood control and river training works especially on the major rivers.

Planning Engineer (W)

Qualifications

Engineer having wide experience in planning and designing of water development projects including irrigation, drainage, hydroelectric and related aspects. He should have active experience in planning and designing hydraulic structures not less than 12 years.

Functions

To advise Water Wing project planning organization in preparation of feasibility studies in supervising and reviewing of feasibility studies prepared by special consultants, and preparation of PC 1 and PC 2 for Government sanction.

Hydrologist:

Qualifications

An engineer having active experience in hydrological data collection processing and hydrological studies for at least 15 years. His major part of experience would be preferably in similar type of rivers as in East Pakistan.

Functions

To advise on hydrological data collection, processing, compilation and publishing to Hydrology Directorate; on hydrological studies to the project planning and design engineers of WAPDA; and on supervising and reviewing of hydrological studies prepared by special consultants.

Ground Water
Expert:

Qualifications

An engineer or geologist who has wide experience in ground water exploration, planning and development for not less than 10 years with intimate knowledge of modern technique in geophysical exploration.

Functions

To advise in all phases of ground water development by WAPDA staff, and in supervising and reviewing of all works relevant to ground water carried out by special consultants.

Mechanical
Engineer:

Qualifications

An engineer having wide experience in design, operation and maintenance of hydraulic equipment, such as hydraulic turbines, pumps, valves, gates, etc. and other mechanical equipment for at least 15 years.

Functions

To advise on all functions in connection with hydraulic machinery, such as selection and preparation of specifications for procurement, preparation of design; installation, operation and maintenance; reviewing the functions performed by the special consultant. He will also occasionally advise Power Wing on mechanical problems.

Design Engineer:
(Water)

Qualifications

An engineer having wide experience in designing hydraulic and related structures for not less than 12 years.

Functions

To advise Water Wing design organization in preparation of design and drafting standards; in preparation of final design specifications and construction drawing of major and minor project; in reviewing design, specifications and construction drawings prepared by special consultants.

Hydraulic Research Engineer:

Qualifications

An hydraulic engineer with wide experience in hydraulic research in river and hydraulic structure models including those in tidal rivers for not less than 15 years.

Functions

To advise the Hydraulic Research Laboratory in performing model studies and related research works.

Agronomist:

Qualifications

An agronomist with wide experience in agronomy in tropical and sub-tropical regions for about 15 years. His experience should be comparable to the type of crops grown in East Pakistan under similar natural conditions.

Functions

To advise on all agricultural phases in water projects during planning, design and operation stages.

6

Maintenance &
Operation Engineer

Qualifications

An engineer having wide experience in operating and maintaining irrigation (both gravity and lift) and flood control projects.

Functions

To advise in preparing maintenance and operation manuals of completed projects and in formulating the O & M organization.

Construction
Engineer

Qualifications

An engineer having wide experience in construction of hydraulic structures in connection with water development projects including irrigation, drainage and flood control, specially of hydraulic structure on permeable foundations.

Functions

To advise WAPDA engineers on special construction problems from time to time, and in formulating construction plant layout, construction programme and control.

Soils Engineer

Qualifications

An engineer having wide experience in exploration of soil foundations, analysis and interpretation of experimental data, and in design and construction of soil foundations.

Functions

To advise in all phases in connection with soils and foundation engineering.

Economist

Qualifications

An economist having experience in agricultural economy in a developing country. He should have about 10 years of experience in this field.

Functions

To advise in economic planning and evaluation of WAPDA projects.

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Exhibit 6COST ESTIMATES FOR THE GENERAL CONSULTANTS

	<u>Exp.</u>	<u>Exch.</u>	<u>Exp.</u>	<u>Exch.</u>	<u>Local</u>	<u>Total</u>
	<u>(in \$)</u>		<u>(Expressed in Rupees)</u>			
1. Payroll - Imported Staff	808,919	3,851,931	209,393		4,061,324	
2. Vacation Pay	71,158	338,068	-		338,068	
3. Subsistence Allowance	-	-	474,531		474,531	
4. Payroll - Pakistani Staff	-	-	1,098,273		1,098,273	
5. Allowances -	-	-	611,538		611,538	
6. Processing - Imported Staff	14,024	66,660	-		66,660	
7. Transportation - Job Site & Return	503	2,417	643,017		645,434	
8. Travel - Home Office Personnel	16,353	77,603	42,295		119,898	
9. Travel - Job Site Personnel to Other Countries for Project	4,833	22,959	71,277		94,236	
10. Travel in Pakistan	-	-	123,417		123,417	
11. Specialist Services & Home Office Special Services	197,766	930,425	119,812		1,050,237	
12. Shipment Personnel Effects	21,448	101,837	109,966		211,803	
13. Customs Duty & Sales Tax	-	-	285,801		285,801	
14. Housing - Residences	-	-	-		-	
Appliances	5,773	27,658	-		27,658	
Furniture	-	-	68,642		68,642	
Alteration/Screening	-	-	30,508		30,508	
Utilities	-	-	329,482		329,482	
Maintenance	-	-	54,914		54,914	
15. Medical Expenses	-	-	211,473		211,473	
16. Office Administration Expenses	38,586	183,333	137,423		320,756	
17. Transports - (Passenger Vehicles)	-	-	83,202		83,202	
18. Operation, Maintenance of Transports	-	-	59,906		59,906	
19. Legal Expenses	222	1,075	1,109		2,184	
20. Home Office Overhead	369,686	1,757,066	-		1,757,066	
21. Fee	357,133	1,695,709	-		1,695,709	
22. Rent	-	-	549,136		549,136	
23. Total	1,906,404	9,056,741	5,315,115		14,371,856	

Selected Provisions of
State of California Contract (Amendment No. 4)
(Amendment 4 effective February 23, 1965)

B. SCOPE OF WORK

The Contractor shall render technical advice and assistance to EPWAPDA by:

1. Consulting with the Chairman, EPWAPDA and his staff in the development, planning and installation of program controls, and organizational improvements.
2. Reviewing and identifying major program areas and projects in which EPWAPDA is engaged, or expects to undertake early in the third 5 Year Plan, and designing and recommending specific procedural and reporting systems that will ensure prompt and regular knowledge on program status, on the identification of areas of uncertainty, and otherwise provide statistical and administrative information on project requirements and work analyses.
3. Progressively undertaking supervision of the installation of such program control systems as approved, including (1) advising appropriate operating officials regarding adaptation and installation activities; and (2) advising and assisting in the preparation of operating manuals and courses of training required to establish and maintain the program control systems.
4. Reviewing and identifying significant organizational and coordination problems of the EPWAPDA, including analyzing and recommending organizational and procedural improvements, and progressively installing or arranging for installation of approved activities in accordance with agreed priorities between EPWAPDA and Contractor, procurement of teaching aids and training equipment.
5. Advising and assisting in selection of participants in accordance with procedures established between EPWAPDA, Contractor and US AID. Contractor shall make all arrangements for implementing a participant training program at its own facilities or other U.S. institutions for such participants.
6. Performing such other duties related to those set forth above that are necessary for the successful accomplishment of the objectives of the project as may reasonably be requested by EPWAPDA and agreed to by the Contractor.

Best Available Document

D. PERSONNEL

1. Field Staff

Contractor shall provide approximately 80 man-months of services of professional and technical staff in Pakistan in accordance with the following staffing pattern:

<u>Position</u>	<u>Approximate No. Man-Months</u>
2 Senior Consultants (1 Program Control and 1 Organization and Management, one of whom shall be designated as Chief of Party)	<u>48</u>
1 Program Control Assistant	24
Short-term consultants as needed in the field of program control, organization and management	<u>8</u>
Total	66

Variation or substitutions in the above staffing pattern may only be made with the written agreement of US AID.

May 31, 1967

AID 1240-1 (11-66)

CHECK LIST OF STATUTORY CRITERIA

Development Loan Fund

In the right-hand margin, summarize for each item the information or conclusion requested. As necessary reference the section(s) of the Capital Assistance Paper, or other clearly identified and available document, in which the matter is further discussed. This form may be made a part of the Capital Assistance Paper.

The following abbreviations are used:

FAA - Foreign Assistance Act of 1961, as amended by the Foreign Assistance Act of 1966.

App. - Foreign Assistance and Related Agencies Appropriations Act, 1967.

- | | |
|--|--|
| <p>1. <u>FAA §.102.</u> Precautions that have been or are being taken to assure that loan proceeds are not diverted to short-term emergency purposes (such as budgetary, balance of payments, or military purposes) or any other purpose not essential to the country's long-range economic development.</p> | <p>1. The loan proceeds will not be diverted to short-term uses but will be used for the consulting and equipment costs required for the long-term development of EPWAFDA. See Section IV.</p> |
| <p>2. <u>FAA §.102.</u> Information on measures taken to utilize U. S. Government excess personal property in lieu of procurement of new items.</p> | <p>2. This is provided for in the Loan Agreement.</p> |
| <p>3. <u>FAA §.102.</u> Information whether the country permits or fails to take adequate measures to prevent the damage or destruction, by mob action, of U. S. property.</p> | <p>3. Pakistan protects US property.</p> |
| <p>4. <u>FAA §.201(b).</u> Manner in which loan will promote country's economic development, emphasizing help for long-range plans and programs designed to develop economic resources and increase productive capacities.</p> | <p>4. The loan will promote long range economic development of power and water in East Pakistan. See Sections III and IV.</p> |
| <p>5. <u>FAA §.201(b)(1).</u> Information and conclusion on availability of financing from other free-world sources, including private sources within the United States.</p> | <p>5. This assistance is being provided under consortium arrangements. The Export-Import Bank decided not to consider the application. See Summary and Recommendations.</p> |
| <p>6. <u>FAA §.201(b)(2).</u> Information and conclusion on activity's economic and technical soundness, including the capacity of the recipient country to repay the loan at a reasonable rate of interest.</p> | <p>6. The project is economically and technically sound. Pakistan can repay the loan at the rate of interest provided therefor. Sections IV and V.</p> |

7. FAA §.201(b)(3). Information and conclusion on existence of reasonable promise activity will contribute to development of economic resources or increase of productive capacities.
 8. FAA §.201(b)(4). Information and conclusion on activity's relationship to other development activities, and its contribution to realizable long-range objectives.
 9. FAA §.201(b)(5). Country's self-help measures, including institution of Foreign Assistance Act investment guaranty programs.
 10. FAA §.201(b)(6). Information and conclusion on possible effects on U. S. economy, with special reference to areas of substantial labor surplus.
 11. FAA §.201(b)(7). Information and conclusion on the degree to which the country is making progress toward respect for the rule of law, freedom of expression and of the press, and recognition of the importance of individual freedom, initiative, and private enterprise.
 12. FAA §.201(b)(8). Information and conclusion on the degree to which the country is taking steps to improve its climate for private investment.
 13. FAA §.201(b)(9). Information and conclusion on whether or not the activity to be financed will contribute to the achievement of self-sustaining growth.
 14. FAA §.201(b). Information on applicability of the ten-country ceiling.
 15. FAA §.201(b). Information and conclusion on reasonable prospects of repayment.
7. The project will contribute to economic development by assisting all phases of EPWAPDA's efforts in water and power. See Section IV.
 8. The project will benefit all development in Pakistan through its effect in water and power availability. See Section IV.
 9. Pakistan has instituted the A.I.D. Investment Guaranty Program with the exception of the war risks. The WAPDA will provide the necessary local currency for the Project and is supporting the Project with its own staff. Sections IV and V.
 10. Contracts for engineering and equipment will be with U.S. firms.
 11. Pakistan is making progress in this regard.
 12. Pakistan encourages private investment.
 13. By providing a basic requirement the activity will encourage self-sustaining growth.
 14. This loan is authorized under the ten country limitation.
 15. Pakistan is making a determined effort to develop its economy and become self-supporting, and there are reasonably good prospects for the repayment of the Loan. See Section VII B.

16. FAA §.201(d). Information and conclusion on legality (under laws of the country and the U. S.) and reasonableness of lending and relending terms.
17. FAA §.201(e). Information and conclusion on availability of an application together with sufficient information and assurances to indicate reasonably that funds will be used in an economically and technically sound manner.
18. FAA §.201(f). If a project, information and conclusion whether it will promote the economic development of the requesting country, taking into account the country's human and material resource requirements and the relationship between the ultimate objectives of the project and the country's overall economic development.
19. FAA §.201(f). If a project, information and conclusion whether it specifically provides for appropriate participation by private enterprise.
20. FAA §.202(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources.
21. FAA §.281. Extent to which the loan will contribute to the objective of assuring maximum participation in the task of economic development on the part of the people of the developing countries, through the encouragement of democratic private and local governmental institutions.
22. FAA §.601(a). Information and conclusions whether loan will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry agriculture, and commerce; (f) strengthen free labor unions.
16. Lending and relending rates will be reasonable, and legal under the laws of the U.S. and Pakistan.
17. An application has been received with sufficient information to assure that the funds will be used in an economically and technically sound manner. See Sections III and IV.
18. The project fulfills these objectives by providing in an area basic to economic development. Section III.
19. Private U.S. companies would provide the services and equipment to be provided under the loan. See Section IV.
20. All services and goods financed from the loan will be procured from private sources in the U.S. See Sections V and VII.
21. The project provides a basic requirement for economic development and will stimulate private and regional development. EPWAPDA has broad powers relating to development of the region of East Pakistan.
22. (a) All equipment, materials and services, financed from the loan would be procured in the U.S. and result in increased trade between the U.S. and Pakistan.
(b) Increased power will be available for use by the private sector.
(c) No direct effect.
(d) No direct effect.
(e) The loan should assist in improving the technical efficiency of industry, agriculture and commerce.
(f) No effect.

23. FAA §.601(b). Information and conclusion on how the loan will encourage U. S. private trade and investment abroad, and how it will encourage private U. S. participation in foreign assistance programs (including use of private trade channels and the services of U. S. private enterprise).
24. FAA §.601(d). Conclusion and supporting information on compliance with the Congressional policy that engineering and professional services of U. S. firms and their affiliates are to be used in connection with capital projects to the maximum extent consistent with the national interest.
25. FAA §.602. Information and conclusions whether loan will permit American small business to participate equitably in the furnishing of goods and services financed by it.
26. FAA §.604(a); App. B.108. Compliance with restriction of commodity procurement to U. S. except as otherwise determined by the President and subject to statutory reporting requirements.
27. FAA §.604(b). Compliance with bulk commodity procurement restriction to prices no higher than the market price prevailing in the U. S. at time of purchase.
28. FAA §.604(d). Compliance with requirement that marine insurance be purchased on commodities if the participating country discriminates, and that insurance be placed in the U. S.
29. FAA §.611(a)(1). Information and conclusion on availability of engineering, financial, and other plans necessary to carry out the assistance and of a reasonably firm estimate of the cost of the assistance to the United States.
30. FAA §.611(a)(2). Necessary legislative action required within recipient country and basis for reasonable anticipation such action will be completed in time to permit orderly accomplishment of purposes of loan.
23. Being primarily for consulting services the project will not have substantial direct effect on U.S: private investment abroad. Development of power and water in EP will encourage future investment and participation.
24. The engineering services provided under this loan will be provided by U.S. firms. See Section IV.
25. Any goods procured under this loan will be sold by U.S. private enterprise; the procurement procedures under this loan will permit equitable participation of U.S. small business.
26. All procurement of goods and services financed by this loan will be limited to the U.S. See Section VII.
27. The Loan Agreement will provide for limitation of price of bulk commodity procurement to prices no higher than the market price prevailing in the U.S. at time of purchase.
28. The Loan Agreement will so provide.
29. The plans have been formulated and a reasonably firm cost estimate has been developed. Sections IV and V.
30. No legislative action required.

31. FAA §.611(b); App. §.101. If water or water-related land resource construction project or program, information and conclusion on a benefit-cost computation.
32. FAA §.611(c). Compliance with requirement that contracts for construction be let on competitive basis to maximum extent practicable.
33. FAA §.612(b) and 636(h). Appropriate steps that have been taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services and foreign currencies owned by the U. S. are utilized to meet the cost of contractual and other services.
34. FAA §.619. Compliance with requirement that assistance to newly independent countries be furnished through multilateral organizations or plans to maximum extent appropriate.
35. FAA §.620(a); App. §.107(a) and (b). Compliance with prohibitions against assistance to Cuba and any country (a) which furnishes assistance to Cuba or failed to take appropriate steps by February 14, 1964, to prevent ships or aircraft under its registry from carrying equipment, materials, or supplies from or to Cuba; or (b) which sells, furnishes, or permits any ships under its registry from carrying items of primary strategic significance, or items of economic assistance.
36. FAA §.620(b). If assistance to the government of a country, existence of determination it is not controlled by the international Communist movement.
37. FAA §.620(c). If assistance to the government of a country, existence of indebtedness to a U. S. citizen for goods or services furnished or ordered where such citizen has exhausted available legal remedies or where the debt is not denied or contested by such government or the indebtedness arises under an unconditional guaranty of payment given by such government.
38. FAA §.620(d). If assistance for any productive enterprise which will compete with U. S. enterprise, existence of agreement by the recipient country to prevent export to the U. S. of more than 20% of the enterprise's annual production during the life of the loan.
31. This is not a water or water-related land resource construction project. Section IV.
32. Construction contracts will not be involved in this project. Section IV.
33. The Loan Agreement provides that local currency costs will be paid by Pakistan.
34. This loan will be made under consortium arrangements.
35. Pakistan is not providing assistance to Cuba and none of its ships or aircraft are now stopping at Cuba.
36. Pakistan is not controlled by the international communist movement.
37. Pakistan is not indebted within the terms of this statute.
38. This project will not compete with U.S. enterprise.

39. FAA §.620(e)(1). If assistance to the government of a country, extent to which it (including government agencies or subdivisions) has, after January 1, 1962, taken steps to repudiate or nullify contracts or taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U. S. citizens or entities beneficially owned by them without taking appropriate steps to discharge its obligations.
39. Pakistan has not nationalized, expropriated or otherwise seized property of U.S. citizens.
40. FAA §.620(f); App.R.109. Compliance with prohibitions against assistance to any Communist country.
40. Pakistan is not a communist country.
41. FAA §.620(g). Compliance with prohibition against use of assistance to compensate owners for expropriated or nationalized property.
41. Loan funds would not be used to compensate owners for expropriated or nationalized property.
42. FAA §.620(h). Compliance with regulations and procedures adopted to insure against use of assistance in a manner which, contrary to the best interests of the U. S., promotes or assists the foreign aid projects or activities of the Communist-bloc countries.
42. Provisions will be made in the Loan Agreement prohibiting any of the funds from being used to assist communist bloc activities or projects.
43. FAA §.620(i). Existence of determination that the country is engaging in or preparing for aggressive military efforts.
43. Pakistan is not ineligible under this section.
44. FAA §.620(i). Information on representation of the country at any international conference when that representation includes the planning of activities involving insurrection or subversion against the U. S. or countries receiving U. S. assistance.
44. Pakistan has not participated in such conferences and is not ineligible under this section.
45. FAA §.620(j). Indonesia restriction.
45. Not applicable.
46. FAA §.620(k). If construction of productive enterprise where aggregate value of assistance to be furnished by U. S. will exceed \$100 million, identification of statutory authority.
46. The loan will not exceed this amount.
47. FAA §.620(l). Consideration which has been given to denying assistance to the government of a country which after December 31, 1966, has failed to institute the investment guaranty program for the specific risks of inconvertibility and expropriation or confiscation.
47. Pakistan has instituted an investment guaranty program covering everything but war risks.
48. FAA §.620(m); App. §.107(b); App. §.116. Compliance with prohibitions against assistance to countries which traffic or permit trafficking with North Viet-Nam.
48. Pakistan does not traffic or permit trafficking with North Viet-Nam.

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| 49. <u>FAA §.620(o)</u> . If country has seized, or imposed any penalty or sanction against, any U. S. fishing vessel on account of its fishing activities in international waters, information on the consideration which has been given to excluding the country from assistance. | 49. Pakistan is not ineligible under this statute. |
| 50. <u>FAA §.620(p); App. §.117</u> . U. A. R. restriction. | 50. Not applicable. |
| 51. <u>FAA §.620(q)</u> . Existence of default under any Foreign Assistance Act loan to the country. | 51. Pakistan is not in default, under any FAA loan. |
| 52. <u>App. §.102</u> . Compliance with requirement that payments in excess of \$25,000 for architectural and engineering services on any one project be reported to Congress. | 52. Architectural and engineering services contracts financed from the loan would be reported to Congress. |
| 53. <u>App. §.104</u> . Compliance with bar against funds to pay pensions, etc., for military personnel. | 53. Funds from the loan would not be used for paying pensions. |
| 54. <u>App. §.106</u> . If country attempts to create distinctions because of their race or religion among Americans in granting personal or commercial access or other rights otherwise available to U. S. citizens generally, application which will be made in negotiations of contrary principles as expressed by Congress. | 54. Pakistan does not create such distinctions. |
| 55. <u>App. §.111</u> . Compliance with existing requirements for security clearance of personnel. | 55. Security clearances of personnel under contracts for services will be obtained as required. |
| 56. <u>App. §.112</u> . Compliance with requirement for approval of contractors and contract terms for capital projects. | 56. This will be provided for in the Loan Agreement. |
| 57. <u>App. §.114</u> . Compliance with bar against use of funds to pay assessments, etc., of U. N. member. | 57. The loan funds would not be used to pay U.N. assessments. |
| 58. <u>App. §.115</u> . Compliance with regulations on employment of U. S. and local personnel for funds obligated after April 30, 1964 (Regulation 7). | 58. Regulations regarding use of U.S. and local personnel will be complied with. |
| 59. <u>App. §.118</u> . Viet-Nam iron and steel restrictions. | 59. This provision will be complied with. |
| 60. <u>App. §.401</u> . Compliance with bar against use of funds for publicity or propaganda purposes within U. S. not heretofore authorized by Congress. | 60. None of the loan funds would be used for publicity or propaganda purposes within the U.S. |

CAPITAL ASSISTANCE LOAN AUTHORIZATION

Provided from Development Loan Funds

PAKISTAN: CONSULTING SERVICES FOR EAST PAKISTAN WATER AND
POWER DEVELOPMENT AUTHORITY

Pursuant to the authority vested in the Assistant Administrator, Bureau for Near East and South Asia of the Agency for International Development (hereafter called the "A.I.D.") by the Foreign Assistance Act of 1961, as amended, and the Delegations of Authority issued thereunder, I hereby authorize the establishment of a loan pursuant to Part I, Chapter 2, Title I, the Development Loan Fund to the President of the Government of Pakistan of not to exceed Two Million Four Hundred Thousand Dollars (\$2,400,000) to assist in financing the foreign exchange costs of services and goods required for the providing of general and specialized consulting and training services to the East Pakistan Water and Power Development Authority (EPWAPDA) to assist in its programs for water and power development. This loan is to be subject to the following terms and conditions:

1. Interest and Terms of Repayment. The interest on the loan shall be one percent (1%) per annum on the disbursed balance of the loan during the grace period and thereafter two and one-half percent (2-1/2%) per annum. The loan shall be repaid within forty (40) years from the date of the first disbursement under the loan, including a grace period of not to exceed ten (10) years.
2. Currency of Repayment. Provision shall be made for repayment of the loan and payment of the interest in United States Dollars.

3. Other Terms and Conditions:

(a) Goods, materials and services financed under the loan shall be procured from the United States of America;

(b) Relending; terms or other similar financial arrangements by the Borrower shall be subject to A.I.D. approval;

(c) A.I.D. will require satisfactory evidence that the required local currency has been or will be made available; and

(d) This loan will be subject to such other terms and conditions as the A.I.D. may deem advisable.

Assistant Administrator
Bureau for Near East and South Asia

Date

A. I. D. Loan No. 391-H-

LOAN AGREEMENT

(Pakistan: East Pakistan Water And Power Development Authority)

BETWEEN THE

PRESIDENT OF PAKISTAN

AND THE

UNITED STATES OF AMERICA

DRAFT

April 26, 1967

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LOAN AGREEMENT dated
between the PRESIDENT OF PAKISTAN ("Borrower") and the
UNITED STATES OF AMERICA, acting through the AGENCY FOR
INTERNATIONAL DEVELOPMENT ("A.I.D.").

ARTICLE I

The Loan

SECTION 1.01. The Loan. A.I.D. agrees to lend to the Borrower pursuant to the Foreign Assistance Act of 1961, as amended, an amount not to exceed Two Million Four Hundred Thousand United States Dollars (\$2,400,000) ("Loan") to assist the Borrower in carrying out the Project referred to in Section 1.02 ("Project"). The Loan shall be used exclusively to finance United States Dollar costs of goods and services required for the Project ("Dollar Costs"). The aggregate amount of disbursements under the Loan is hereinafter referred to as "Principal".

SECTION 1.02. The Project. As used in this Agreement "Project" shall mean the provision of general and specialized consulting services to East Pakistan Water and Power Development Authority (EPWAPDA) for a period of approximately two years. The general consulting services will assist EPWAPDA in planning and in project implementation and will emphasize training of EPWAPDA staff

personnel to improve the technical and engineering capabilities of EPWAPDA. The specialized consulting services shall consist of the provision of specialists to advise the EPWAPDA Dredger Organization and Mechanical Equipment Organization and consultants to handle special problems. The Project is more fully described in Annex I, attached hereto, which Annex may be modified in writing. The goods and services to be financed under the Loan shall be listed in the implementation letters referred to in Section 9.03 ("Implementation Letters").

ARTICLE II

Loan Terms

SECTION 2.01. Interest. The Borrower shall pay to A.I.D. interest which shall accrue at the rate of one percent (1%) per annum for ten years following the date of the first disbursement hereunder and at the rate of two and one-half percent (2-1/2%) per annum thereafter on the outstanding balance of Principal and on any due and unpaid interest. Interest on the outstanding balance shall accrue from the date of each respective disbursement as such date is defined in Section 7.04, and shall be computed on the basis of a 365-day year. Interest shall be payable semi-annually. The first payment of interest shall be due and payable no later than

six (6) months after the first disbursement hereunder, on a date to be specified by A.I.D.

SECTION 2.02. Repayment. The Borrower shall repay to A.I.D. the Principal within forty (40) years from the date of the first disbursement hereunder in sixty-one (61) approximately equal semi-annual installments of principal and interest. The first installment of Principal shall be payable nine and one-half (9-1/2) years after the date on which the first interest payment is due in accordance with Section 2.01. A.I.D. shall provide the Borrower with an amortization schedule in accordance with this Section after the final disbursement under the Loan.

SECTION 2.03. Application, Currency and Place of Payment. All payments of interest and Principal hereunder shall be made in United States dollars and shall be applied first to the payment of interest due and then to the repayment of Principal. Except as A.I.D. may otherwise specify in writing, all such payments shall be made to the Controller, Agency for International Development, Washington, D. C. U.S.A., and shall be deemed made when received by the Officer of the Controller.

SECTION 2.04. Prepayment. Upon payment of all interest and refunds then due, the Borrower may prepay, without penalty, all or any part of the Principal. Any such prepayment shall be applied to the installments of Principal in the inverse order of their maturity.

SECTION 2.05. Renegotiation of the Terms of the Loan. The Borrower agrees to negotiate with A.I.D., at such time or times as A.I.D. may request, an acceleration of the repayment of the Loan in the event that there is any significant improvement in the internal and external economic and financial position and prospects of the country of the Borrower.

ARTICLE III

Conditions Precedent to Disbursement

SECTION 3.01. Conditions Precedent to Any Disbursement. Prior to the first disbursement or to the issuance of the first Letter of Commitment under the Loan, the Borrower shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D. in form and substance satisfactory to A.I.D.:

(a) An opinion of the Minister of Law of Pakistan or of other counsel acceptable to A.I.D. that this Agreement has been duly

authorized or ratified by, and executed on behalf of the Borrower, and that it constitutes a valid and legally binding obligation of the Borrower in accordance with all of its terms;

(b) Evidence of the authority of the person or persons who will act as the representative or representatives of Borrower specified in Section 3.02 and a specimen signature of each such person certified as to its authenticity by either the person who renders the legal opinion or the person who executes the Agreement;

(c) The relending or other financial arrangements with regard to the use of the funds provided hereunder;

(d) Evidence that arrangements have been made for funds other than those provided hereunder which are necessary for the timely completion of the Project;

SECTION 3.02. Additional Conditions Precedent. Prior to any disbursement or to the issuance of any Letter of Commitment under the Loan made with respect to general consulting services, consulting services to the Dredging Organization and the Mechanical Equipment Organization, and the special consultants the Borrower shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D. in form and substance satisfactory to A.I.D:

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(a) Executed contracts, or amendments to existing contracts, which are acceptable to A.I.D. for general consulting services, specialized consulting services to the Dredging Organization and the Mechanical Equipment Organization and other special consultants, with firms acceptable to A.I.D.

(b) Such additional documents and submissions in respect to the Project as A.I.D. may reasonably request.

SECTION 3.03. Terminal Dates for Meeting Conditions Precedent to Disbursement

(a) If all the conditions specified in Section 3.01 shall not have been met within sixty (60) days from the date of this Agreement, or such later date as A.I.D. may agree in writing, A.I.D. at its option may terminate this Agreement by giving written notice to the Borrower. Upon giving of such notice, this Agreement and all obligations of the parties thereunder shall terminate.

(b) A.I.D. shall notify the Borrower of the terminal dates for meeting the various conditions specified in Section 3.02.

SECTION 3.04. Notification of Meeting of Conditions Precedent to Disbursement. A.I.D. shall notify the Borrower upon determination by A.I.D. that the conditions precedent to disbursement have been met.

ARTICLE IV

General Covenants and Warranties

SECTION 4.01. Execution of the Project.

(a) The Borrower shall carry out the Project with due diligence

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and efficiency, and in conformity with sound engineering, financial and administrative practices.

(b) The Borrower shall cause the Project to be carried out in conformity with all of the plans, contracts, schedules and other arrangements, and with all modifications therein, approved by A.I.D. pursuant to this agreement. Borrower shall obtain A.I.D. concurrence prior to any material modification or cancellation of any such arrangements, contracts, plans, specifications, or other documents or submissions.

SECTION 4.02. Funds and Resources to be Provided by Borrower.

The Borrower shall provide promptly as needed all funds, in addition to the Loan, and all other resources required for the punctual and effective carrying out of the Project.

SECTION 4.03. Continuing Consultation. The Borrower and A.I.D. shall cooperate fully to assure that the purpose of the Loan will be accomplished. To this end, the Borrower and A.I.D. shall from time to time, at the request of either party, exchange views through their representatives with regard to the progress of the Project, the performance of the consultants, and other matters relating to the Project..

SECTION 4.04. Taxation. This Agreement, the amount agreed to be lent hereunder and any evidences of indebtedness issued in connection herewith shall be free from, and the Principal and Interest shall be paid without deduction for and ^{be} free from, any taxation or fees imposed under the laws in effect within the country of the Borrower. To the extent that (a) any contractor including any consulting firm, financed hereunder, any personnel of such contractor and any property or transactions relating to such contracts and (b) any commodity procurement transaction financed hereunder, are not exempt from identifiable taxes, tariffs, duties and other levies imposed under laws in effect in the country of the Borrower, the Borrower shall pay or reimburse the same under Section 4.02 of this Agreement with funds other than those provided under the Loan.

SECTION 4.05. Utilization of Goods and Services

(a) Goods and services financed under the Loan shall be used exclusively for the Project, except as A.I.D. may otherwise agree in writing.

(b) Except as A.I.D. may otherwise agree in writing, no goods or services financed under the Loan shall be used to promote or assist any foreign aid project or activity associated with

or financed by any country not included in Code 935 of the A.I.D. Geographic Code Book as in effect at the time of such use.

SECTION 4.06 . Disclosure of Material Facts and Circumstances.

The Borrower represents and warrants that it has disclosed to A.I.D. accurately and completely, all facts and circumstances that might materially affect the Project and the discharge of its obligations under this Agreement. The Borrower shall promptly inform A.I.D. of any facts and circumstances that may hereafter arise that might materially affect, or that it is reasonable to believe might materially affect the Project or the discharge of the Borrower's obligations under this Agreement.

SECTION 4.07. Commissions, Fees and Other Payments.

(a) Borrower warrants and covenants that in connection with obtaining the Loan, or taking any action under or with respect to this Agreement, it has not paid, and will not pay or agree to pay, nor to the best of its knowledge has there been paid nor will there be paid or agreed to be paid by any other person or entity, commissions, fees or other payments of any kind, except as regular compensation for bona fide professional, technical or comparable services. The Borrower shall promptly report to A.I.D. any payment or agreement to pay for such bona fide professional, technical or comparable services to which it is a party or of which it has knowledge (indicating

whether such payment has been made or is to be made on a contingent basis), and if the amount of any such payment is deemed unreasonable by A.I.D., the same shall be adjusted in a manner satisfactory to A.I.D.

(b) The Borrower covenants that no payments have been or will be received by the Borrower, or any official of the Borrower, in connection with the procurement of goods and services financed hereunder, except fees, taxes or similar payments legally established in the country of the Borrower.

(c) A.I.D. from time to time may issue binding instructions concerning the eligibility for financing hereunder of commissions, including brokerage commissions and commissions paid to sales agents of suppliers, and allowances to purchasing agents or importers. Borrower agrees to comply with such instructions, to promptly report to A.I.D. any payment or allowance, or agreement to pay or permit any commissions or allowances, covered by such instructions of which it has knowledge and to reimburse A.I.D. on request, in the amount of any payment or allowance made or permitted contrary to such instructions; provided, however, that this paragraph shall apply only to commissions or allowances arising from contracts or orders made or placed after the receipt by Borrower of notice of such instructions.

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SECTION 4.10. Maintenance and Audit of Records. The Borrower shall maintain, or cause to be maintained, in accordance with sound accounting principles and practices consistently applied, books and records relating both to the Project and to this Agreement. Such books and records shall, without limitation, be adequate to show:

(a) the receipt and use made of goods and services acquired with funds disbursed pursuant to this Agreement;

(b) the nature and extent of solicitations of prospective suppliers of goods and services acquired;

(c) the basis of the award of contracts and orders to successful bidders; and

(d) the progress of the Project.

Such books and records shall be regularly audited, in accordance with sound auditing standards, for such period and at such intervals as A.I.D. may require, and shall be maintained for five years after the date of the last disbursement by A. I. D. or until all sums due A.I.D. under this Agreement have been paid, whichever date shall first occur.

SECTION 4.11. Reports. The Borrower shall furnish to A.I.D. such information and reports relating to the Loan and to the Project as A.I.D. may request.

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SECTION 4.12. Inspections. The authorized representatives of A.I.D. shall have the right at all reasonable times to inspect the Project, the utilization of all goods and services financed under the Loan, and the Borrower's books, records and other documents relating to the Project and the Loan. The Borrower shall cooperate with A.I.D. to facilitate such inspections and shall permit representatives of A.I.D. to visit any part of the country of the Borrower for any purpose relating to the Loan.

ARTICLE V

Procurement

SECTION 5.01. Procurement from the United States. Except as A.I.D. may otherwise agree in writing, disbursements made pursuant to Section 6.01 shall be used exclusively to finance the procurement for the Project of goods and services having both their source and origin in the United States of America. Ocean shipping and marine insurance financed under the Loan shall have both their source and origin in the United States of America.

SECTION 5.02. Eligibility Date. Except as A.I.D. may otherwise agree in writing, no goods or services may be financed under the Loan which are procured pursuant to orders or contracts firmly placed or entered into prior to the date of this Agreement.

SECTION 5.03. Goods and Services to be Financed Under Loan.

Except as A.I.D. may otherwise agree in writing, goods and services

procured for the Project, but not financed under the Loan, shall have their source and origin in countries included in Code 935 of the A.I.D. Geographic Code Book as in effect at the time orders are placed for such goods and services.

SECTION 5.04. Implementation of Procurement Requirements.

The definitions applicable to the eligibility requirements of Sections 5.01 and 5.03 will be set forth in detail in Implementation Letters.

SECTION 5.05. Reasonable Price. No more than reasonable prices shall be paid for any goods or services financed, in whole or in part under the Loan. Such items shall be procured on a fair and, except for professional services, on a competitive basis in accordance with procedures therefor prescribed in Implementation Letters.

SECTION 5.06. Shipping and Insurance.

(a) Goods procured from the United States and financed under the Loan shall be transported to the country of the Borrower on flag carriers of any country included in Code 935 of the A.I.D. Geographic Code Book as in effect at the time of shipment.

(b) At least fifty percent (50%) of the gross tonnage of all goods procured from the United States and financed under the Loan (computed separately for dry bulk carriers, dry cargo liners

and tankers) which shall be transported on ocean vessels shall be transported on privately-owned United States-flag commercial vessels unless A.I.D. shall determine that such vessels are not available at fair and reasonable rates for United States flag commercial vessels. No such goods may be transported on any ocean vessel (or aircraft)(i) which A.I.D., in a notice to the Borrower, has designated as ineligible to carry A.I.D. financed goods or (ii) which has been chartered for the carriage of A.I.D. financed goods unless such charter has been approved by A.I.D.

(c) If in connection with the placement of marine insurance on shipments financed under United States legislation authorizing assistance to other nations, the country of the Borrower, by statute, decree, rule or regulation, favors any marine insurance company of any country over any marine insurance company authorized to do business in any state of the United States of America, goods procured from the United States and financed under the Loan shall during the continuance of such discrimination be insured against marine risk in the United States of America with a company or companies authorized to do a marine insurance business in any state of the United States of America.

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(d) The Borrower shall insure, or cause to be insured, all goods procured in the United States and financed under the Loan against risks incident to their transit to the point of their use in the Project. Such insurance shall be issued upon terms and conditions consistent with sound commercial practice, shall insure the full value of the goods, and shall be payable in the currency in which such goods were financed. Any indemnification received by the Borrower under such insurance shall be used to replace or repair any material damage or any loss of the goods insured or shall be used to reimburse the Borrower for the replacement or repair of such goods. Any such replacements shall be of United States source and origin and otherwise subject to the provisions of this Agreement.

SECTION 5.07. Notification to Potential Suppliers. In order that all United States firms shall have the opportunity to participate in furnishing goods and services to be financed under the Loan, the Borrower shall furnish to A.I.D. such information with regard thereto, and at such times, as A.I.D. may request in Implementation Letters.

SECTION 5.08. United States Government-Owned Excess Property. The Borrower shall utilize, with respect to goods financed under the Loan to which the Borrower takes title at the time of procurement, such reconditioned United States Government-Owned Excess Property as may be consistent with the requirements of the Project and as may be available with ⁱⁿ a reasonable period of time. The Borrower

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shall seek assistance from A.I.D. and A.I.D. will assist the Borrower in ascertaining the availability of and in obtaining such Excess Property. A.I.D. will make arrangements for any necessary inspection of such property by the Borrower or its representative. The costs of inspection and of acquisition, and all charges incident to the transfer to the Borrower of such excess Property, may be financed under the Loan. Prior to the procurement of any goods, other than Excess Property, financed under the Loan and after having sought such A.I.D. assistance, the Borrower shall indicate to A.I.D. in writing, on the basis of information then available to it, either that such goods cannot be made available from reconditioned United States Government-Owned Excess Property on a timely basis or that the goods that can be made available are not technically suitable for use in the Project.

SECTION 5.09. Information and Marking. Borrower shall give publicity to the Loan and the Project as a program of United States aid, identify the Project site, and mark goods financed under the Loan, as prescribed in Implementation Letters.

ARTICLE VI

Disbursements

SECTION 6.01. Disbursements for United States Dollar Costs - Letters of Commitment to United States Banks. Upon satisfaction of conditions precedent, the Borrower, may from time to time, request A.I.D. to

issue Letters of Commitment for specified amounts to one or more United States banks, satisfactory to A.I.D., committing A.I.D. to reimburse such bank or banks for payments made by them to contractors or suppliers, through the use of Letters of Credit or otherwise, for Dollar Costs of goods and services procured for the Project in accordance with the terms and conditions of this Agreement. Payment by a bank to a contractor or supplier will be made by the bank upon presentation of such supporting documentation as A.I.D. may prescribe in Implementation Letters. Banking charges incurred in connection with Letters of Commitment and Letters of Credit shall be for the account of the Borrower and may be financed under the Loan.

SECTION 6.02. Other Forms of Disbursement. Disbursements of the Loan may also be made through such other means as the Borrower and A.I.D. may agree to in writing.

SECTION 6.03. Date of Disbursement. Disbursements by A.I.D. shall be deemed to occur in the case of disbursements pursuant to Section 6.01, on the date on which A.I.D. makes a disbursement to the Borrower, to its designee, or to a banking institution pursuant to a Letter of Commitment.

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SECTION 6.04. Terminal Date for Disbursement. Except as A.I.D. may otherwise agree in writing, no Letter of Commitment or amendment thereto shall be issued in response to requests received by A.I.D. after June 30, 1969, and no disbursement shall be made against documentation received by A.I.D. or any bank described in Section 6.01 after June 30, 1970. A.I.D., at its option, may at any time or times after June 30, 1969, reduce the Loan by all or any part thereof for which documentation was not received by such date.

ARTICLE VII

Cancellation and Suspension

SECTION 7.01. Cancellation by the Borrower. The Borrower may, with the prior written consent of A.I.D., by written notice to A.I.D. cancel any part of the Loan (i) which, prior to the giving of such notice, A.I.D. has not disbursed or committed itself to disburse or (ii) which has not then been utilized through the issuance of irrevocable Letters of Credit or through bank payments made other than under irrevocable Letters of Credit.

SECTION 7.02. Events of Default; Acceleration. If any one or more of the following events ("Events of Default") shall occur:

(a) The Borrower shall have failed to pay when due any interest or installment of Principal required under this Agreement;

(b) The Borrower shall have failed to comply with any other provision of this Agreement, including, but without limitation, the obligation to carry out the Project with due diligence and efficiency;

(c) The Borrower shall have failed to pay when due any interest or any installment of Principal or any other payment required under any other loan agreement, any guaranty agreement, or any other agreement between the Borrower or any of its agencies and A.I.D. or any of its predecessor agencies, then A.I.D. may, at its option, give to the Borrower notice that all or any part of the unrepaid Principal shall be due and payable sixty (60) days thereafter, and, unless the Event of Default is cured within such sixty (60) days:

(i) such unrepaid Principal and any accrued interest hereunder shall be due and payable immediately, and

(ii) the amount of any further disbursements made under then outstanding irrevocable Letters of Credit or otherwise shall become due and payable as soon as made.

SECTION 7.03. Suspension of Disbursements. In the event that at any time:

(a) An event of default has occurred;

(b) An event occurs that A.I.D. determines to be an extraordinary situation that makes it improbable either that the purpose of the Loan will be attained or that the Borrower will be able to perform its obligations under this Agreement.

(c) Any disbursement would be in violation of the legislation governing A.I.D., or

(d) The Borrower shall have failed to pay when due any interest or any installment of principal or any other payment required under any other loan agreement, any guaranty agreement or any other agreement between the Borrower or any of its agencies and the Government of the United States or any of its agencies., then A.I.D. may, at its option:

(i) Suspend or cancel outstanding commitment documents to the extent that they have not been utilized through the issuance of irrevocable Letters of Credit or through bank payments made other than under irrevocable Letters of Credit, in which event A.I.D. shall give notice to the Borrower promptly thereafter;

(ii) Decline to make disbursements other than under outstanding commitment documents;

(iii) Decline to issue additional commitment documents, and

(iv) At A.I.D.'s expense, direct that title to goods financed under the Loan shall be transferred to A.I.D. if the goods are from a source outside the country of the Borrower, are in a deliverable state and have not been offloaded in ports of entry of the country of the Borrower, Any disbursement made or to be made under the Loan with respect to such transferred goods shall be deducted from Principal.

SECTION 7.04. Cancellation by A.I. D. Following any suspension of disbursements pursuant to Section 7.03, if the cause or causes for such suspension of disbursements shall not have been eliminated or corrected within sixty (60) days from the date of such suspension, A.I.D. may, at its option, at any time or times thereafter, cancel all or any part of the Loan that is not then either disbursed or subject to irrevocable Letters of Credit.

SECTION 7.05. Continued Effectiveness of Agreement. Notwithstanding any cancellation, suspension of disbursement or acceleration of repayment, the provision of this Agreement shall continue in full force and effect until the payment in full of all Principal and any accrued interest hereunder.

SECTION 7.06. Refunds.

(a) In the case of any disbursement not supported by valid documentation in accordance with the terms of this Agreement, or of any disbursement not made or used in accordance with the terms of this Agreement, A.I.D., notwithstanding the availability or exercise of any of the other remedies provided for under this Agreement, may require the Borrower to refund such amount in United States dollars to A.I.D. within thirty days after receipt of a request therefor. Such amount shall be made available first for the cost of goods and services procured for the Project hereunder, to the extent justified; the remainder, if any, shall be applied to the installments of Principal

in the inverse order of their maturity. Notwithstanding any other provision in this Agreement, A.I.D.'s right to require a refund with respect to any disbursement under the Loan shall continue for five years following the date of such disbursement.

(b) In the event that A.I.D. receives a refund from any contractor, supplier, or banking institution, or from any other third party connected with the Loan, with respect to goods or services financed under the Loan, and such refund relates to an unreasonable price for goods or services, or to goods that did not conform with specifications, or to services that were inadequate, A.I.D. shall first make such refund available for the cost of goods and services procured for the Project hereunder, to the extent justified, the remainder to be applied to the installments of Principal in the inverse order of their maturity.

SECTION 7.07. Expenses of Collection. All reasonable costs incurred by A.I.D., other than salaries of its staff, in connection with the collection of any refund or in connection with amounts due A.I.D. by reason of the occurrence of any of the events specified in Section 7.02 may be charged to the Borrower and reimbursed to A.I.D. in such manner as A.I.D. may specify.

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SECTION 7.08. Non-Waiver of Remedies. No delay in exercising or omission to exercise any right, power, or remedy accruing to A.I.D. under this Agreement shall be construed as a waiver of any of such rights, powers or remedies.

ARTICLE VIII

Miscellaneous

SECTION 8.01. Communications. Any notice, request, document or other communication given, made or sent by the Borrower or A.I.D. pursuant to this Agreement shall be in writing or by telegram, cable or radiogram and shall be deemed to have been duly given, made or sent to the party to which it is addressed when it shall be delivered to such party by hand or by mail, telegram, cable or radiogram at the following addresses:

TO BORROWER:

Mail Address: Secretary to the Government of Pakistan
President's Secretariat
Economic Affairs Division
Islamabad, Pakistan

Cable Address: ECONOMIC
Islamabad

TO A.I.D.:

Mail Address: United States Agency for International Development
Alfalah Building, The Mall
Lahore, Pakistan

Cable Address: USAIDPAK
Lahore

Borrower in addition, shall provide the USAID Mission in the country of the Borrower with a copy of each communication sent to A. I. D. Other addresses may be submitted for the above upon the giving of notice.

All notices, requests, communications and documents submitted to A.I.D. hereunder shall be in English, except as A.I.D. may otherwise agree in writing.

SECTION 8.02. Representatives. For all purposes relative to this Agreement, the Borrower will be represented by the individual holding or acting in the office of _____ and A.I.D. will be represented by the individual holding or acting in the office of _____. Such individuals shall have the authority to designate by written notice additional representatives. In the event of any replacement or other designation of a representative hereunder, Borrower shall submit a statement of the representative's name and specimen signature in form and substance satisfactory to A.I.D. Until receipt by A.I.D. of written notice of revocation of the authority of any of the duly authorized representatives of the Borrower designated pursuant to this Section, it may accept the signature of any such representative or representatives as conclusive evidence that any action effected by such instrument is duly authorized.

SECTION 8.03. Implementation Letters. A.I.D. shall from time to time issue Implementation Letters that will prescribe the procedures applicable hereunder in connection with the implementation of this Agreement.

SECTION 8.04. Promissory Notes. At such time or times as A.I.D. may request, the Borrower shall issue promissory notes or such other evidences of indebtedness with respect to the Loan, in such form, containing such terms and supported by such legal opinions as A.I.D. may reasonably request.

SECTION 8.05. Termination Upon Full Payment. Upon payment in full of the Principal and of any accrued interest, this Agreement and all obligations of the Borrower and A.I.D. under this Loan Agreement shall terminate.

IN WITNESS WHEREOF, Borrower and the United States of America, each acting through its respective duly authorized representative, have caused this Agreement to be signed in their names and delivered as of the day and year first above written.

By: _____

Title: _____

UNITED STATES OF AMERICA

By: _____

Title: _____