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**Bangladesh Agricultural Development Corporation
USAID Fertilizer Distribution
Improvement Grant 388-0024**

**Engineering Consultancy Services
Contract for Bagged Product
Fertilizer Warehouses Project**

MONTHLY PROGRESS REPORT NO. 5

FEBRUARY 1980

**CONSULTING
ENGINEERS
INTERNATIONAL ENGINEERING COMPANY, INC.
A MORRISON-KNUDSEN COMPANY**

CONTRACT 9074

10 March 1980

BANGLADESH AGRICULTURAL DEVELOPMENT CORPORATION
ENGINEERING CONSULTANCY SERVICES CONTRACT
FOR BAGGED PRODUCT FERTILIZER
WAREHOUSES PROJECT

INTERNATIONAL ENGINEERING COMPANY, INC.
CONSULTING ENGINEERS

MONTHLY PROGRESS REPORT NO. 5
FOR THE PERIOD FEBRUARY 1-29, 1980

1. GENERAL:

DCS, IECO's associated subcontractor, increased its technical staff during February to cope with expanding office engineering and site investigation workload. A Senior Engineer, four draftsmen, a Soils Assistant, and five Survey Party personnel were hired, bringing DCS staff to fifty six.

Additional ground floor office space at House No. 29, Road 8 was devoted to warehouse project work and preliminary plans made for establishment of a soils and materials testing laboratory adjacent to DCS ground floor offices.

Site investigations were made at Shiromoni and Barisal, schematic layouts of facilities at Shiromoni, Baghabari and Demra were developed, and topographic surveys were made at twenty five sites.

2. CONTRACT ADMINISTRATION:

Housing

- Air Conditioner installation was nearly completed in February at all houses. An electrical crew started through the houses doing a complete electrical survey; making sure all wiring was adequate, balancing the power load, and replacing switches which were burned out. When complete this will make the houses more liveable as well as greatly reduce the risk of fire from faulty electrical systems.

Project Vehicles

- Petrobangla furnished a sales price to BADC at which they will sell the two Sedans. The second of these Sedans was taken over on a rental basis until the purchase by BADC is made.
- No decision was made during February by the Planning Commission regarding the disposition of the four Ram Chargers and other small equipment requested by IECC.
- One rental Sedan was returned.
- There was no net change in the number of project vehicles in use.

Procurement

- Offshore procurement status, major items:
 - Stencil Machine - arrived, cleared.
 - White Print Machine - at customs.
 - IBM Typewriters - ETA early April.
 - Kitchen fans - ETA early March.
 - Kitchen Ranges - ETA 12 April. Surface Shipment.
 - Soils Lab Equip.-90% ETA early March.
 - Survey equipment - Vendor delivery March 1, 15 and April 3. Will airfreight partial's.
- Local procurement. A waiver to allow purchase through a local dealer of a Xerox machine was in process at AID.

Routine local purchases included 2 manual typewriters, tires, engineering supplies, office furniture, a tent for the soils field crew and other miscellaneous supplies.

Work Orders written were for soils sampling and testing and electrical work at residences.

- Import Privilege** - A second letter granting prior permission to import project equipment was received. All equipment specified in the contract is now covered by a permit except the generators, which require approval from a separate government agency, and U.S.-made vehicles. A waiver to permit purchase of non-U.S. motorcycles was requested of USAID with the matter in USAID hands at the end of the month.
- Insurance** - An insurance survey was made by the local Lloyds agent to assess damage to some washers, dryers and refrigerators which were received damaged. Damage was not extensive but some repair was necessary. Damage was apparently due to poor export packing by the vendor.

3. CONTRACT EXPENDITURES:

The financial report for February shows the following reimbursable Taka expenditures:

Local Salaries	26,481.00
Office Supplies & Expenses	38,004.93
Office Furniture & Equipment	65,138.00
Vehicle Expenses	108,479.10
Soils Lab	33,715.00
House Rent	10,000.00
House Furniture & Equipment	4,679.52
DCS	166,804.67
Customs Clearance	16,677.91
House Maintenance	7,294.00
Other	1,710.00
	<u>1,710.00</u>
Taka	478,984.13

Expenses reimbursable through the BADC Ten Lakh Taka Revolving Fund were Tk.84,998.93. This covered duties and taxes for the stencil machine and office supplies.

Invoices for dollar and taka expenditures incurred during December 1979 were submitted to AID and BADC on 8 Feb.

The Expenditure Budget through Dec. 1979 is appended.

4. EXPATRIATE STAFF:

The Htay family and Mr. Lim received multiple visas and Privileged-Person Books.

5. ENGINEERING STUDIES:

Site Investigations and Site Development Planning.

The BADC/IECO site investigation team viewed the Shiromoni site facilities, and the proposed Barisal site on Feb. 6-8. The Shiromoni facility is a 7,500 ton capacity warehouse 300 feet from the river bank, with non-permanent ramps for unloading the barges arriving from Chalna, Chittagong and Ghorasal. The nearest railhead is several miles distant, though the small "Shiromoni Station" stop on the broad-gauge main line is only a mile from the BADC warehouse.

The 6.5 acre site at Barisal is well located near the river, but will require a lease from BMTA to permit installation of marine facilities to handle barges and coasters. There are two uncompleted 2000-ton Hardcore Program warehouse buildings on the site. Construction has been suspended for over two years, we understand. If it can be arranged, these should be completed as part of the Phase II construction program; and to meet 1985 PDP warehouse capacity requirements, an additional building of 3,500 tons capacity constructed.

Site development planning to extend rail service to BADC's Shiromoni site, provide barge unloading facilities and lay out major additions to the storage capacity on site, was a major activity during February. Plans for development of the Demra site rail-and-road access facilities were also prepared. These sites as well as others with rail facilities are slated for discussions with the Bangladesh Railway authorities in March, as preliminary schematic layouts are developed.

A World Bank Mission team was in Bangladesh during February to make arrangements to finance a number of transportation improvements. The intended investment program includes financing improvements to the meter gauge rail ferry service across the Jamuna river between Bahadurabad and Phulchari Ghat; financing rehabilitation of 600 railway wagons (both meter gauge and broad gauge) for unit trains dedicated to BADC's fertilizer shipments; and financing selected port improvements, notably development of the port site at Baghabari and the facilities required at Shiromoni.

Planned unit train operations, from ports and plants to storage and transshipment points on the rail system, impacts significantly in IECCO's site development planning for the Phase II construction program. Unit train operation to the affected PDP's involves providing rail sidings adjacent to the warehouses with storage capacity for at least 30 rail wagons. At two locations, Parbatipur and Santahar, it may be necessary to provide both meter gauge and broad gauge sidings. The unit train concept accordingly involves significantly more extensive site surveys, site planning with the aid of available vicinity maps and railway station drawings, and planning for railway installations and operations in consultation with Bangladesh Railways. In cooperation with BADC, the groundwork for consultations with the Railways was laid during February, and the first meetings are scheduled during the first half of March.

During February, surveys for sites which had been visited and selected for development planning were carried out at nine locations in Rajshahi Division, six in Chittagong Division, seven in Dacca Division and three in Khulna Division. More extensive surveys are required at some of these locations if transportation studies indicate that unit train operations to the specific destinations should be planned for. Exhibit A "General Site Planning Status" following this text reflects these transportation planning considerations. It will be noted that the site status list is significantly changed from last month's report.

National Fertilizer Storage Plan.

On February 8th, BADC provided IECCO with revised 1984-85 District-wise Fertilizer Sales target figures adopted by the Planning Commission, and was at the same time cited the proposed use of unit trains operating from Shiromoni, Ashuganj and Chittagong. In accordance with BADC's request IECCO is taking the new information into consideration in formulating the NFSP. The new nationwide 1984-85 fertilizer sales target figure 2,030,000 tons, is 23% higher than the BADC/USAID 1,650,000 ton sales target figure used in the Outline NFSP (published in January). The resulting increased storage requirement may result in the addition of some PDP warehouses to the total storage facilities now being planned, as well as increasing the planned size of most of the PDP warehouses.

With information obtained on the District-by-District site selection trips during December and January, IECCO's NFSP planning has identified all of the proposed locations and most of the candidate site properties for thirty one PDP warehouses in Rajshahi Division; and has also accomplished most of the location planning for twenty one proposed PDP locations in Dacca Division. At the end of February, the candidate locations in Dacca Division were scheduled for early review and adoption, in consultation with BADC's Manager of Storage.

A related activity, planning of fertilizer movements from production plants and ports of importation to specific destinations, was in progress during the month. Increased capacity of the meter-gauge rail ferry service to carry shipments of 300,000 tons/year across the Jamuna to the northwest Districts, and utilization of 50-60 wagon unit trains to transport fertilizer to various points in the north and northwest, were considered in the transportation studies. Shipment volumes and routes by mode (rail, road and water), and by product (Urea, TSP, MP), will establish requirements for transit storage capacity and inter-modal transfer facilities at the Transit PDP warehouses. At the end of February, the transportation analysis was still incomplete.

Soils Investigation.

Exploratory drilling at the Demra riverbank site was accomplished during the last half of February. Laboratory tests of the soils are scheduled for early March; and will identify requirements for construction of a hydraulic fill. The drilling crew was scheduled to Shiromoni, Barisal and Chandpur beginning March 2; the program carried out under supervision of IECC technical staff.

Building Design

The question of building type, as between steel frame or concrete frame construction, was under consideration by the BADC Chairman following IECC's presentation of the factors involved on January 30. IECC's Division Chief Engineer and Project Engineer subsequently arrived in Dacca, and at a meeting arranged by Chairman Samad, the Project Engineer presented a detailed report on IECC's research into warehouse building configurations and materials of construction. This meeting took place on February 14.

At client request, IECC's study of building design alternatives carried out early in February had included an evaluation of prestressed concrete. This design was discussed by the Project Engineer at the February 14 presentation, along with presentation of information about other alternative building configurations. This as well as a number of other possible structural systems had been eliminated due to the various disadvantages which they presented. The building-type alternatives identified as offering the best combinations of constructibility with reasonable estimated costs had been narrowed down to a steel frame building constructed as a 20' x 60' repetitive module to make up different sized buildings at various sites, and a concrete frame building also constructed repetitively on a, nominally, 24' x 24' repetitive basis to the total building dimensions required.

Following the February 14 presentation, the Chairman gave the matter further consideration during the next week. On February 22, he advised IECC of his decision to opt for design of a concrete-frame building. IECC will accordingly develop the design and make a submission of preliminary drawings, estimates of cost, etc. in approximately one month.

PROPOSED USAID GRANT-PHASE II PROGRAM
GENERAL SITE PLANNING STATUS

EXHIBIT A Sheet 1 of 7

29 February 1980

	PDP Warehouse Size ('000 Tons)		Change in Status During February	Site Identification Status	Site Purchase/ Acquisition Status	Site Investigation Status	Remarks
	Prev. Prop. Size	NFSP (1985) Req'mt.					
<u>NOVA DIVISION</u> <u>Dacca District</u> Z1 Demra	15	11.5	Resized to new NFSP sales req'mt of 14.5 less 3.0 warehouse to be built at Munshiganj	Fully identified including road access.	Pending. Access rights required.	Surveyed. Exploration drilling completed. Schematic layout made.	Rly. spur & hwy. access rights to be discussed with Bangladesh Rly.'s in March.
A4 Savar	5	-	Proposed as a PDP site.	Not identified or selected.			Joydebpur selected as substitute PDP site.
<u>Kishoreganj Dist.</u> B1 Ashuganj		11	Added as potential location for Ph II warehouse.	Not selected	None	Not reconnoitered. Water/road site necessary. Rail access needed if TSP & NF use rail route.	
B2 Kishoreganj	5.5	9	Resized to new NFSP sales requirement.	Identified	Not owned	Incomplete. Site Surveyed 23/2. Vicinity Maps ordered.	Nominated as Unit Train destination point.
B3 Netrokona	3	5	Resized to new NFSP sales requirement	Not finalized. Could move upto 8 miles east.	Site previously acquired.	Surveyed on 20/2.	Siting study to be made.
<u>Mymensingh & Jamalpur District</u> C6 Sheri (was at Snerpur)	6	6	None	Identified and sketched	Not owned	Incomplete. Barge access. Sheri river to be evaluated.	

PROPOSED USAID GRANT-PHASE II PROGRAM

29 February 1980

GENERAL SITE PLANNING STATUS

	PDP Warehouse Size ('000 Tons)		Change in Status During February	Site Identification Status	Site Purchase Acquisition Status	Site Investigation Status	Remarks
	Prev. Prop. Size	NFSP (1985) Req't					
Mymensing	7	8	Resized to new NFSP sales requirement.	Identified	Purchased	Surveyed 16/2. Considered as a partial site (of 3000 ton size). Additional site required.	Nominated as a Unit Train destination point. Priority site for development.
Shambujanj	-	4	Added site. Across river from Mymensingh.	Identified.	Not owned.	Surveyed 16/2. Vicinity map requested. Needs rail access.	Nominated as a unit train destination point. Priority site for development
Jamalpur	4	8.5	Reestablished as transit point & resized to new NFSP sales requirement	Identified	Not owned.	Surveyed 11/2. Vicinity map requested. Road access needs improvement.	Nominated as a Unit Train destination point.
<u>Rail District</u> Madhupur	7	8	Resized to new NFSP sales requirement.	Identified	Not owned.	Surveyed.9/2.	To be developed as road access PDP. Priority site for development.
<u>CHITTAGONG DIVISION</u> Chittagong Dist. Chittagong	4	7	Resized to new NFSP Sales requirement	Nominated site to be evaluated in March.	Undetermined	Survey to be scheduled following evaluation.	Unit train service may operate from new or existing godowns.
Cox's Bazar	3	4	Resized.	Identified. Inadequate size of plot.	Partial property acquired.	Required property mapped and recommendation for additional purchase made	Barge access point is required.
Dohazari	6	6	No change.	Not identified.	None	Not surveyed. Site I.D. trip to be scheduled.	

PROPOSED USAID GRANT-PHASE II PROGRAM
GENERAL SITE PLANNING STATUS

EXHIBIT A

Sheet 3 of 7

29 February 1980

	PDP Warehouse Size ('000 Tons)		Change in Status During February	Site Identification Status	Site Purchase Acquisition Status	Site Investigation Status	Remarks
	Prev. Prop. Size	NFSP (1985) Req't					
Chakaria	2.5	3	Resized.	Not Identified.	Not owned.	No suitable site yet found. Site I.D. trip to be scheduled.	A site with both water and road access is required.
Sandwip	3	1.5	Size subject to study of resupply problem.	BADC reports site available	None	Site visit planned for March 14, weather permitting.	
<u>Khali District</u> Chamuhani	5	9.0	Resized to new NFSP sales requirement.	Acquired site has inadequate access.	Site unsuitable	Surveyed Feb. 2. New site with adequate rail & road access is needed.	Proposed to locate and survey a suitable site ± 5 miles north - during March.
Laksmipur	2	3.5	Resized.	Identified. Not visited by selection team.	Purchased.	Surveyed February. Not on main road. Site selection inspection to be scheduled	Evaluation of site suitability (road access) to be made.
Poni	-	3	Added for consideration.	To be identified March.	None	Site to be selected for NFSP in March.	Possible location for a Phase II Warehouse.
<u>Tilla District</u> Tomilla	4	15	Resized and re-districted for new NFSP sales requirement.	New site to be visited in March. Existing site unsatisfactory	Adequate site or sites not owned.	Potentially good site with railroad and road access reported on. To be investigated in March	The redistricting of this group of Thanas for PDP service is under further review.
Sudkandi	2.5	3.5	Resized for new NFSP sales requirement.	Identified and inspected in October '79	Owned except for minor addition.	Site development engineering in progress	A priority site for Phase II program.
Bandpur	6	5.5	Redistricted	Identified and inspected in October '79	Possession being taken by BADC.	Soils crew scheduled to site about mid-March.	A priority site for Phase II program.

PROPOSED USAID GRANT-PHASE II PROGRAM
GENERAL SITE PLANNING STATUS

EXHIBIT A Sheet 5 of 7

29 February 1980

	PDF Warehouse Size ('000 Tons)		Change in Status During February	Site Identification Status	Site Purchase/ Acquisition Status	Site Investigation Status	Remarks
	Prev. Prop. Size	NESP (1985) Req't					
MAHI DIVISION							
Rajshahi District							
Rajshahi	5	8.5	Redistricted and resized. Proposed Unit train destination point.	Identified and Surveyed.	Not owned.	Development Scheme pending.	Vicinity and station maps requested.
Natore	7	8	Resized. To be developed as a Unit Train destination point.	Identified, but extent of property required undetermined.	Not owned.	Development scheme in progress.	Site sidings to be discussed with Bangladesh Railways during March.
Rohanpur	3.5	7.5	Resized. To be developed as a unit train destination point.	Identified. At railhead. Surveyed.	Railways property. Lease to be acquired.	Development scheme in progress	For discussion with Bangladesh Railways
Nawabganj	-	3.5	Added for possible consideration in Phase II program.	Identified and Surveyed.	BADU-owned 1 acre plot.	Additional land needed to fit building req't. Development scheme in progress	Site is on good road, about 150 yards from rail station. Ancillary buildings may have to be constructed elsewhere
Angpur District							
Angpur	-	5.5	Designated as a unit train destination point.	Identified and Surveyed	Not owned.	Development plan pending.	Vicinity and station maps requested.
Saidpur	6.5	3.0	Resized downward due to redistricting. Nominated as a Unit Train destination point	Identified and Surveyed.	Not owned.	Development scheme in progress	For discussion with Bangladesh Railways during March. Additional survey required. Maps requested.
Lalmonirhat	2.5	5.5	Resized to new sales target.	Identified & Surveyed.	Not owned.	Development scheme pending.	Squatter population in residence on this property
Kurigram	-	5.5	Added for possible consideration in Ph. II program.	Not identified.	Not owned.	Investigation to be scheduled.	Served (supplied) by meter-gauge rail.

PROPOSED USAID GRANT-PHASE II PROGRAM
GENERAL SITE PLANNING STATUS

EXHIBIT A Sheet 6 of 7

29 February 1980

	PDP Warehouse Size ('000 Tons)		Change in Status During February	Site Identification Status	Site Purchase/Acquisition Status	Site Investigation Status	Remarks
	Prev. Prop.	NPSF (1985)					
<u>Bogra District</u> #3 Bogra	4	14.5	Resized and re-districted for new sales target. A Unit Train destination point.	Identified and Surveyed.	Not owned. In condemnation.	Development scheme to be worked out. Maps required and ordered.	Will be discussed with Bangladesh Railways.
#1 Santahar	6	20	Redistricted and designated a Unit Train destination point.	Identified and Surveyed.	Not owned.	Development scheme in progress. Maps ordered.	For discussion with Bangladesh Railways during March. Add'l surveys scheduled. Both D.G. & M.G. rail service
<u>Pabna District</u> #4 Baghabari	2	4	Nominated to IBRD-financed program. To be deleted from AID program.	Identified and Surveyed.	To be acquired from BIWTA.	Site requirement identified to BIWTA.	Portsite surface planning is under development by BIWTA. PDP warehouse to be as designed by IEC.
#1 Muladuli	4.5	"	Size adjusted to new sales target. Possible Unit Train destination point.	Identified and Surveyed	Not owned.	Development scheme in progress. Maps ordered.	For discussion with Bangladesh Railways
<u>Dinajpur District</u> #1 Dinajpur	3	5.5	Size adjusted.	Satisfactory site not yet identified.	Not owned.	Previously identified site unsatisfactory. No rail access.	Possible unit train destination point.
#4 Shibganj	-	3	Replaces Thakurgaon location.	Identified & Surveyed.	Not owned.	Site Evaluation Pending.	
#5 Parbatipur	-	15	Established as Transit PDP with Unit Train facilities both B.G. & M.G.	Identified and Surveyed.	Not owned.	Development scheme in progress	For discussion with Bangladesh Railways in March. Major rail sidings reqd. for BG&M transshipment. Resurvey required.

INTERNATIONAL ENGINEERING COMPANY, INC.

FORCE REPORT

29 February 1980.....

<u>No.</u>	<u>TABLE 6</u> <u>Position</u>	<u>ACTUAL</u> <u>Title</u>	<u>Name</u>
1	Office Manager	-	-
1	Sr. Acct	Sr. Acct	Farid
2	Asst Acct	Accountant Admin Asst	Salam Khurshid
2	Secretary	Secretary Secretary	Majid Rahman
1	Expeditor	Expeditor	Chowdhury
2	Typist	- -	- -
2	Messenger	Messenger/Off. Boy Messenger	Rashid Benjamin
2	Guard	Guard Guard	Shahid Arifullah
1	Printer	Printer	Danzil
3	Driver	Driver Driver Driver Janitor	Alauddin Sobhan Shafique Shahjahan

DEVELOPMENT CONSULTANCY SERVICES LTD.
BAGGED FERTILIZER WAREHOUSES PROJECT

FORCE REPORT FOR FEBRUARY 29, 1980

1.	Quazi H. Rahman	Associate Project Manager
2.	Md. Azizur Rahman	Transport Specialist
3.	Farid Uddin Ahmed	Railway Transport Specialist
4.	Fazlul Wahhab	Agro-Economist
5.	Md. Zakaria	Sr. Engineer
6.	Habibur Rahman	Material Engineer
7.	Bashiruddin Khan	Structural Engineer
8.	Sk. Rezaul Haque	Engineer
9.	A.Z.M. Mahfuzzaman	Engineer
10.	Zainul Abedin	Topographer/Engineer
11.	Kazi Mozibul Huq	Chief Draftsman
12.	A. S. Sarker	Chief Surveyor
13.	Abu Talab	Draftsman
14.	Akshay Kumar Roy	Draftsman
15.	Nigar Kashida	Draftsman
16.	Shaheda Khatoon	Draftsman
17.	Abdus Salam	Draftsman
18.	M. A. Matin	Draftsman
19.	Mohiuddin Sarker	Draftsman
20.	Sirajul Islam Bhuiyan	Soil Lab. Tech.
21.	Humayun Kabir	Soil Lab. Tech.
22.	Zakir Shamseri	Soil Asst.
23.	Aynul Haque	Soil Asst.
24.	A. R. Mridha	Survey Party Chief
25.	A. Sobhan	Survey Party Chief
26.	A. Rahman	Survey Party Chief
27.	A. Motaleb	Instrumentman
28.	A. Zabber	Instrumentman
29.	T. Hossain	Instrumentman
30.	A. Zaluan	Instrumentman
31.	A. Razzaque Sarker	Instrumentman
32.	Mozammel Haque	Instrumentman
33.	A. Aziz	Chainman
34.	A. Razzaque	Chainman
35.	A. Satter	Chainman
36.	Zainul Abedin	Chainman
37.	Nizamuddin	Chainman
38.	Mohd. Hanif	Chainman
39.	Siddique Ullah	Rodman
40.	Nasiruddin	Rodman
41.	A. Hannan	Rodman

(continued)

DCS FORCE REPORT (CONT'D.)

42.	Idris Ali	Survey Aid
43.	Sadek Ullah	Survey Aid
44.	Abdus Salam	Survey Aid
45.	Wali Ullah	Survey Aid
46.	Giasuddin	Survey Aid
47.	Siddiqur Rahman	Survey Aid
48.	Rahmat Ullah	Driver
49.	Abdul Malek Fakir	Driver
50.	Sultan Ahmed - I	Driver
51.	Sultan Ahmed - II	Driver
52.	Md. Kamal	Driver
53.	Md. Haris Ahmed	Driver
54.	Rezaul Karim	Acct. Asst.

USAID IMPROVEMENT GRANT 388-0024

IECC CONTRACT 9074

EXPENDITURE BUDGET

Schedule	Principal Category	Budget	JOB TO DATE		DECEMBER 1979		
			Dollars	Taka as Dollar	Dollars	Taka as Dollar	Balance
I	Resident Consultant Related Costs	1,922,000	115,029.94	34,700.25	62,395.78	18,872.28	1,771,239.81
II	Short Term Consultant Related Costs	0	0	0	0	0	0
III	Consultant Office, Vehicles & In Country Cost	1,337,000	4,344.28	34,340.16	4,344.28	20,010.06	1,298,315.56
IV	IECC Headquarters Related Direct Costs	207,000	35,077.51	0	8,660.16	0	171,922.49
V	Special Project Activity	389,000	24,205.80	90.99	23,231.48	28.72	364,703.21
VI	Fixed Fee	385,000	30,394.74	0	10,131.58	0	354,005.26
		<u>4,240,000</u>	<u>210,052.27</u>	<u>69,131.40</u>	<u>108,763.29</u>	<u>38,911.06</u>	<u>3,960,816.33</u>