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CASE NO. 12065 : II/A

SUBJECT : CLARIFICATION OF PROCUREMENT REGULATIONS:
SMALL SCALE IRRIGATION PROJECT (388-0019)

EPSI. FOR THE PAST SIX MONTHS, THE PACE OF PROJECT IMPLEMENTATION HAS ACCELERATED GREATLY WITH THE BANGLADESH GOVERNMENT AND THE A/E CONTRACTOR EXERTING CONSIDERABLE EFFORT TO ARRANGE FOR THE PRODUCTION IN BANGLADESH OF SMALL FARMER AGRICULTURAL HANDPUMPS. PLANS, SPECIFICATIONS AND TENDER DOCUMENTS ARE LARGELY COMPLETE AND MAJOR PROCUREMENT OF RAW MATERIALS AND PUMPS IS READY TO BEGIN. TO SPEED THE MANUFACTURE AND DELIVERY OF HANDPUMPS, THE FIRST 25,000 PUMP SETS ARE SCHEDULED TO BE MANUFACTURED BEGINNING MARCH 1979 USING IN-COUNTRY STOCKS OF RAW MATERIALS. THE REMAINING 215,000 PUMP SETS ARE TO BE MANUFACTURED IN CY 1 0-82 FROM RAW MATERIALS IMPORTED WITH AID PROJECT FUNDS WITH THE IMPORTED RAW MATERIALS SCHEDULED TO ARRIVE IN LATE CY-1979.

C
FM
D/W
MGT

2. IN THE MEANTIME, A QUESTION HAS ARISEN WHICH THREATENS SERIOUS DISRUPTION OF THE PROJECT. THE QUESTION IS WHETHER USAID CAN PROCEED TO FINANCE PROCUREMENT OF THE FIRST 25,000 PUMP SETS (PUMP HEADS, PIPE AND STRAINERS) SINCE A LARGE PROPORTION OF THE IN-COUNTRY STOCKS OF CERTAIN KEY RAW MATERIALS (PIG IRON, AND STEEL STRIP) ARE CODE 935 SOURCE/ORIGIN, I.E., WEST GERMANY, AUSTRALIA AND JAPAN, RATHER THAN CODE 941 WHICH IS AUTHORIZED FOR DIRECT AID PROCUREMENT UNDER THE LOAN AGREEMENT. BESIDES CODE 935 RAW MATERIALS, IN-COUNTRY STOCKS INCLUDE INDIA STEEL STRIP AND COKE (CODE 941) AND CHINA AND POLAND COKE AND PIG IRON. ESTIMATES OF THE VALUE OF RAW MATERIALS IN QUESTION FOR THE FIRST 25,000 PUMPS IS ROUGHLY ESTIMATED AT ABOUT DOLS 1.0 MILLION ALMOST ALL IN PIG IRON AND STEEL STRIP.

3. ACCORDING TO DRAFT HANDBOOK 11, CHAPTER 3, PAGE 14, CURRENTLY UNDER REVISION IN AID/W, ORIGIN IS DEFINED AS FOLLOWS QUOTE THE ORIGIN OF A COMMODITY IS THE COUNTRY OR AREA IN WHICH A COMMODITY IS MINED, GROWN OR PRODUCED. A COMMODITY IS PRODUCED WHEN THROUGH MANUFACTURING, PROCESSING, OR SUBSTANTIAL AND MAJOR ASSEMBLING OF COMPONENTS A COMMERCIALY RECOGNIZED NEW COMMODITY RESULTS THAT IS SUBSTANTIALLY DIFFERENT IN BASIC CHARACTER OR IN PURPOSE OR UTILITY FROM ITS COMPONENTS. UNQUOTE. SIMILARLY, HANDBOOK 15, CHAPTER 11, PAGE 11-1, STATES THAT QUOTE COMMODITIES MINED, GROWN OR PRODUCED IN THE COOPERATING COUNTRY ARE ELIGIBLE, PROVIDED THAT, IN THE CASE OF COMMODITIES PRODUCED THROUGH MANUFACTURING, PROCESSING, OR ASSEMBLY, THEY MEET THE FOLLOWING TWO TESTS: (A) A COMMERCIALY RECOGNIZED NEW COMMODITY RESULTS... (B) NONE OF THE IMPORTED COMMODITIES IN THE NEW PRODUCT WAS PRODUCED IN OR IMPORTED FROM OTHER THAN AID GEOGRAPHIC CODE... UNQUOTE. CONSEQUENTLY, USAID CONCLUDES THAT THE PUMP HEADS, STRAINERS AND PIPE WHICH ARE TO BE PROCURED UNDER THE PROJECT FROM BANGLADESH FOUNDRIES AND FACTORIES ARE BANGLADESH SOURCE/ORIGIN AND THEREFORE ELIGIBLE FOR AID FINANCING IF PRODUCED WITH CODE 935 SOURCE/ORIGIN RAW MATERIALS. PUMP HEADS COULD BE CONSIDERED DIFFERENT IN BASIC CHARACTERISTICS AND PURPOSE FROM THE PIG IRON AND COKE FROM WHICH THEY ARE MADE. ALSO, PIPE AND STRAINERS ARE DIFFERENT FROM THE STEEL STRIP, BRASS, ZINC AND MISCELLANEOUS METALS AND CHEMICALS FROM WHICH THEY ARE MADE.

4. AID/W CONFIRMATION OF THIS CONCLUSION IS REQUESTED TO PERMIT

IMMEDIATE PROCUREMENT OF THE FIRST 25,000 PUMPS. CONFIRMATION SHOULD BE MADE WITHIN THE CONTEXT OF AID REGULATIONS AND DEFINITIONS REGARDING COMPONENTRY, HANDBOOK 15, CHAPTER 2. WE BELIEVE IT AGAIN IMPORTANT TO EMPHASIZE THAT HANDBOOK 15 PROVIDES FOR CODE 935 PROCUREMENT WHEREAS THERE APPEAR TO BE ADEQUATE RAW MATERIALS PRESENTLY IN-COUNTRY FROM CODE 935 COUNTRIES. NOTE WE ARE PURCHASING COMPLETED PUMP SETS, NOT RAW MATERIALS AT THIS TIME.

IF USAID CANNOT PROCURE THE FIRST 25,000 LOCALLY MANUFACTURED PUMPS IN CY 1979, PROJECT IMPLEMENTATION WILL BE SERIOUSLY DELAYED WITH NEGATIVE IMPACT ON BANGLADESH GOVERNMENT PROJECT MANAGEMENT. PUMP PRODUCTION WILL PROBABLY NOT BEGIN UNTIL CY 1980 IF NECESSARY TO AWAIT ARRIVAL OF AID-FINANCED RAW MATERIALS.
SCHNEIDER

UNITED STATES OF AMERICA
AGENCY FOR INTERNATIONAL DEVELOPMENT

Conformed Copy

February 3, 1978

Dacca, Bangladesh

Secretary
External Resources Division
Ministry of Planning
Government of Bangladesh
Sher-e-Bangla Nagar
Dacca

37

Subject: AID Small Scale Irrigation Loan (388-T-010)
Project No. 388-0019
Implementation Letter No. 3

Dear Mr. Secretary:

1. As provided in Section 1.02 The Project of the loan agreement, the description of the Project as set forth in Annex A is hereby modified to include the following additional statements:

The principal implementing agency will be BADC to (1) import pig iron (through TCB), coke (through the Controller of Coal) and pipe materials (through National Tubes); (2) order manufacture of pumpheads and strainers by the foundries; (3) store the materials and finished products; (4) sell pump sets from about five locations (Chittagong, Dacca, Jessore, Natore and Rangpur are under consideration); (5) maintain financial records; and (6) supervise the Consultants.

One Consultant will assist BADC in the construction of storage facilities and the other Consultant will assist BADC, as required, in all other matters relating to this Project.

BADC will be paid in full by the buyer for each pump set, whether it is sold on credit or as a cash sale (through bank draft). Purchase of pump sets from BADC will be by dealers, banks, cooperatives or other similar organizations at a price to be fixed by BADC. The resale price to individuals will also be established by BADC, taking all cost factors into account. Purchase will be for agricultural use. BKB and IRDP with new additions such as the commercial banks will provide credit for approximately half of the purchases by users.

The AID loan will finance under AID approved purchase orders and contracts (1) C & F Chittagong cost of pipe raw materials, pig iron, coke, and miscellaneous pump parts; (2) manufacture costs of pump heads and strainers; (3) construction of raw material and finished product storage; and (4) U. S. Consultant costs including vehicles and equipment. AID will disburse for raw materials through direct payment or Letter of Commitment.

For local manufacture and storage construction AID will provide an initial advance plus periodic progress payments in accordance with terms to be mutually agreed upon. All Consultant costs will be reimbursed by AID directly or under a Letter of Commitment.

All items for the BADC budget will be provided as a Government loan to BADC in BADC's annual budgets in the years 1977-78 through 1980-81. The total BADC budget requirement will be approximately Tk. 12.0 million of which an estimated Tk. 7.0 million will be required for fiscal year 1977-78 with approximately one-third of the Tk. 7.0 million balance in each of the succeeding three years.

The Bangladesh Government agrees to waive all duty and sales taxes on all raw materials and other items imported under this Project and to provide an allocation to BADC sufficient to cover the local costs of manufacture of 1.5 inch diameter light quality pipes in Bangladesh above the costs of import of pipes which during the first year after the date of this letter shall be taken at 7.55 taka per lineal foot.

Items under the Project which will be funded by the Bangladesh Government include but are not necessarily limited to (1) land purchase for storage; (2) internal transportation of raw materials and finished products; (3) port handling; (4) operational costs of storage; (5) income tax on the Consultant's expatriate employees' salaries received in Bangladesh.

Every effort will be made by the Bangladesh Government and BADC to speedily staff this Project. For each of the five storage locations, one storekeeper, one assistant storekeeper and three guards for three years and one assistant engineer and one sectional officer for one year will be needed. For the headquarters staff one Project Director of the rank of Superintendent Engineer, two executive engineers, two assistant engineers, one accountant, two lower division assistants, one stenographer, two typists and four peons shall be a minimum. It is agreed that considering the other pressing projects under BADC, an equivalent number of qualified persons will have to be hired by BADC either to fill the new positions or to replace transferred persons. It is agreed that every effort will be made to complete all required personnel actions for the headquarters staff by no later than March 31, 1978, and that the headquarters staff shall be assigned no responsibilities either temporary or permanent which do not relate to this Project.

2. Section 7.04 is hereby amended to read as follows:

SECTION 7.04 Terminal Dates for Contracting and Disbursement.

Except as A. I. D. may otherwise agree in writing, no contracts for imports under this project shall be entered into after June 30, 1981; no disbursement shall be made hereunder in response to requests received by A. I. D. after December 31, 1981, and no disbursement or reimbursement shall be made against documentation received by A. I. D. after March 31, 1982. A. I. D., as its option, may at any time or times after June 30, 1982, reduce the Loan by all or any part thereof for which documentation was not received by such date.

Sincerely,

/S/

Ernesto C. Lucas
Acting Director

The provisions of this letter are agreed
by the Bangladesh Government

/S/

Signature: M. Lutfullahil Majid

Title: Joint Secretary on March 17, 1978
External Resources Division
Ministry of Planning

CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

1. PROJECT TITLE Small Scale Irrigation Project			2. PROJECT NUMBER 388-0019	3. MISSION/AID/W OFFICE USAID/Bangladesh
5. KEY PROJECT IMPLEMENTATION DATES			4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 80 -	
A. First PRO-AG or Equivalent FY 76	B. Final Obligation Expected FY 76	C. Final Input Delivery FY 82	6. ESTIMATED PROJECT FUNDING A. Total \$ 14,800,000 B. U.S. \$ 14,000,000	
			7. PERIOD COVERED BY EVALUATION From (month/yr.) April, 1979 To (month/yr.) July, 1980	
			Date of Evaluation Review July 14, 1980	
8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR				

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Resolve pipe pricing issue between BADC and National Tubes.	BADC and National Tubes	ASAP
2. Examine possible price collusion on pumphead bids and rejects bid where appropriate.	BADC	ASAP
3. Arrange adequate storage space for pump components.	BADC	30 Sept. '80
4. Hand Tubewell Sales a. establish a monthly distribution schedule for dealers, and others sales organizations.	BADC/A & W	31 Aug. '80
b. Individual organizations develop plans and arrangements to meet the schedule	IRDP, BKB, BADC, etc.	15 Sept. '80
c. determine farmer credit needs to purchase HTWs, and begin processing individual credit applications.	TCCAs, BKB	31 Aug. '80
5. Pipe procurement a. Set firm monthly National Tubes delivery schedule for the additional 1,900,000 rft. required in 1980.	National Tubes	31 Aug. '80

(contd.)

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS			10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT	
<input type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan e.g., CPI Network	<input checked="" type="checkbox"/> Other (Specify) <u>None</u>	A. <input checked="" type="checkbox"/> Continue Project Without Change	
<input type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	<input type="checkbox"/> Other (Specify) _____	B. <input type="checkbox"/> Change Project Design and/or	
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C		<input type="checkbox"/> Change Implementation Plan	
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P		C. <input type="checkbox"/> Discontinue Project	

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Name and Title)		12. Mission/AID/W Office Director Approval	
Gary Adams, Project Officer <i>GA</i>		Signature <i>Frank Kimball</i>	
Paul Caouette, RDE <i>PC</i>		Typed Name Frank Kimball	
Edwin Callahan, Chief RDE <i>EC</i>		Date September 10, 1980	
R.H. Khan, BADC <i>RHK</i>			
Richard Podol, DD <i>RP</i>			

memorandum

DATE: September 11, 1980

REPLY TO
ATTN OF:

Michael Sullivan, PRO *msullivan*

SUBJECT:

PES

TO:

MO/PAV, Room B-930, NS

Attached for your reproduction and distribution is the PES for the Bangladesh Small Scale Irrigation Project (388-0019).

Attachments: a/s



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

8. A. (continued)

	<u>B</u>	<u>C</u>
b. Process bids for imported pipe expeditiously.	BADC and USAID	31 Aug. '80
6. Develop materials for a sales publicity campaign to inform farmers of pump availability, operation and maintenance.	BADC and A & W	15 Sept. '80
7. Investigate possibility of supplying pump-head patterns to small foundries and take action, if feasible.	BADC	30 Sept. '80

13. Summary. During the past twelve months, the first pump heads have been manufactured under this project and distribution and sales have begun. While there are still some problems in procuring raw materials and producing pumps and pipes on schedule, it is expected that the minimum project target of 128, 000 pump sets by 1981 will be achieved.

The focus of project activity will now shift to distribution and sales of pump sets. A wide range of organizations, including government agencies, banks and PVOs, are taking part in the distribution program. BADC, the Consultant and the USAID project officer will assist these organizations to develop credit and sales plans to ensure that the pumps are sold and that small farmers are the primary beneficiaries.

14. Methodology : This was a routine annual evaluation to determine progress in relation to project design. The Consultant, Amman & Whitney, prepared an evaluation discussion paper for review by the evaluation committee. The Ministry of Agriculture and Forests and the USAID Project Officer submitted memos in response to this paper and these were all discussed at a review meeting in the USAID conference room. The Acting Mission Director chaired the meeting and it was attended by representatives of BADC, National Tubes, and the Consultant. Attached to this PES are the various papers prepared for the evaluation review meeting and the Memorandum of Conversation covering that meeting, i. e.:

1. Small Scale Irrigation I Project discussion paper prepared by Amman & Whitney. dated 23 June 1980.

(contd.)

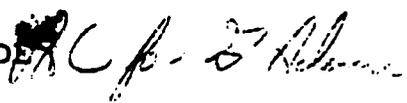
2. Ministry of Agriculture and Forests Letter No. F. 20-Misc-DS (PI-1)/80/ to Mr. Podol dated 5 July 1980.
3. Gary Adams' memo to Evaluation Committee dated 14 July 1980.
4. Memo of Conversation dated 18 July 1980.

MEMORANDUM

TO : Evaluation Committee

July 14, 1980

FROM : Gary D. Adams, RDE



SUBJECT : Small Scale Irrigation Project (388-0019) :
Project Evaluation

The following points are proposed for discussion at the Small Scale Irrigation Project (SSIF) evaluation, 1430 July 14, 1980.

A. Distribution/Sales:

Assuming an adequate supply of pipe, BADC will have nearly 65,000 pump sets ready for distribution in 1980. These sets should be placed in the hands of farmers in time for irrigation in the 1980-81 dry season, that is, by December 1980. Planning and start-up arrangements for the three distribution systems (BADC dealers, IRDF and Bangladesh Krishi Bank) seems to be proceeding slowly and there is serious concern that the HTWs will not be distributed to farmers in time.

Recommendations:

1. Establish a schedule for distribution and sale. The following schedule is proposed:

	<u>Aug</u>	<u>Sep</u>	<u>Oct.</u>	<u>Nov</u>	<u>Dec</u>
BADC Dealers	5,000	-	10,000	5,000	-
IRDF	5,000	-	10,000	5,000	-
BKB	5,000	-	10,000	10,000	-
	<u>15,000</u>		<u>30,000</u>	<u>20,000</u>	

2. Plan and arrange to carry out the schedule.

2.1 IRDF & BKB

- 1) Allocation funds to purchase HTWs from BADC.
- 2) Decide how many HTWs will be distributed to each Thana, by month.

- 3) Instruct TCCAs/KSSs & BKB branches and dealers to prepare to distribute the HTWs.
- 4) Determine the farmer credit requirements, Begin processing individual loan applications 60 days before actual arrival of HTWs in the Thanas.
- 5) Specify sales procedures, prices etc. and send instructions to TCCAs, KSSs dealers etc.
- 6) Lift HTWs from BADC by Aug 1. Begin distribution. Monitor performance.

2.2 BADC

- 1) Appoint sufficient dealers.
- 2) Decide how many HTWs will be distributed to each Thana by month.
- 3) Finalize procedures for dealer operation.
- 4) Instruct dealers clearly on program, schedule and procedures. Learn from dealers what quantities they are prepared to handle.
- 5) Deliver HTWs to dealers by August 1. Begin distribution. Monitor Performance.

B. Pipe

NT has delivered pipe at a rate about 50% lower than scheduled. BADC needs an additional 24 lakh rft of pipe from July 1 to December 1 in order to field the 65,000 HTWs. NT is supposed to supply about 19 lakh in that period. BADC will try to import about 5 lakh by December.

Recommendations:

- 1). National Tubes set firm monthly delivery schedule for the 19 lakh rft. Closely monitor NT performance.
- 2) Process bids for imported pipe expeditiously.

U. S. AGENCY FOR INTERNATIONAL DEVELOPMENT
DACCA, BANGLADESH

MEMORANDUM OF CONVERSATION

Subject : Small Scale Irrigation Project (388-0019)
Evaluation Meeting

Date of Meeting : July 14, 1980 Time : 1430 - 1600 hours.

Place of Meeting: USAID Conference Room, Hotel Furbani (4th floor)

Participants : Mr. R. H. Khan, Dy. Chief Engineer (STW) BADC
Mr. A. B. Md. Anwar Hossain, Proj. Manager
(SSIF), BADC
Mr. Mirza Fabir Ahmed, Asst. Chief Engineer
(STW) BADC
Mr. Md. Khalilur Rahman, General Manager
National Tubes/Tongi
Mr. Aminul Islam Chowdhury, Commercial
Manager, National Tubes/Tongi
Mr. George A. Fecht, Principal, Ammann &
Whitney
Mr. R. Karim, Engineer, Ammann & Whitney
Mr. R. L. Fodol, Dy. Director, USAID
Mr. E. D. Callahan, Chief/Rural Development
& Engineering Division, USAID
Mr. G. Adams, SSIF Project Officer, USAID
Mr. F. A. Caouette, Engineer, USAID
Mr. K. Rahman, Project Specialist, USAID
Mr. M. Sullivan, Asst. Program Officer
(Evaluation), USAID
Mr. W. T. Oliver, Program Officer, USAID

Drafted : RDE:GDAdams:kmi

Date of Preparation : 7/18/80

UNCLASSIFIED

Copies To : Participants
Mr. A. Samad, Chairman/BADC
Dr. S.H.K. Eusufzai, Member FC&WR, Min. of Planning
Mr. A. Shakoor, Deputy Secretary (Planning I), Min. of Ag's
Mr. A. Mannan, Deputy Secretary, ERD
Mr. N.H. Khan, DGM/Bangladesh Krishi Bank
Mr. Mansurul Huq, Coal Controller
Mr. A.H.N. Abdul Hye, Director (Trg. & Extension) IRDF
Mr. Chowdhury Mohsinul Huq, Sr. Executive (S&D) Trading Corporation of Bangladesh
Mr. Frank B. Kimball, Director, USAID
Mr. C. Anthoit, F&AG
Mr. W. Miller, CON
Ms. Vivikka Moldrem, FRO
Mr. D.L. Fressley, RLA

A. Background

The meeting constituted a regular annual evaluation of the Small Scale Irrigation Project (SSIF) by Bangladesh Government agencies and AID. A document "Small Scale Irrigation Project" dated 23 June 1980, by Ammann and Whitney Consulting Engineering (A&W), served as the basis for the evaluation. Brief written comments were also submitted for the meeting by the Deputy Secretary, Planning I, Ministry of Agriculture, and USAID. Major findings and recommendations discussed are presented below.

B. Discussion

1. The Acting USAID Director welcomed participants. He noted that the new Five Year Plan calls for a major commitment to hand tubewells (HTW); that the BDG has approached USAID about our continued involvement; USAID believes in the importance of HTWs for irrigation and is receptive to continued involvement; that the present evaluation findings are important to guide BDG and USAID activity with respect to the present SSIF and the proposed 1982 follow-on project.

2. G. Fecht, Ammann & Whitney, summarized current project progress as presented in the 23 June document. The project target of 240,000 HTWs has been reduced to about 128,000 HTWs because of inflation. Considering the \$ 1.4 m. contingency in the project, the target might be increased by an additional 10,000 to 20,000 HTWs. Plans are to distribute a total of 75,000 HTWs by December 31, 1980, with the balance to be produced and distributed in 1981 prior to the December 1981 project completion date. Production of hand pump heads and strainers is nearly on schedule. The production of pipe remains a major question. As of June 30, 1980, the HTW procurement situation was as follows :

<u>Item</u>	<u>Total Order</u>	<u>New Procurement in process</u>	<u>Total Received by BADC</u>	<u>Sales 1/</u>
Pump heads	74,500	55,000	56,500	18,702
Strainers	74,550	-	30,722	19,843
Pipe (Local)	3,300,000 rft	-	1,556,000 <u>2/</u>	1,118,160
Pipe (Imported)	-	3,000,000 rft	-	-

About 29,000 HTW sets have been completed. About 8,700 HTWs were lifted from BADC for distribution in 1979 and early 1980, leaving about 20,300 presently available for distribution.

Significant problems include : the recent jump in pump head costs, from an average of about Tk. 350 each to about 450 taka;

1/ Defined as sales by BADC (cash, credit) to distributing agencies (IRDF, BKB, other agencies).

2/ Includes 247,000 rft allocated to strainer production. The remaining 1,309,000 rft is enough for about 29,000 pump sets (assuming 45 rft drop pipe per set).

the apparent price collusion of the major pump head manufacturers; and the shortage of pipe. If local pump head price rises cannot be held to reasonable levels, then importation could be considered.

3. Mr. R.H. Khan mentioned the following subjects for attention :
 - a. Pipe price -- there is a continuing question about what price BADC should pay National Tubes (NT) for pipe. BADC has ordered 3,300,000 running feet (rft) of pipe from NT. For the last 1,500,000 rft of the order, NT is requesting Tk. 19 per rft while BADC maintains that Tk. 16 rft was the agreed price and should remain in effect. This issue has delayed pipe delivery in the past. Presently, to maintain pipe deliveries, NT is supplying pipe despite the lack of a pricing decision. A decision is needed.
 - b. Pump head prices -- the rise in prices and apparent collusion need to be examined.
 - c. Storage -- BADC storage of HTW components is becoming a major problem because of limited storage space.
4. G. Adams referred to two main issues i.e., distribution and sale of HTWs and pipe supply.
 - a. HTW sale -- Disregarding the 8,700 HTWs produced and distributed in 1979-80, and assuming an adequate supply of pipe, BADC will have nearly 65,000 pump sets ready for distribution in 1980. These sets should be placed in the hands of farmers in time for irrigation in the 1980-81 dry season, that is by December 1980. Flanning and start-up arrangements for the three distribution systems (BADC dealers, Integrated Rural Development Program and Bangladesh Krishi Bank) seem to be proceeding slowly and there is serious concern that the HTWs will not be distributed to farmers in time. Specific action recommended includes: 1) establish a monthly distribution

schedule for IRDF, BKB, BADC dealers, and others; 2) Develop internal plans and arrangements to meet the schedule (IRDF, BKB and BADC etc.). Plans should specify the number of HTWs to be distributed to individual Thanas, TCCAs, BKB branches, dealers etc. by month. TCCAs, BKB branches, dealers etc. need to be instructed accordingly; 3) Determine farmer HTW credit needs by Thana, TCCA, BKB branch etc.; begin processing credit applications; 4) Sell HTWs to farmers via all three systems by August 1980.

- b. Pipe -- NT has delivered pipe at a rate about 50% lower than scheduled. In addition to the 1,400,000 rft already delivered by NT, BADC needs an additional 2,400,000 rft of pipe from July 1 to December 1 in order to field the 65,000 HTWs. NT has purchase orders to supply about 1,900,000 rft in that period. BADC will try to import an additional 500,000 rft by December.

Recommendations included : 1) National Tubes set firm monthly delivery schedule for the 1,900,000 rft. 2) Process bids for imported pipe expeditiously.

5. Mr. R.H.Khan said he didn't expect distribution and sale to be an important problem; that sales will be very rapid as the peak demand period (Oct-Dec) approaches.
6. Mr. Md. Khalilur Rahman, General Manager, National Tubes, said that NT could provide the needed 1,900,000 rft by November 30, 1980 as follows: 800,000 immediately, 700,000 additional by September 30; 400,000 additional by November 30, 1980. He felt NT could provide all project needs in the future. NT has financial liquidity problems and needs continued advances from BADC to release steel strip and other raw materials from storage. On June 30, 1980, AID advanced \$592,522 to BADC for advances and cash purchases of 800,000 rft from NT. NT has since supplied nearly 500,000 rft of the 800,000 rft and the advance should be expended within a few weeks. USAID will review the cash-flow situation with respect to pipe procurement and consider the need for further advances to BADC.

* As of mid June 1980.

7. **Raw materials --** Raw material supply (pig iron, coke, brass, other strainer materials, steel strip etc.) is believed adequate for the targeted 128,000 HTWs. The pig iron situation needs review. Arrangements are needed with Trading Corp of Bangladesh to allocate SSIF pig iron needs. Nuts and bolts shortages sometimes arise. The situation needs review. Socket supply, which held up distribution in 1979, is no longer a problem according to the NT's General Manager.
8. **HTW Manufacturing Capacity --** R. Fodol inquired about the industry's capability to produce 500,000 HTWs over the next 5 year period. BADC and A&W said it's difficult to estimate production capacity. While capacity seems quite large (50,000-100,000 HTWs per year), actual production outside the project seems quite low.

For the proposed follow-on project, G. Adams mentioned the need to analyze HTW industry capacity and constraints. Recommendations should be developed for increasing industry capacity, efficiency and responsiveness.

Mr. Karim, A&W, said manufacturers need patterns and investment capital.
9. **Marketing --** T. Oliver inquired about freeing up the BADC distribution system and creating more competition by permitting anyone to purchase pumps from BADC. This approach may be most efficient for the long run. At present, with HTWs heavily subsidized, there is concern that unrestricted sale would permit windfall profits to dealers.
10. **Publicity --** A sales publicity campaign is needed to inform farmers of pump availability, operation and maintenance. A&W and BADC are developing materials.
11. **New technologies --** The "Rower" pump appears to have good potential and its progress in the field should be monitored.

23 June 1980

Bangladesh Agricultural Development Corporation
Shallow Tubewell Division

SMALL SCALE IRRIGATION-I PROJECT
US AID Project No. 388-0019

INTRODUCTION

- In accordance with AID policy, the project is to be evaluated on an annual basis to determine whether the outputs are being achieved and project purposes accomplished. To assist the evaluation committee, the following narrative with recommendation has been prepared.
- The loan agreement, U.S. AID Loan No. 388-T-010 dated September 29, 1976, is in the amount of U.S. \$ 14 million (Taka 2100 lac).
- The original implementation plan was based on a system that would reimburse the Bangladesh Krishi Bank (BKB) for the cost of pumps sold on credit plus a bonus advance to import new raw materials.
- By May 1977 it became clear to USAID that the joint Project Implementation Committee (PIC) (Loan Agreement Condition Precedent No.3) could not implement the project. It also became clear that there was no mechanism within the BDG for taking the loan funds and channeling them to the private sector for purchase of raw materials and still have effective control of project commodities.
- Following the project evaluation in July 1977, USAID and the BDG agreed that the BADC would assume responsibility for project implementation and the emphasis of the project should shift from credit to pump production.
- In July 1978, Ammann & Whitney were engaged by BADC for engineering services for providing storage areas for hand pump sets and raw materials and engineering services for procurement, warehousing of materials, acceptance, inspection, and assist in sales and distribution.
- The last evaluation review was on 20 November 1978 and focused on procurement of maximum of 25,000 pumps during 78/79 irrigation season with first pump to be ready for sale in February 1979.
- USAID conducted another detailed evaluation in March 1979 with the help of BADC and Ammann & Whitney.

- Tender papers for local procurement of 10,000 pump heads were submitted by Consultants to BADC in mid-October 1978, tenders opened in December 1978. Award of contracts was held pending with BADC (Purchase) until May 1979 for 8,000 pump heads. Similar delays in procurement of strainers led to decision of BADC to have the Chief Engineer (STW) BADC responsible for all procurements formerly done by BADC (Purchase). Since CE (STW) took over responsibility and as of 31 May 1980, seven P.Os. for 74,500 hand pumps, 12 P.Os. for 74,550 strainers have been issued and tenders are already floated for procurement of 3,000,000 rft of pipe by import and 55,500 pump heads. P.Os. have been issued for 33.1 lac rft of pipe from National Tubes (NT).
- Delay in manufacturers supplying stores in accordance with P.O. time schedules requires review. The Consultant recommends strict enforcement of terms of P.O. and applying of liquidated damages/penalties for late deliveries within P.O. schedule time as may be extended after analysis, justification and approval for any time extension. The manufacturers assumed the responsibility and obligations in submitting their tender and in award of contract to supply as per schedule.
- By Project Implementation Letter No.6, May 14, 1979, BADC/USAID agreed that loan funds would not be used to finance construction of storage facilities. Funds allocated would be directed towards financing additional procurement of pump sets.
Scale
- The Small/Irrigation-I Project in the past year has shown a marked progress in procurement of pump sets and distribution and sales. Although, as detailed herein, bottlenecks are still to be resolved, the target of 55,000 hand pumps in fiscal year 1979-80 and the target of at least total of 128,000 pump sets by 1980-1981 (could be increased depending on availability of funds) is a realistic projection. With special effort and full co-operation of concerned organizations, BADC would be able to distribute 75,000 pump sets by December 1980.
- The project purpose is to provide small farmers with private ownership of manual operated hand pump sets for irrigation.
- Recommendations:
 - Monitor the stock of raw materials to ensure that there is no diversion (by GOB or BADC) of pig iron or coke or other materials procured specifically for SSIP. Diversion would be a constraint on SSIP program.
 - Monitor delivery to ensure National Tube supplies the total of 38 lac rft of pipe and 240,000 sockets prior by September 1980.
 - Monitor marketing of hand pumps in order to speed up handling, reduce costs and increase access to bonafide farmers.
 - Publicity : Action by Project Manager (SSIP) to develop a publicity campaign.

Sales/

Distribution : Action by Project Manager (SSIP) to finalize Distribution Procedure and sales of pump sets to dealers and others.

Credit Sales : Ensure that credit facilities are available to farmer through IRDP and/or BKB.

Cash Sales : Ensure that zonal stores and dealers have established working hours for sale of hand pump sets to farmers with minimum of red tape.

- Analyze constraints in the HTW manufacturing and marketing system and formulate follow-up project design.
- BADC to make immediate payment to suppliers upon delivery of stores and release earnest money/security deposit promptly.

1. PROCUREMENTS

- As of 31 May 1980 the status of procurement, stores, and sales follows:

	<u>Pump Heads</u>	<u>Strainers</u>	<u>Pipe (rft)</u>	<u>Sockets</u>
On-Going Procurement	27,000	66,077	23,07,500	1,15,375
Stock	38,798	7,938	4,00,690	31,448
Sales	8,702	9,785	4,06,810	21,179
	74,500	83,800	31,15,000 <u>1/</u>	1,68,002

1/ Does not include 125,000 rft allotted to strainer manufacturers

- Invitation for bids has been issued for additional 55,500 pump heads (opening date of bids on 26 June) and 3,000,000 rft of pipe (opening date of bids on 16 July).
- Programmed for July 1980 is inviting tenders for further procurement of 63,450 strainers.
- Pipe

- Pipe will probably be the critical constraint on the project in CY 1980. A total of 74,500 pump heads and strainers are expected to be ready for distribution by August-September 1980. If sufficient pipe is made available by that time, all 74,500 pump sets could be distributed in time for use during the 1980-81 dry season. If pipe is not ready, the pump heads and strainers will remain unused. NT will have to deliver a total of about 29 lac rft of pipe (column pipe and strainer pipe) to BADC within the next 110/120 days to enable distribution of all 74,500 pump sets.

- To illustrate NT's performance:

Second Purchase Order

Purchase Order No. XI-ST(P)27/2586/79 dated 26.02.79

Quantity : 15.6 lac rft

Rate : Taken 15/rft, amended to Taka 16/rft. NT by letter COM(S)-9-80-861 dated 17.3.80 requests Taka 19.90 per rft. Refer NT letter COM(S)-9(B)/80-1261 dt. 6 May 1980 requesting Tk.19.98/rft.

Total Price : Tk. 249.60 lac (at Tk.16/rft)

Scheduled Delivery : 31.05.79, amended to 30 April 1980 as follows:

<u>Date</u>	<u>Scheduled</u>	<u>Scheduled Accumulative</u>	<u>Actual</u>	<u>Actual Accumulative</u>	<u>Shortfall</u>
Oct 79	310,000 rft	310,000	120,000	120,000	190,000
Nov 79	250,000	560,000	192,500	312,500	247,500
Dec 79	90,000	650,000	136,800	449,300	200,700
Jan 80	160,000	810,000	132,700	582,000	228,000
Feb 80	300,000	1,110,000	-	582,000	528,000
Mar 80	300,000	1,410,000	-	582,000	828,000
Apr 80	150,000	1,560,000	70,500	652,500	907,500
May 80	-	-	100,000	752,500	807,500

Socket Delivery : 37,625 sockets supplied in April and May as required for 752,500 rft of pipe supplied.

Payments : Tk. 50 lac advanced in October 79.
 Tk. 93.12 lac payed in February 80 on adjustment of Tk. 50 lac advanced.
 Tk. 50 lac advanced sanctioned May 1980

Summary : Total payment Tk.143.12 lac against pipe supplied valued (at Tk.16/rft) Tk.120.4 lac

- Of the total pipe to be supplied under P.O. No.2, 430,333 rft is required for manufacture of the 64,550 strainers for which orders have been placed.
- Based on an estimated production by NT of 5 lac rft of 1.5 inch pipe per month at end of August there would be 24,87,500 rft (includes 1.8 lac rft column pipe under P.O. No.1) of which 430,333 rft is designated for strainers. Therefore, based on 45 rft of pipe required per set, the maximum total sets that could be made available is 45,700.
- Earliest estimated delivery date of 30 lac rft of pipe under import is March 1981.
- Supply of sockets for each length of pipe by NT has also been a problem requiring constant monitoring. Also investigation of pipe at stores indicates 6% damage to threads in transport and handling since NT does not attach socket and thread protector. Action required by BADC to have NT comply.

NT has increased the price of the pipe from Tk.16/- to Tk.19.98 per rft and demand advance payment for supply of pipe. This issue must be resolved at appropriate GOB level.

• Pump Heads

- The only problem presently seen which could affect meeting target of 128,000 pump heads is diversion of pig iron allocated to project to others.
- Availability of nuts, bolts and washers in the market appears to be a problem which is being investigated to determine action, if any.

• Strainers

- It is anticipated that some manufacturers will be default of their contracts and only 45,800 strainers of 64,550 ordered will be supplied. The deficit will be made up by placing a 50% re-order with manufacturers successfully completing contracts.

• Raw Materials

- Pig iron (2,568 MT) has been imported by TCB for this project. 751 MT has been allocated to manufacturers awarded contracts for pump heads and 1,817 MT is presently stored by BADC in Chittagong. At 77 lbs. of pig iron required to manufacture each pump head, the stock (1,817 MT) is sufficient for 52,000 additional pump heads which would bring total number of pump heads to 126,500. Distribution of pig iron to manufacturers, awarded contracts for supply of pump heads, is made as required. There have been delays in delivery of pig iron to manufacturers and producers are being advised to expedite.

Information presently available indicates sufficient stock available in-country of coke for manufacturing of hand pumps and brass net and sheets for manufacturing of strainers. Additional imports of raw materials depends on whether supplies presently allocated are diverted and the availability position of these materials must be monitored continuously.

SSIP MATERIALS PROCUREMENT - STORES - SALES STATUS

SMALL SCALE IRRIGATION-I PROJECT

As of 31 May 1980

STORAGE LOCATION	ON-GOING PROCUREMENT PROGRESS				STOCK OF PUMP ITEMS				SALES - ITEM-WISE			
	HEADS (Nos)	STRAINER (Nos)	PIPES (Rft)	SOCKETS (Nos)	HEADS (Nos)	STRAINER (Nos)	PIPES (Rft)	SOCKETS (Nos)	HEADS (Nos)	STRAINER (Nos)	PIPES (Rft)	SOCKETS (Nos)
JESSORE	8,500	5,890			417	18	26,920	882	1,083	1,797	61,580	3,793
NATORE	5,000	19,517			14,045	2,746	131,560	2,998	3,955	3,467	144,440	8,569
RANGPUR		4,110			2,043	21	10,120	(-2261)	957	1,619	78,680	2,661
JAMALPUR	6,000	22,370			8,055	3,650	158,900	7,545	945	945	37,800	1,890
MIRPUR (TW)												
COMILLA	3,500	3,000			1,000		16,000	800				
JOYDEBPUR	1,000	7,440			10,238	1,503	41,190	20,684	1,762	1,957	84,310	4,266
BOGRA	3,000	3,750			3,000		16,000	800				
TOTAL	27,000	66,077	2307500	115,375	38,798	7,938	400,690	31,448	8,702	9,785	406,810	21,179

NOTE: 1. In addition to 4,06,810 rft pipe sold, 125,000 rft have been allotted to nine (9) strainer manufacturers.
 2. Figures in parenthesis indicate store shortage against delivered, to be met by inter-store-transfer to store them to purchaser.

1. Sales

Organization	Total Allocated	Total Sales	Set 1	Set 2	Set 3	Set 4
COTTON DEV. BOARD	1250	1250 (Credit)	590	335	200	125
CRWRC	1200	1200 (Cash)	1100		100	
BKB	2000	2000 (Cash)	2000			
CCIB	200	200 (Cash)		200		
HEED	10	10 (Cash)				10
BARI	2	2 (Cash)				2
DIRECTOR OF AGRICULTURE (JUTE PRODUCT)	1800	1800 (Credit)	315	897	463	125
IRDP	2000	2000 (Cash)	2000			
CHAPA	240	240 (Cash)	240			
TOTAL	8702	8702	6245	1432	763	262
L. ST MONTH	8462	8462	6005	1432	763	262

NOTE: In addition to the above mentioned sets, 250 nos. "ARTESIAN" sets each of 150 rft of G.I. pipe plus 2 pcs strainers (without any pump head) priced at Tk. 700/set have been allocated for direct sales to farmer of Madhabpur P.S. of Sylhet district vide CE, STW's Memo to PM under No. STW/14.13/78-79/293/1(1) dt. 26.2.80. Out of these allocated quantity, 29 such sets have been sold from Joydebpur store in May 1980. This totals to 4350 rft pipes and 58 pcs strainers.

2. Selling Price (As of 1 June 1980)

Set 1 : Pump Head 2 pipes 1 strainer	Tk. 1000/-
Set 2 : Pump Head 3 pipes 1 strainer	Tk. 1300/-
Set 3 : Pump Head 3 pipes 2 strainers	Tk. 1600/-
Set 4 : Pump Head 4 pipes 2 strainers	Tk. 1900/-

Summary

	Heads	Strainer	Pipe (rft)	Sockets
On-Going Procurement	27,000	66,077	23,07,500	115,375
Stock	38,798	7,938	4,00,690	31,448
Sales	8,702	9,785	4,06,810	21,179
Pipe For Strainers	-	-	1,25,000	-
	<u>74,500</u>	<u>83,800</u>	<u>32,40,000</u>	<u>168,002</u>

2. MANUFACTURING

- The constraint on manufacturing is the manufacturers lack of cash flow and credit line with lending institutions. This problem could be partially alleviated by quick payments to manufacturers by EADC.
- Lack of enforcement of contract conditions results in manufacturers not meeting the P.O. schedule dates while during same period using their available raw materials for other manufacturing.
- Cost of strainers, exclusive of pipe, has increased from Taka 145.30 in August 1979 to Taka 180 each in April 1980 at 24% increase (31.8% per year). Pump heads increased from Tk. 280.13 in May 1979 to Tk. 312.57 in November 1979, a 11.6% increase (19.9% per year).

For the follow-on project design, we need to learn more about how price is set and how much better competition could lower costs and prices.

- Foundries in Dacca area have a capacity of approximately 25,000 pump heads per month. With part of this capacity directed to UNICEF pump head parts and local market demand, there is a surplus capacity of at least 15,000 pump heads per month. Of fourteen (14) prequalified firms only nine (9) participated in first tender. The second tender was opened to all bonafide foundries but only six (6) firms participated. Reasons for not participating gleaned from informal contacts are:

- Procedural delay in payment of bills by EADC
- Shortage of raw materials : pig iron and/or coke
- Non-availability of specified nuts, bolts, washers, cotter pins, etc.
- Delay in refund in earnest money/security deposit within stipulated time.

3. TECHNICAL ASPECTS

- Continuous inspection during manufacture for adherence to specifications is producing a hand pump and strainer superior to those previously made and sold in Bangladesh. If used properly with due attention to maintenance these hand pumps and strainer will last over eight years. Both the socket and pipe are satisfactory for the application.
- Interviews with farmers during a field trip in April 1980 in Natore area, indicated complete acceptance and satisfaction with the BADC hand pumps. None of the farmers indicated a need for spare parts for pumps in operation for one year.
- The "Rower Pump" is still in the development stage and being tested by UNICEF. It has yet proved to be an adequate substitute for the BADC's cast iron hand pump.
- The coir wrapped pipe for a strainer is considered to be a desirable addition to the hand pump program. It has been used successfully in the MOSTI program, with acceptance by the farmers. It should be considered as an alternative to the brass strainers and the farmer should be given the option of procuring either the coir wrapped pipe or brass strainer. The price of each should be established at cost to procure by BADC.
- Sales of pump sets indicate an average of 45 ft. of pipe and 1.12 strainers per pump set. The procurement of column pipe was originally based on 60ft. of column pipe per pump set. This has been revised, based on present information, to 45 ft per set. Records available with UNICEF and IRDP will be used to determine the length of pipe and number of strainers required for each thana.

4. STORAGE (EXISTING AND PLANNED)

- BADC stores are presently located in Jessore, Natore, Rangpur, Jamalpur, Comilla, Joydebpur and Bogra.
- The Project Manager (SSIP) BADC's Office informed the following stores have following approximate covered and open area:

<u>Location</u>	<u>Existing Area (Sq.Ft.)</u>			<u>Planned Addl. Area (Sq.Ft.)</u>		
	<u>Covered</u>	<u>Open</u>	<u>Total</u>	<u>Covered</u>	<u>Open</u>	<u>Total</u>
Jessore	7,000	3,000	10,000	3,000	2,000	5,000
Natore	13,000	8,000	21,000	3,000	-	3,000
Rangpur	1,500	2,000	3,500	3,000	3,000	6,000
Jamalpur	3,000	6,000	9,000	3,000	10,000	13,000
Comilla	2,000	4,000	6,000	-	-	-
Joydebpur	6,000	4,000	10,000	3,000	-	3,000
Bogra	3,000	2,000	5,000	5,000	5,000	10,000
<u>Total</u>	<u>35,500</u>	<u>29,000</u>	<u>64,500</u>	<u>20,000</u>	<u>20,000</u>	<u>40,000</u>

- For stacking/storage of 3,000,000 rft of imported pipe, 14,000 sq.ft. of open area in BADC's plot near Sholashahar Market in Chittagong has been allocated.
- BADC has provided area for storage at Chittagong for pig iron imported by TCB.
- A minimum area of 400 sq.ft. is required for 7,800 pipes (or less) of 20 ft. length; 16 sq.ft. minimum space is required for stacked 30 pump heads; and, 36 sq.ft. for each 56 bundles (504 pieces). The above area excludes aisle space.
- With the recent selection of dealers, the requirements for and any problems in storage of hand pump sets will diminish.
- In allotting components to zonal stores, the stock position for each component must be reviewed by Project Manager (SSIP) staff assigned so that number of each component (head, strainer, pipe, socket) is in balance.

5. SALES AND DISTRIBUTION

- Sales and distribution procedures have been developed and are presently under review by BADC, USAID and the Consultant. The procedure outlines the sales of hand pump sets by cash from BADC's zonal stores or through BADC's appointed pump set dealers or by cash/credit from IRDP or by credit from BKB.
- The program is for BADC to sell 50% of the pump sets to PVOs, Cotton Development Board, etc. and directly through zonal store and appointed dealers for cash. Twentyfive percent (25%) would be sold through BKB for credit and 25% through IRDP.
- BADC has appointed 107 dealers and has seven zonal outlets. As of April 1980 BKB has 362 branches and IRDP has adopted 267 thanas.
- Purchase orders for 55,500 pump heads by 30 June 1980 are in pipeline.
- Pump set components are distributed to BADC's zonal stores at Joydebpur, Jamalpur, Comilla, Bogra, Jessore, Natore and Rangpur for sale and distribution.
- The constraint to date is to procure sufficient components (pipe/strainer/pump heads) to have a complete set to market.
- The forecast is that a total of 74,500 pump sets will be available by end of August 1980 if required pipe is made available by National Tubes.
- A program for publicity is being formulated. Publicity through National dailies and media is expected.
- BADC thru Project Manager (SSIP) will follow-up and monitor distribution of pump sets by participating agencies to farmers and determine if the small farmer is receiving and utilizing the pump sets and benefits derived.
- The table attached to Part 1 indicates the actual and credit sales to date.

6. FUNDING AND EXPENDITURES

- Details of "Estimated Project Expenditures/Commitments" are appended.

In summary :

Commitments	\$ 1,652,098
P.O. Issued	\$ 3,844,218
Other Costs	\$ 375,000
Additional Procurement	\$ 6,513,786
Contingency	\$ 1,614,898
	<hr/>
	\$ 14,000,000

USAID's disbursement to 31 May 1980: \$ 1,366,071.45

- The attached table projects procurement of at least a total of 128,000 pump sets financed with available funds. Additional procurements over this will depend on prices quoted in future tenders for pipe, strainers and pump heads.
- In accordance with PIL No.4, separate Imprest Fund to be operated by BADC is to be maintained for pipe and expanded to include other loan fund items i.e. pump heads and strainers. The status of these accounts will be provided by Project Manager (SSIP).

Estimated Project Expenditures

			Expressed in U.S. Dollar	Expressed in Taka (Tk. 15 = 1.00)
			<u>\$ 14,000,000</u>	<u>Tk. 210,000,000</u>
A. Loan Funds Available				
B. Commitments:				
Pipe	PIL No.11	240,000 rft @ 7.55	120,800	1,812,000
		1,560,000 rft @ 10.95	<u>1,138,800</u>	<u>17,082,000</u>
			\$ 1,259,600	Tk. 18,894,000
Consultant's Services to 3 Aug 80				
			Sub-Total	
			\$ 392,498	Tk. 5,887,470
			\$ 1,652,098	Tk. 24,781,470
C. Purchase Orders Issued:				
Strainers	PIL No.9	10,000 Nos.	96,867	1,453,000
	PIL No.14	78,800 Nos.	938,917	14,083,750
Pump Heads	PIL No.8	8,000 Nos.	149,400	2,241,000
	PIL No.10	48,000 Nos.	1,129,467	16,942,000
	PIL No.15	18,500 Nos.	434,567	6,518,500
Pipe	PIL No.13	1,500,000 rft @ Tk.10.95/ft	<u>1,095,000</u>	<u>16,425,000</u>
			\$ 5,496,316	Tk. 82,444,720
D. Other Costs				
Extension of Consultant's Services to 31 December 1981. Assist in procurement, marketing, monitoring of sales, project evaluation, etc.			375,000	5,625,000
E. Additional Procurement For Total 128,000 sets				
Pump Heads		53,500 @ Tk.420/ea.	1,498,000	22,470,000
Strainers		54,200 @ Tk.234/ea.	845,520	12,682,000
Pipe		3,336,213 @ Tk.18.75/rft	<u>4,170,266</u>	<u>62,553,994</u>
			\$ 12,385,102	185,776,594
			\$ 1,614,898	Tk. 24,223,406
			\$ 14,000,000	Tk. 210,000,000
F. Contingency				

7. PROJECT BENEFITS TO FARMER

- The Project broader goal is to achieve self-sufficiency in foodgrain production in Bangladesh. This goal would be achieved if total domestic foodgrain production equals 15 oz. capita per day. Foodgrain imports would be required only to maintain reserve stocks in case of disaster and for Food-for-Work and Nutritional Programs.
- With hand pump set a small farmer will be able to irrigate an average of $\frac{1}{2}$ acre increasing crop intensity and yields per acre. It is estimated that an additional $\frac{1}{2}$ ton of foodgrain per year per pump is obtained.
- UNICEF has been engaged in MOSTI program for about three years through IRDP. IRDP's Research, Evaluation and Monitoring Cell have recently completed a preliminary evaluation of MOSTI program which should be available at end of June 1980.
- UNICEF have engaged IBA (Institute of Business Administration) of Dacca to evaluate the economic benefits of MOSTI program. The preliminary draft is under UNICEF's review and information may be made available by mid-June 1980.
- Of six farmers interviewed in the field during a USAID/Consultant field trip in April 1980 in Natore, five were irrigating $3\frac{1}{2}$ bighas (1.155 acres) and one was irrigating 1 bigha (0.33 acres). Prior to obtaining hand pumps they could only grow rain-fed crops. Of these farmers one was irrigating waterlemons. He anticipated that the value of his crop would pay for the pump set at the end of the first season.
- CRWRC sends copies of purchase certificates to Project Manager (SSIP) which may be useful in locating farmers in future random population sampling survey.

8. LOGICAL FRAMEWORK

- The project purpose is to provide farmers with private ownership of small scale irrigation equipment.
- The objectively verifiable indicators to indicate that this purpose has been achieved, partially, are:
 - As of 31 May, BADC sold 8,702 hand pumps sets of which 4,000 were provided to BKB and IRDP for cash/credit sale to the farmers. Based on 0.5 acres being irrigated by each pump, the total acreage brought under irrigation is 4,351 acres.
- The outputs to date to meet project purpose are:
 - Credit available to farmer through BKB and IRDP.
 - Domestic production of hand pumps on-going.
- Further action required in media promotion, credit program and sales and distribution.

9. FUTURE PROGRAM

- Consultant assistance to BADC :
 - Local procurements of pipe, pump heads and strainers.
 - Import procurements.
 - Monitoring manufacturing and inspection of stores.
 - Warehousing of raw materials and finished pump sets.
 - Establish communication strategies and, evaluation of promotional and marketing procedure.
 - Review overall procurement and marketing system; determine constraints; improvements to present system; and, recommendations for future system.
 - Review manufacturing of pump sets components, its constraints and recommendations for improvement.
 - Review sales and credit arrangements, elimination of subsidies, sales through private sector, and submit recommendation on industry development.
 - Evaluate if objective to increase small farmer intensive agricultural productivity and reduce rates of rural unemployment and under-employment has been met and to what degree. Determine benefits in crop production by use of hand pump and project effect.