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 Field research and testing of water hand pump for use in developing countries; quarterly progress report, April-June, 1974

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 (101) Battelle Memorial Inst., Columbus, Ohio

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 Battelle

8. SUPPLEMENTARY NOTES (Sponsoring Organization, Publishers, Availability)
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9. ABSTRACT

(Engineering--Hydraulics R&D)

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June 28, 1974

Mr. A. Dale Swisher, P. E.
Office of Health
Technical Assistance Bureau
Agency for International
Development
Washington, D. C. 20523

Dear Mr. Swisher:

Twelfth Quarterly Progress Report on
Phase III "Field Research and Testing
of a Water Hand-Pump for Use
in Developing Countries
AID/csd - 3305
April 1 through June 30, 1974

During this past report period this program has been extended nine months to receive additional data from the field. In addition, CARE has reported that the new deep-well pump cap has been received in Lagos and turned over to the foundry involved in the pump program.

AID/Battelle Action

As a result of the past February 22 meeting and by mutual agreement, this program has been extended nine months until January 31, 1975. In addition to the extension of this program, an additional program to disseminate information being requested from business firms, institutions, governmental agencies, etc., all over the world has just been approved and work will begin early in July.

Report from Thailand

Although a sample new deep-well pump cap and patterns and core boxes to make additional parts were sent from Washington, D. C., March 1, 1974, no word has been received from AID-Thailand that the parts have even been received, if the sample pump cap has been placed in the field, or if any additional pumps have been made. However, it appears that this situation may change. Per letter from Abraham Grayson, it appears that information from Thailand is starting to come in and perhaps will continue to do so. A letter will be written to Mr. Grayson explaining our need of data from Thailand and particularly data concerning the new cap for which Mr. Grayson was the source of inspiration. The letter, a copy of which is attached to this report, does state that the pumps are still operating and are in good condition.

Report from Bangladesh

A meeting was held with Mr. Martin Beyer on June 13, 1974, to discuss the current program in Bangladesh. A test will soon be underway to evaluate 22 different styles of plunger cups. Although this program will extend beyond the limits of this program, data can be forwarded to whomever you designate. In addition, it was requested that additional effort be made to evaluate coated cylinders, and survey screen materials or coatings to help retard the emission of sand into the pipe. No action has been taken on these suggestions, but it is hoped that some work will be initiated in the near future. No official report has been received from Dacca regarding pump tests going on, but a personal letter from Dick Philips, UNICEF engineer heading up their rural water program in Bangladesh, states that orders for "almost 60,000" pumps with an 8 inch stroke have been placed with local foundries. These pumps are a smaller, lighter version of the AID-Battelle pump which has been successfully tested in that area. Dick said that drawings of the pump should be forthcoming soon. He also stated that 25 sets of serrated flapper plunger valves are ready to go on test. In spite of the seemingly little data, the response to the AID program with Battelle may be quite significant.

Report from Nigeria

As with AID, CARE also frequently changes their personnel assignments. Mr. Leo Pastore, only one week in his new position, reports that CARE Lagos received the sample deep-well pump cap, and patterns on May 13, and they have delivered this material to Nigerian Foundries. Although no plans have been formulated, a letter is being sent to the Lagos office requesting a plan of action. Battelle will also send some suggestions to the foundry as well as request again reports on pump production and field performance.

June 28, 1974

Mr. Pastore also suggested I contact Mr. O. Nielsen, chairman of the ad hoc committee on the Sahel, of the American Council of Voluntary Agencies for Foreign Service. It is hoped that the various agencies working in the Lower Sahara area can work together to obtain more effective, but less expensive rural water systems. Battelle will contact this group in the near future.

Future Work

In addition to the correspondence already mentioned in this report, it is planned that work will be started on the information dissemination program. It is requested that AID-Washington request the intentions of USOM Bangkok regarding the new pump and what data might be obtained over the next eight months. We do appreciate the expediency by which information is sent to Battelle when it is available.

If there are any questions concerning this report, please call Don Frink or me on our respective Extensions 2663 or 2681.

Sincerely,



Robert D. Fannon, Jr.
Research Engineer
Equipment Development
Section

RDF:lds

Enclosures (25)

cc: Ms. V. C. Perelli

3305

Enclosure

May 14, 1974

Mr. John Neave
SER/ENGR
Department of State
Agency for International Development
Washington, D. C. 20523

Subject: Battelle Pump Testing Report

Dear John:

Attached please find subject report from the ARD Well Drilling Center at Khon Kaen. This report covers the period from December 1973 - April 1974.

Additional reports will be forwarded to you as available.

Sincerely yours,

DIST:
O/FO
FO/ENG
M/CR

Abraham Grayson
Chief Engineer
Office of Field Operations

Attachment: As stated.

cc: Mr. Sloan, SER/ENGR (SA)
Mr. Swisher, SER/ENGR
Dr. Shutt, O/HPP

FO/ENG:AGrayson:vc

Translation

Well Drilling Center, Khon Kaen

April 1974

To : Khan Mintara Silawatshanani

Refer to your note sent to the Center requesting for the Battelle Pump testing results, we would like to inform you that all the pumps installed at three different spots are still in good condition. The Center has just repaired the pump lately as attached "Repair and Maintenance Monthly Report" dated April 1974.

Sincerely Yours,

(Nai Voraphot Thira Amphon)
Asst Chief of Center

Battelle Pump

Pump Repair and Maintenance Report
Well Drilling Center, Khon Kaen
April 1974

Well No.	Village	Tambon	Amphoe	Changwat	Repair items	Repaired Date	Remarks	
KK4B1-70	Muang	Ban Thum	Muang	Khon Kaen	Coupling, rod 1 Rod 7/16"-5/8" Rod 5/8" x 1' Nut Grease	1 pc. 1 pc. 1 pc. 2 pc.	Dec. 18, 1973	PH 3
"	"	"	"	"	Nut ϕ 9/16" x 1 1/2"	4 pc.	Jan. 10, 1974	
"	"	"	"	"	Top connecting rod Pin Grease	1 pc. 2 pc.	Apr. 2, 1974	
KK52C72-72	Bia Fan	Bua Ngoen	Nam Phong	"	Body pump base 6" Body pump pipe ϕ 1 1/4" x 10' Rod ϕ 7/16" x 10' Coupling, rod Nut Grease	1 pc. 1 set 6 pc. 6 pc. 10 pc. 10 pc.	Apr. 29, 1974	
Drilled by villagers	Lao Na Di	Ban Thum	Muang	"	Pin ϕ 1/2" x 5" Top connecting rod 7/16" x 1' Cylinder leather Spring check valve Rod 7/16" x 2' Grease	3 pc. 1 pair 1 pair 1 pc. 1 pc.	April 19, 1974	
"	"	"	"	"	Body pump Cylinder leather Grease	1 pc. 1 pair	Jan. 10, 1974	
"	"	"	"	"	Cylinder leather Pin Grease	1 pair 2 pc.	April 5, 1974	