Simplified Ex-Post Evaluation for Grant Aid Project

Evaluator, Affiliation	Nobuko Fujita Foundation for Advanced Studies on International Development	Duration of Evaluation Study
Project Name	The Project on Strengthening of Water Examination System in the People's Republic of Bangladesh	January 2010 – December 2010

I Project Outline

Country Name	The People's Republic of Bangladesh	
Project Period	September 2004-March 2006	
Implementing Agency	Department of Public Health Engineering（DPHE）	
Project Cost	Grant Limit: 495 million yen	Actual Grant Amount: 493.7 million yen
Main Contractors	Construction: Shimizu Corporation　　Procurement: Sumitomo Corporation	
Main Consultants	Kokusai Kogyo Co., Ltd.	
Basic Design	Basic Design Study: February 20, 2004-August 10, 2004	
Related Projects (if any)	1. JICA, Development study on the groundwater development of deep aquifers for safe drinking water supply in arsenic affected areas(2000-2003) 2. JICA, Expert in arsenic mitigation(Local Government Department 2000-2002 and 2004-2008, and DGHE 2000-2006) 3. JICA, The Mobile Arsenic Center Project for Solving Arsenic Contamination of Drinking Water (2002-2004) (Partnership Program) 4. JICA, The Project for Sustainable Arsenic Mitigation under the Integrated Local Government System in Jessore, 2005-2008 (Project-Type Technical Cooperation) 5. JICA, The Project for Strengthening Capacity for Water Quality Analysis and Monitoring Systems in Bangladesh, 2009-2012 (Project-Type Technical Cooperation)	
Project Background	Since arsenic contaminated wells were first found in Bangladesh in 1993, arsenic contamination of underground water has become the nation wide problem. Previously simple examination of the water safety was implemented, but an adequate examination system that ensured accurate analysis of drinking water was not established. The problems of the examination system were: a lack of laboratories, equipment, and human resources to do analysis; inadequate equipment maintenance and procurement of test kits; inappropriate management of data on water quality; and lack of policy feedback of the examination results.	
Project Objective	To establish the Central Laboratory in Dhaka and rehabilitating two local laboratories in Jhenaidha and Noakhali, in order to establish drinking water examination system in Bangladesh	
Output[s] (Japanese Side)	1. Establishing the Central Water Examination Laboratory in Dhaka with adequate equipment 2. Rehabilitate the existing local laboratories in Jhenaidha and Noakhali districts with adequate equipment	

II Result of the Evaluation

Summary of the evaluation

This Project established the Central Water Examination Laboratory (Central Laboratory) and rehabilitated local laboratories in Jhenaidha and Noakhali districts. Prior to this Project, a nationwide water examination system did not exist, and local laboratories were under the control of the district offices of Department of Public Health Engineering (DPHE). Because of this, although the examination data were sent to the central authority, there was no organization to manage them properly. This Project established a new section, the Water Quality Monitoring and Surveillance Circle (WQMSC), to manage drinking water examination nationwide at DPHE, and established a nationwide system to manage the Central laboratory and the eleven local laboratories including Jhenaidha and Noakhali to carry out drinking water quality examinations.

After the completion of the three laboratories, the full operation was put off for 1-2 years due to the delay in staff assignment. During this period, the staff seconded or temporarily assigned from other local laboratories operating machinery periodically for maintenance, and newly recruited staff was trained by short-term experts in order to gradually start the operation. Meantime, a technical cooperation project, “The Project on Strengthening of Water Examination System (2009-2012)” with an objective to enhance water examination and monitoring capacity of DPHE was started and is still continuing.

Because of that, the number of water quality examinations at central and local laboratories, and the number of training sessions at the Central Laboratory have almost achieved the pre-set target. The water quality examination results are used to promote and develop alternative water sources. We can expect further upgrading of technique and organizational strengthening by the above technical cooperation project.

Although this evaluation understands that it may take more time to establish water supply system in order to achieve the overall goal “to improve the safety of drinking water,” its first step, to establish and strengthen drinking water examination systems, was achieved. This evaluation also observed some problems in sustainability because of delays repairing of some equipment and the difficulty in assigning staff to the central and local laboratories. However, since above mentioned technical cooperation project is currently underway, improvement in capacity of WQMSC is expected.

In light of the above, this project is evaluated to be highly satisfactory.

<Recommendations>
Even if buildings and equipment are completed within the planned period, the equipment maintenance may incur costs and the effects of the soft component may be reduced if the implementing agency is not ready to utilize the facilities. It is recommended to monitor personnel assignments, and if they are delayed, to prod the Bangladeshi government so that the project can start operating as soon as facilities and equipment are ready.

1 Relevance

(1) Relevance to the Development Plan of the People's Republic of Bangladesh

"The fifth 5 year plan (1997-2002)" includes a goal of "improvement of sanitation in water supply." Also, PRSPII, revised in 2008, includes water and sanitation as an area for "improvement of public services to meet BHN" in its strategy to achieve the MDGs. The government also emphasizes arsenic mitigation and formulated the "National Policy for Arsenic Mitigation" in 2004 to strengthen the policy implementation.

(2) Relevance to the Development Needs of the People's Republic of Bangladesh

While Bangladesh has had a serious arsenic poisoning problem, the water quality examination system of DPHE was inadequate. Without the core organization necessary for establishing a nationwide drinking water quality examination system, it was difficult to maintain appropriate equipment and procure test kits. In addition, accuracy management, water quality data management, and feedback from examination outcomes in the policy implementation were difficult. Even today, arsenic poisoning requires continuing and prompt countermeasures that include upgrading of nationwide water quality examination system.

(3) Relevance to Japan's ODA Policy

"Japan's Country Assistance Program for Bangladesh" formulated in May 2006 designates social development (basic human life and human resource development) as one of the four pillars of assistance.

From the above, this project has been highly relevant to the country's development plan, development needs, as well as Japan's ODA policy; therefore its relevance is high.

2 Efficiency

(1) Project Outputs

Construction of the DPHE Central Laboratory, procuring equipment for it, and the rehabilitation of two local laboratories were completed as planned except for minor changes in the roof and window specifications. As part of the soft component, 75 personnel were trained in the management of laboratories, analysis, equipment maintenance, and database management among others.

(2) Project Period (Project Inputs)

Including detailed designing and tendering periods, the Project was completed in 17 months, 2 months shorter than planned. (equal to 89.5% of planned period)

(3) Project Cost (Project Inputs)

The Project spent 493.7 million yen against the Project budget of 495 million yen. (equal to 99.7% of planned cost)

From the above, both project period and project cost were within the plan, therefore efficiency of the Project is high.

3 Effectiveness / Impact

(1) Quantitative Effects

Central Laboratory did not have staff assigned when the construction was completed and transferred; this delayed the full operation by one and half years. Subsequently, staff recruitment gradually proceeded and since WQMSC was established in July 2008, organization was improved and water examination is currently full operational. The number of drinking water examinations in 2009 combining regular examinations and irregular ones requested by NGOs and others was 1,375 which is close to the 2011 goal of more than 1,500.

Laboratories at Jhenaidha and Noakhali had delays in personnel assignment after the rehabilitation and installation of the equipment, and this delayed the initiation of the full operation by two years and one year respectively. Currently each laboratory has a staff of 5 and the number of the examinations was 3,932 at Noakhali laboratory and 1,286 at Jhenaidha laboratory in 2009, accounting for 25 % of all the examinations by 11 local laboratories in total.

The total annual number of examinations by existing local laboratories supervised by WQMSC reached 20,746 in 2009, accounting for 2/3 of the 2011 goal which was 30,000. (Prior to the Project, the number of examinations in the all local laboratories in 2004 was 8,000). The number of training sessions at the Central Laboratory was 25 in 2009, almost achieving the 2011 objective of 26 sessions. It can be said that the planned objective was almost achieved, although this is largely due to the technical cooperation project previously mentioned.

(2) Impacts (Impacts on the natural environment, Land Acquisition and Resettlement, Unintended Positive/Negative Impact)

Although the Project had "the supply of safe water without arsenic poisoning among others" as an overall goal, improving drinking water safety requires not only an examination system but also a water supply system, and this requires substantial time. The results of water examination upgraded by this project contributed to developing alternative drinking water sources. There was no impact on land acquisition and the natural environment.

From the above, this project has somewhat achieved its objectives; therefore its effectiveness is high.

4 Sustainability

(1) Structural Aspects of Operation Maintenance

As mentioned above, WQMSC was established to manage the central and local laboratories for nationwide water examination at DPHE, 135 positions were newly established, and 99 positions are already staffed up to now.

In the Central Laboratory, only 13 out of 37 positions are filled. Particularly, positions at managerial rank are not sufficiently staffed and the need to strengthen management is pointed out.

Local laboratories have just over half of their positions staffed (Jhenaidha 5 out of 9 positions, Noakhali 5 out of 9 positions). This causes difficulty in administering all the necessary well water sampling tests including the ones in remote areas although they are able to examine water brought in.

The assistance from central to local laboratories includes training, chemical supplies and spare parts, and advice regarding maintenance and simple repair. Local laboratories also send to the Central Laboratory monthly water examination reports, reports on the chemical stocks semi-annually, and the chemical waste to be treated appropriately by the Central Laboratory waste management facility.

(2) Technical Aspects of Operation Maintenance

Currently, it is reported that the equipment is mostly well used, maintenance manuals are prepared, and regular examinations are undertaken.

Among the personnel who were trained during the project period, all the seven personnel of the Central Laboratory and three out of four staff remain assigned to the Jhenaidha laboratory. At the Noakhali laboratory, all the three who received training resigned; however other staff received training on a separate occasion, thus causing no negative effect on examination activities. The technical cooperation project mentioned above increased the opportunities of training and it is expected that the Central Laboratory will continue to provide technical assistance to local laboratories.

(3) Financial Aspects of Operation Maintenance

The Central Laboratory received more than the planned budget as of FY2008, and since FY2009, the budget for WQMSC is allocated as independent regular budget. The equipment has not yet had major problems, and all the chemicals and spare parts which are available in the country are procured for both central and local laboratories as annually planned.

(4) Current Status of Operation Maintenance

Equipment is regularly maintained by using instruction manuals, and the chemicals are safely stored. Some equipment and air conditioners at the central and Jhenaidha laboratories need to be repaired.

Some problems have been observed in terms of staffing and equipment therefore sustainability of the project effect is fair.