

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Myanmar office: March, 2014

Country Name	The Project for Rural Water Supply Technology in the Central Dry Zone
Republic of the Union of Myanmar	

I. Project Outline

Background	<p>The central dry zone of Myanmar is a subtropical semi-arid zone. Its annual rainfall is 400-800 millimeter and most of the rain is concentrated from May to October. The residents of many villages in the zone depend on reservoirs where rain was collected for daily water use and when the water level of the reservoirs fell very low in the middle of the dry season, they have to go to wells several Kilometers away to fetch water (at the time of ex-ante evaluation). To overcome such a situation, thousands of wells were formerly constructed by the Myanmar Government and international organizations. However, many of the wells constructed in the past have already been broken. Therefore, rehabilitation of the existing wells as well as new construction of wells was priority issues.</p>				
Objectives of the Project	<ol style="list-style-type: none"> Overall Goal: The number of villages in the Central Dry Zone with access to safe drinking water is increased. Project Purpose: Capacity for construction, repair and maintenance of water supply facilities in the Central Dry Zone is strengthened. Assumed steps for achieving the project goals: The project implements technical training to staff of Department of Development Affaires (DDA) (current Department of Rural Development (DRD)). By realizing this training, the project aims to strengthen the capacity of DDA (current DRD) for construction, rehabilitation, maintenance and monitoring of rural water supply facilities. DDA (current DRD) promotes new construction and rehabilitation of deep tube wells in the Central Dry Zone. As a result, the accessibility to safe drinking water of villages in the Central Dry Zone will increase. 				
Activities of the project	<ol style="list-style-type: none"> Project site: Sagaing, Magway and Mandalay Divisions Main activities: Training to DDA (current DRD) staff, preparation of the manual on the management and maintenance of water supply facilities, and provision of equipment/materials for the well rehabilitation training. Inputs (to carry out above activities) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> Japanese Side <ol style="list-style-type: none"> Experts: 14 persons(3 persons for Long term, 11 persons for Short term) Trainees received: 9 persons Equipment: mono pump, tricone bit, boring nod, casing, screen, diesel engine, borehole camera, etc. </td> <td style="width: 50%; border: none;"> Myanmar Side <ol style="list-style-type: none"> Staff allocated: 76 persons Land and facilities: project office, electricity Others: Procurement of materials for field work and construction of maintenance workshop in Nyaung-U in the Mandalay Division </td> </tr> </table> 			Japanese Side <ol style="list-style-type: none"> Experts: 14 persons(3 persons for Long term, 11 persons for Short term) Trainees received: 9 persons Equipment: mono pump, tricone bit, boring nod, casing, screen, diesel engine, borehole camera, etc. 	Myanmar Side <ol style="list-style-type: none"> Staff allocated: 76 persons Land and facilities: project office, electricity Others: Procurement of materials for field work and construction of maintenance workshop in Nyaung-U in the Mandalay Division
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Project Period	November 2006 – October 2009	Project Cost	589 million yen		
Implementing Agency	Department of Rural Development (DRD), Ministry of Border Affairs (MOBA) (Former Department of Development Affaires (DDA), Ministry of Progress of Border Area and National Races and Development Affair)				
Cooperation Agency in Japan	Kokusai Kogyo Co., Ltd. Bridge Asia Japan (BAJ)				
Related Projects	<p>Japan's cooperation:</p> <ul style="list-style-type: none"> The Study on Water Supply Systems in Mandalay City and in the Central Dry Zone (Development Study, 2001-2003) The Provision of Equipment for Rural Water Supply Project in the Central Dry Zone (Grant Aid, 2012-2014) Expert on Reinforcement of Maintenance Workshop for Rural Water Supply Facilities in the Central Dry Zone (Technical Cooperation, 2010-2011) <p>Other donors' cooperation: (project name)</p> <ul style="list-style-type: none"> Secure Water Supply Programme in the Central Dry Zone (Bridge Asia Japan (BAJ)) Water Supply Project (UNICEF) 				

II. Result of the Evaluation¹

¹ Constraint of Evaluation: The ex-post evaluation reexamined the appropriateness of the indicators for project purpose and overall goal, and modified their indicators by adding and replacing to alternative indicators in order to assess their achievement appropriately.

1 Relevance

This project has been highly relevant with Myanmar's development policy ("improvement of rural water supply system" in the Ten Year Plan for Rural Water Supply by Development Committees of Sagaing, Magway and Mandalay Divisions (2000/01-2009/10) and the Five Year Plan for Rural Water Supply Development in the Central Dry Zone (2011/12-2015/16)), development needs ("improvement in accessibility safe drinking water in the central dry zone"), as well as Japan's ODA policy for Myanmar with the priority area of humanitarian assistance with urgency through improvement in accessibility of safe drinking water, at the time of both ex-ante evaluation and project completion.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project focuses on strengthening of DRD's capacity for construction, repair and maintenance of water supply facilities in the Central Dry Zone. At the final test conducted in June 2009 for evaluation of comprehension and achievement of trainees on 6 fields (geophysical survey, hydrogeology, well drilling, well rehabilitation, maintenance and monitoring, and maintenance workshop), 63 out of 73 counterparts (about 86% of counterparts of DRD) successfully achieved a passing score of either grade A (more than 80% of score) or grade B (60-80% of scores). The performance of three drilling teams was also evaluated as grade A. Several counterparts were able to act as supervisors in the respective fields, and the maintenance workshop could function as the backstopping for other teams by the project. Regarding the new construction of deep wells, total 25 new deep wells were constructed during the project period and 3 wells were found not to meet the WHO water quality standards. As a result, 22 wells were identified as successfully constructed wells. Regarding the rehabilitation of wells, after diagnosis of existing 40 wells, total 34 wells were rehabilitated or replaced during the project period, yet 6 wells did not meet the WHO water quality standards. As a consequence, 28 wells were identified as successfully rehabilitated wells. Among the wells mentioned above(25 and 34 wells), 10 wells were developed by DRD independently by utilizing the advanced technology transferred from the project and 8 out of 10 wells were successful wells that satisfied the WHO water quality standards. This demonstrates the capacity improvement of DRD in well development. At the time of ex-post evaluation, it was confirmed that 16^(Note 1) newly constructed wells and 26 rehabilitated wells are still functional in good condition. The reasons for non-functional 3 wells are water quality problem especially high contamination of Fluoride or Nitrate which significantly affects the safety of drinking and Iron which damages the well facilities and availability of water volume at water source and colors laundry and smells rusty. Regarding this issue, DRD as well as City Development Committee (CDC) and Township Development Committee (TDC)^(Note 2) plans to construct the new wells as replacement of problematic wells in accordance with their strategic plan for 2013-2016.

As for overall goal, activities for development of rural water supply such as development of deep wells, shallow wells, hand-dug wells, water reservoir, gravity water supply facility and pond renovation were conducted in the Central Dry Zone by DRD and TDC. Owing to this, the number of villages in the Central Dry Zone which does not access to safe drinking water^(Note 3) was reduced from 8,042 (51% of total number of villages) in 2001 to 2,398 (16% of total number of villages) in 2013. According to the interview results to 5 Village Water Committees (VWC) in the project target area, the positive impacts such as reduction in water drawing time, reduction in incidents of waterborne diseases, and improvement in hygiene condition are observed. Getting the well facilities nearby, the villagers could reduce the time of water drawing, and the saved time by this reduction are utilized for agricultural activities for adults as well as studying at schools for children. Since safe drinking water with sufficient volume are available, villagers wash the body every day in all seasons and utilize safe water for cooking and drinking, hence their hygiene condition was improved. Furthermore, after establishing VWCs at each village, water fund was created and the fund was utilized for village electrification and micro-credit for poor households to support their livelihood and create income generation activities.

In this way, this project has achieved the project purpose and the overall goal. Therefore, effectiveness of the project is high.

Note 1: Due to lack of the current data concerning the new 5 wells developed by DRD independently, this figure means 16 out of 17 wells developed by JICA and DRD are still functional at the time of ex-post evaluation.

Note 2: When the former DDA was reorganized to DRD in 2012, its subordinate organizations in divisional/provincial and township levels were transferred from DDA to each municipal government and their functions were integrated to each CDC and TDC.

Note 3: The villages with accessibility of safe drinking water mean that a village where at least one well satisfying the WHO water quality standards is developed for use of drinking water.

Achievement of project purpose and overall goal		
Aim	Indicators ^(Note 4)	Results
(Project Purpose) Capacity for construction, repair and maintenance of water supply facilities in the Central Dry Zone is strengthened.	The report on lessons learned and Good Practices is prepared.	(Project completion) Good practice and lessons learned were incorporated in materials (textbook, manuals and data books) developed by the project. (Ex-post evaluation) The materials have been utilized continuously.
(Overall goal) The number of villages in the Central Dry Zone with access to safe drinking water is increased.	The number of villages in the Central Dry Zone which does not have access to safe drinking water is reduced by half by 2015.	(Ex-post Evaluation) The number of villages in the Central Dry Zone which does not access to safe drinking water was reduced from 8,042 (51% of total number of villages) in 2001 ^(Note 5) to 2,398 (16% of total number of villages) in 2013.

Source : Project Completion Report, The Five Year Project for Rural Water Supply by DRD, Interviews with counterparts.
Note 4: The indicators for overall goal and project purpose are original ones stipulated in Project Design Matrix at ex-ante evaluation.
Note 5: These data was cited from the documents provided by counterparts at the time of ex-post evaluation.

3 Efficiency

The project period was within the plan (ration against the plan: 100%). The project cost was slightly exceeded the plan (ration against the plan: 122%) because of procurement of additional maintenance equipment. The project inputs were appropriate for producing the outputs of the project. Therefore, efficiency of this project is fair.

4 Sustainability

In policy aspect, this project is still given importance in the current development policy such as the Action Plan on Rural Development and Poverty Alleviation (2011) established by the Ministry of National Planning and Economic Development.

Regarding the institutional aspect, after reorganization of former DDA in 2012, there are two types of organization are responsible for development, operation and maintenance of rural water supply facilities, namely, DRD in the central government level and CDC and TDC in the municipal government level. However, this institutional setting is still in a transitional period, and it is planned to reintegrate the current responsibility and function of CDC/TDC regarding rural water supply into DRD as same as former DDA. Some of counterparts who received the training by the project have continued to work at DRD and CDC/TDC. On the other hand, VWCs established in each village are in charge of routine maintenance of well facilities and water bill collection. The board members such as a chairperson, a secretary, an accountant, and an auditor are elected from the members and VWCs are managed according to the rule and regulation. In addition, operation and maintenance (O&M) staff such as a pump operator and a water bill collector are employed by VWCs. The members actively participate to the activities of VWCs and generally VWCs are functioning without problems.

Regarding the technical aspect, DRD has continued to maintain and disseminate the acquired knowledge and skills by the project though provision of training for their staff as well as newly established VWCs by utilizing the 9 types of materials (textbook, manuals, and data books) developed by the project. The field staffs of DRD and CRD/TDC implement periodic monitoring and technical support to VWCs about six wells per month for maintenance of well facilities. VWCs conduct routine maintenance and minor repair of well facilities, and DRD and CRC/TDC dispatch their staff to villages in case of major maintenance that VWCs cannot to deal with.

Regarding financial aspect, in line with the Five Year Plan for Rural Water Supply Development in the Central Dry Zone (2011/12-2015/16), the O&M budget allocated to DRD have been increasing year by year, and it seems sufficient. Besides, VWCs have no problems in water bill collection and management of water fund according to interviews with five VWCs.

This project has no problems in policy, institutional, technical and financial aspects, hence sustainability of this project effect is high.

5 Summary of the Evaluation

The project has sufficiently achieved the project purpose and overall goal. About 86% of counterparts achieved a passing score of more than grade B (60-80% of scores) at the final test. During the project period, total 50 deep wells were newly constructed or rehabilitated successfully, which included 8 successful wells developed by DRD independently by utilized advanced technology transferred from the project. Activities for development of rural water supply were conducted in the Central Dry Zone by DRD and TDC, the number of villages in the Central Dry Zone which does not access to safe drinking water was reduced from 8,042 in 2001 to 2,398 in 2013. Also the positive impacts such as reduction in water drawing time, reduction in incidents of waterborne diseases, and improvement in hygiene condition were observed. Furthermore, the water fund managed by VWCs also brought about positive social impacts such as village electrification and initiatives to support poor families in the villages.

As for sustainability, there are no problems observed at the time of ex-post evaluation. As for efficiency, the project cost slightly exceeded the plan due to procurement of additional maintenance equipment.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- It is recommended to accelerate the process for reintegration of the current responsibility and function of CDC/TDC regarding rural water supply into DRD as same as former DDA in order to streamline the organizational and administrative function and responsibility for rural water supply development covering both the central and regional levels. This will strengthen the institutional, technical, and financial capacity of the implementing agency for rural water supply development.

Lessons learned for JICA:

- One of the key factors for successful realization of project effects and positive impacts is that the project fully utilized the knowledge and experience of Bridge Asia Japan (BAJ), a Japanese International development NGOs which already has experiences in rural water supply development in the Central Dry Zone and established good relationship with local people. It is suggested to make a full use of the accumulated knowledge and experiences of NGOs engaged in grass-roots or community based activities in the target area so that this promotes to understand the social and cultural characteristics in the target area.



Well drilling



Site of water supply