

Country Name	The Project for Rural Water Supply and Sanitation in Kano State
The Federal Republic of Nigeria	

I. Project Outline

Background	<p>In Nigeria, the water supply coverage in urban areas was 81% but the ones in rural areas where nearly 60% of the total population inhabited was 39% (WHO, 2000). In Kano State, while 80% of the population lived in the rural areas (Kano State Statistical Year Book, 2003), the water supply coverage in the rural area was only 14.8 % and considerably low compared to the national average. Therefore, most of the people in the state were forced to use unsanitary water sources such as streams, ponds, and hand dug wells, which caused high incidence of water-borne diseases. While the incidence of guinea worm which had used to be one of a serious water-borne disease in the state was very limited after the UNICEF's eradication campaign of using filters for drinking water, the incidences of other water-borne diseases such as diarrhea, cholera, and dysentery still remained, in particular at the beginning of rainy season in May and July and of dry season in September and October. Under those situations, improvement of the water supply coverage in the state had been a keen issue to be addressed as a part of sanitation improvement program.</p>			
Objectives of the Project	<p>To develop water supply facilities in the selected villages of Kano State and establish the Village Water and Environment Sanitation Committees (VWESCs)* for operation and maintenance (O&M) of the facilities through procurement of necessary equipment for groundwater development and strengthening O&M system, thereby contributing to improvement of water supply and sanitary conditions of the people in rural areas of Kano State.</p> <p>*Note: VWESC (now renamed as WASHCOM (Water Sanitation and Hygiene Committee) by Kano RUWASA) is a village level committee run by a community to properly operate and maintain a borehole constructed in the community. The necessary knowledge and skills for O&M of the borehole are expected to be transferred from the Local Government Areas (LGA) Unit to the community.</p>			
Contents of the Project	<ol style="list-style-type: none"> 1. Project Site: Kano State 2. Japanese side <ul style="list-style-type: none"> • Procurement of equipment: drilling, geophysical survey, pumping test, vehicles, operation and management (O&M) tools, etc. • Technical Assistance (Soft component): technical training for construction management, strengthening of O&M system for water supply facilities 3. Nigeria's side: <ul style="list-style-type: none"> • Construction of borehole including procurement of consumable materials for drilling, and establishment of VWESC at each community 			
Project Period	E/N Date	July 11, 2005	Completion Date	December 20, 2006 (completion of soft components)
	G/A Date	July 11, 2005		
Project Cost	E/N Grant Limit / G/A Grant Limit: 356 million yen, Actual Grant Amount: 350 million yen			
Implementing Agency	The Federal Ministry of Water Resources (FMWR) The Rural Water Supply and Sanitation Agency of Kano State (RUWASA)			
Contracted Agencies	Main Contractor(s): Marubeni Corporation Main Consultant(s): Yachiyo Engineering Co., Ltd.			

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- According to the basic design study report, one of the indicators to verify quantitative effects is "Ratio of decreased patients with water-borne diseases in the rural areas of Kano state". However, the installation of boreholes in the targeted areas of Kano state can increase clean water to be supplied in the target sites but cannot directly decrease the incidence of water-borne diseases in the entire rural areas of the Kano State. Therefore, the indicator was verified in the target sites of the project as an expected positive impact by the project.

1 Relevance

<Consistency with the Development Policy of Nigeria at the Time of Ex-Ante and Ex-Post Evaluation>

The project has been consistent with the Nigeria's development policies of the "National Water Supply and Sanitation Policy" (2000) and the "National Economic Empowerment and Development Strategy" (2004), aiming at an increase in the water supply coverage to 100% by 2011, at the time of ex-ante evaluation as well as the "Partnership for Expanded Water Supply, Sanitation and Hygiene" (2016), extending the target year to 2030, at the time of ex-post evaluation.

<Consistency with the Development Needs of Nigeria at the Time of Ex-Ante and Ex-Post Evaluation >

The project has been consistent with the Nigerian development needs of installing boreholes across the country, particularly in rural areas, to increase the water supply coverage and prevent water-borne diseases including Guinea worm, diarrhea and cholera. The development needs were confirmed at the times of ex-ante evaluation and of ex-post evaluation.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy for Nigeria, which was confirmed by the policy dialogue for economic cooperation between Japan and Nigeria in 1999, to support water supply as one of the 6 priority areas through installation of boreholes, organization of communities, capacity building of maintenance, and health education.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Effectiveness>

The project objectives have been partially achieved by the time of ex-post evaluation. Although the number of boreholes constructed in the target areas by using the equipment installed by the project (Indicator 1) was 168 in 2009, a target year, it reached the target value of 240 in 2011¹. On the other hand, according to the records in RUWASA, the estimated number of VWESCs established in the target areas in 2009 was 70 which was far below the target value of 240. It has not been encouraged to establish VWESCs in other villages because the rest of the provided maintenance kits were distributed to other Local Governments by the then Deputy Governor of 2009 without any prior training. After this irregularity, the rest of the remaining 170 VWESCs were later formed by Kano RUWASA without the necessary training and handing over maintenance toolkits as recommended in the project activities. Since 2015, VWESCs have been organized in partnership with UNICEF. However, that influence is limited to only 2 LGAs which are not in the targeted areas under the JICA's project.

Geological terrain was a major constraint, thus the construction work in 9 out of the targeted 37 LGAs (Tsanyawa, Minjibir, Rimin Gado, Kabo, Kiru, Rano, Shanono, Bagwai and Dawakin Kudu) was slowed down. In addition, the following factors brought about the delays of construction works: i) inaccessibility of some project sites, particularly during rainy season (from July to September), ii) interference by the state supervisory ministry in the course of the project execution, iii) absence of a conducive office space at midterm of project period for the Agency, iv) breakdown of the drilling compressor procured by the project, v) vandalization of the drilling machineries during a Local Government election in 2007 by political thugs. Although all the equipment installed by the project was functional until 2011, some of the equipment, such as drilling compressors, has been broken down since 2013 due to inappropriate work at the site.

The technical assistance by the soft component of the project had contributed to improve technical skills of RUWASA since RUWASA had completed the 240 boreholes construction by using the equipment installed by the project. However, the developed training manuals for RUWASA to train VWESCs were not adopted and have not been used during the time of the project since the management of RUWASA at the time deemed it was unnecessary because the staff had known about the trained subject by the soft component. However, Kano RUWASA restarted the use of the manuals recently.

<Impact>

Some positive impacts by the project were observed at the time of ex-post evaluation. According to the 19 interviewees from villages visited by the field survey of the ex-post evaluation, there has been no case of water borne diseases since the borehole installation. Also, the constructed boreholes minimized time and burden for fetching water by female through improvement of accessibility to water. However, improvement of the water supply coverage in the target sites was not able to be verified due to unavailable data². No negative impact was observed at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, a certain positive effect of the project has been observed. Therefore, the effectiveness/impact of the project is fair.

Quantitative Effects

Indicators	Baseline 2004 Baseline Year	Target 2009 3 Year(s) after Completion	Actual 2009 3 Years after Completion	Actual 2010 4 Years after Completion	Actual 2011 5 Years after Completion
Indicator 1 Number of boreholes in the targeted areas*	0	240	168	222	240
Indicator 2 Number of VWESCs in the target areas	0	240	70** (Estimated)	240	240

Source : Project Completion Report (2011) provided by RUWASA, Interviews with RUWASA/Residents in the targeted areas

*Note 1: The data of the indicator 1 is the number of boreholes constructed by using the equipment installed by the project and existing two rigs.

**Note 2: Since about 70 tool kits were distributed after completion of the training by 2009. Judging from this evidence, almost 70 VWESCs were established at that moment. And the remaining 170 were established after 2009, without proper training and handing over training kits.

3 Efficiency

Although the project cost was within the plan (against the ratio: 98%), the project period exceeded the plan (against the ratio: 124%) due to a delay of issuing a tax waiver for the equipment imported from Japan brought by mismanagement on the Nigerian side.

Therefore, the efficiency of the project is fair.

4 Sustainability

<Institutional Aspect>

There has been no organizational change in RUWASA. RUWASA has been responsible for O&M of equipment supplied by the project as well as promotion of establishing VWESC by encouraging communities where boreholes are constructed. The Water Supply Department, in charge of borehole construction using the equipment has 28 staff (5 for geophysical survey, 8 for drilling, 5 for pumping test and 16 for hand pump installation) with 6 staff playing dual roles in the different work units. The Workshop Department has 8 out of 13 staff in total (2 administrative staff for service delivery, 3 mechanics for repairing, 1 electrician for welding works and 2 operators for maintenance of compressor and generator) for maintenance of the equipment procured by the project. Since the number of mechanics decreased from 7 to 3 in 2005, the slow progress of repairs of their equipment can be attributed to the low numbers of mechanics. The Planning and Community Mobilization Department has been in charge of encouragement of communities to establish VWESC for O&M of

¹ By the completion of 240 boreholes, 286 boreholes have drilled. 31 boreholes out of 286 were dry and 15 boreholes out of 286 were below the water volume standard (0.2 L/sec). Totally, 46 boreholes were abortive.

² Although the water supply rate in rural and semi-urban area in 2016 was recorded as 12.5% in the Kano State Water Supply Master Plan (KNWSMP) 2016 -2018, it was lower than the target value of 16.8% and the baseline of 14.8%.

boreholes with 7 staff. However, since the limited number of technicians/technical staff constrains activities for monitoring and support for the communities, the General Manager of RUWASA has requested the state government to employ 20 technicians for both water supply and community mobilization teams. Although there is no proper monitoring system in the Kano state, they started to introduce a monitoring and support system for keeping well-functioning boreholes in the selected 2 LGAs with the support of UNICEF as a pilot activity.

<Technical Aspect>

The staff of the Water Supply Department and the Workshop Department has got necessary technical knowledge and skills for borehole construction and O&M of the equipment for borehole construction, respectively, through On-the-Job Training (OJT). The staff of the Planning and Community Mobilization Department have also necessary skills and knowledge to support VWESCs in order to make them properly carry out O&M of water supply facilities, respectively. The funding for official trainings is classed under overheads costs of the State Government, but they are sometimes delivered by a special funding by the State Government in case where the fund is available.

At the village level, it is deemed that VWESCs may not have sufficient technical capacity to properly conduct daily O&M of hand pumps for the boreholes and management of VWESC including money collection and hygiene and sanitation practices. According to the officers in charge of installation, maintenance and training mentioned that only about 70 of the 240 locations received VWESC training as of 2009. Since the funds for training has not been executed by the State Government and about 170 sets of maintenance kits were distributed to other LGAs with a political decision of the Deputy Governor in 2009, training for VWESC has been suspended since 2010. In fact, a VWESC surveyed for the ex-post evaluation³ has not sustained the knowledge and skills for daily operation of hand pumps and management of VWESC.

<Financial Aspect>

The total capital budget of RUWASA disbursed by Kano State Government has been increased from 25 million NGN (Nigerian Naira) in 2014 to 66 million NGN in 2015, and further increased to 1.518 billion NGN in 2016 with the approval of approximately 263 million NGN for the UNICEF project for construction of boreholes which may use the equipment installed by the project. For the O&M of equipment, the actual expenditure by RUWASA⁴ increases from 7 million NGN in 2014 to 24 million NGN in 2015. In 2016, although 15 million NGN was approved for O&M of equipment, the budget was not released due to the lack of fund. For the O&M of boreholes constructed, the actual expenditure by RUWASA steadily increased from 17.9 million NGN in 2014 to 99.9 million NGN in 2016. The lack of budget allocated hampered proper maintenance and necessary repair of the equipment. The current government is, however, executing the budget for the repair.

At the village level, no data is available due to lack of functional VWESC. However, it was ascertained that repairs of water supply facilities are done only after a breakdown. In situations where the cost of repairs exceeds the funds which are able to be raised through donations by the community, the problem is reported to the LGAs or the borehole is abandoned. The communities visited depend on RUWASA for major repairs and 80,000 NGN is budgeted per borehole in case RUWASA does repair. In case where VWESCs do not exist in the communities, donations are either collected from households, mosques and business owners for minor repairs with donations ranging from as low as 50 NGN to 5,000 NGN.

<Current Status of Operation and Maintenance>

At the time of ex-post evaluation, some of main equipment, such as high pressure air compressor, pumping test equipment, electric resistivity survey equipment and hand pump and maintenance kits have been in good conditions. For the period from 2009 to 2011, the JICA Nigeria Office and the Japanese experts dispatched by JICA continuously followed O&M of the equipment installed by the project. In particular, under the JICA's follow-up scheme, the air compressor was repaired since it had been frequently out of order. However, the drilling rig procured by the project broke down in 2012 and had not been repaired since then but now under repairing. According to RUWASA, the maintenance for the equipment has been carried out every after 10 boreholes are constructed. Considering the situation that the boreholes in some visited villages, such as Karfi and Kawarin Dangama, have been out of service for over a year, any activity for O&M of boreholes by LGA Unit have not been conducted. Procurement of spare parts and consumables have been undertaken intermittently over the years due to lack of funding. Because of the deteriorated security status caused by the Islamic extremism in Kano State since 2010, from 2012 all the JICA experts and JICA Staff were not allowed to visit Kano State unless specially approved, which prevented them from the day-to-day communications with RUWASA related to O&M issues.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional, technical and financial aspects of the implementing agency, although the financial situation is gradually improving under the current administration. Therefore, the sustainability of the project effect is low.

5 Summary of the Evaluation

The project has achieved its objective to develop boreholes in the target sites and partially achieved to establish VWESC in the target sites with boreholes constructed. As for sustainability, the limited technical human resources and budget of RUWASA have hampered proper maintenance and necessary repair of the equipment installed by the project. At the village level, VWESCs do not have necessary skills, knowledge and tools for O&M of boreholes constructed and for management of VWESC. As for efficiency, the project period exceeded the plan.

Considering all of the above points, this project is evaluated to be unsatisfactory.

III. Recommendations & Lessons Learned

Recommendations to Implementing Agency:

- The Water, Sanitation and Hygiene Committees (WASHCOMs), which were introduced to replace VWESCs, were introduced for only 70 boreholes constructed at the early stage of the project and the toolkits for repair have been provided to them. The communities where the boreholes were constructed later have got WASHCOMs established but the toolkits haven't been distributed to the most of the communities because about 170 donated toolkits were distributed to other LGAs due to a political decision of the former Deputy Governor in 2009. Therefore, RUWASA and the Kano State Government need to secure the budget for training and additional toolkits,

³ 1 out of the 11 locations visited during the field survey of the ex-post evaluation had a WASHCOM.

⁴ Different documents contain varying figures for rehabilitation and maintenance of equipment for the same years.

to activate WASHCOMs properly for all boreholes developed under the project and to provide toolkits for repair to all WASHCOMs which have not been received and give them proper training.

Lessons Learned for JICA:

- The developed manuals under this project have not been used at all since the staff of RUWASA was considered to have necessary skills and knowledge before the training by the project. Moreover, training and establishment of WASHCOMs were not carried out in all the communities targeted by the project to support them to properly conduct daily O&M of the hand pumps and boreholes due to the financial constraints. Therefore, in any case where soft component is planned /requested under this kind of grant aid project, JICA needs to carefully assess soft component needs at the designing stage. Also, it is better to consider other technical cooperation or advocacy meeting with State Government to support community mobilization when RUWASA starts construction work in order to make them properly conduct O&M of the water facilities.



A girl using both her hands to get water from borehole constructed by using the drill procured by the project for her iron bucket, saving her time from going to distant pond to get water.



A boy tries to fill a 20 liter jerry can while two other kids await their turn at the borehole constructed by using the drill procured by the project.