

Country Name	Project for Enhancing the Function of the National Water Resources Institute
Federal Republic of Nigeria	

I. Project Outline

Background	<p>The government of Nigeria was trying to supply safe water to all populations by 2011. However, the proportion of population with access to safe water had not sufficiently improved (49% in 1990 and 48% in 2004) because of effects such as increase of the population. The Federal Ministry of Water Resources (FMWR) in Nigeria realized that capacity development was important factor for the Rural Water Supply and Sanitation Agency (RUWASSA) and the Ministry of Water Resources in each State, to improve the rural water supply situation. In addition, it was also important to reinforce the training implementation capacity of the National Water Resource Institute (NWRI) which conducted technical training for the relevant staff both at States and national level. NWRI had conducted training on the level of urban water supply and water supply in small town, but had not conducted training in rural water supply and sanitation. For that reasons, NWRI newly established the Rural Water Supply and Sanitation Centre for Capacity Development (RWSSC) and tried to reinforce the training implementation capacity specially to deal with the rural water supply. However, further capacity enhancement was needed.</p>								
Objectives of the Project	<p>Through 1) identifying capacity gaps of NWRI/RWSSC and Rural Water Supply and Sanitation (RWSS) stakeholders at States, Local Government Areas (LGAs) and Community levels, 2) developing responsive and effective training system, 3) enhancing trainers' capacity in RWSS, 4) implementing and reviewing training, and 5) improving management of RWSSC, the project aimed at effective operation of the RWSSC for capacity development, and thereby contributing to the improvement of service delivery of RWSS in the country.</p> <ol style="list-style-type: none"> Overall Goal: Service delivery of RWSS is improved in Nigeria through Capacity Development of stakeholders. Project purpose: Rural Water Supply and Sanitation Centre for Capacity Development (RWSSC) is effectively operated. 								
Activities of the project	<ol style="list-style-type: none"> Project site: Kaduna where RWSSC is located (and Abuja where the training courses were conducted after October 2012 due to the worsened security situation in Kaduna) Main activities: (1) Capacity assessment of NWRI/RWSSC and RWSS stakeholders, (2) Formulation of training program (development of curriculum, modules, materials, facilities etc.), (3) Implementing Training of Trainers (ToT), (4) Implementing and conducting Monitoring and Evaluation (M&E) of training, and (5) Improving management of RWSSC Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Nigerian Side</td> </tr> <tr> <td>1) Experts: 12 persons</td> <td>1) Staff allocated: 12 persons</td> </tr> <tr> <td>2) Equipment: Geophysical prospecting equipment, training rig and related equipment, borehole camera, monitoring equipment, pumping test equipment, etc.</td> <td>2) Facilities and utilities: Project office, generator, alternative internet service</td> </tr> </table> 			Japanese Side	Nigerian Side	1) Experts: 12 persons	1) Staff allocated: 12 persons	2) Equipment: Geophysical prospecting equipment, training rig and related equipment, borehole camera, monitoring equipment, pumping test equipment, etc.	2) Facilities and utilities: Project office, generator, alternative internet service
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Project Period	March 2010 - November 2014 (Original period: March 2010-November 2013)	Project Cost	(ex-ante) Approximately 560 million yen, (actual) 430 million yen						
Implementing Agency	NWRI /RWSSC								
Cooperation Agency in Japan	Yachiyo Engineering Co., Ltd.								

II. Result of the Evaluation

<Constraints on Evaluation>

The Overall Goal was not verified as data is not obtained. The data is unavailable for two reasons. (1) The state RUWASSAs do not keep records of drilled boreholes. (2) The RWSSC records after 2014 does not specify the name of belonging organization where the participants that have attended the training courses came from.

1 Relevance

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

The project was consistent with the Nigeria's development policy. At the time of ex-ante evaluation, "the National Economic Empowerment and Development Strategy (NEEDS)", which was developed in 2004, designated the water supply as one of the prioritized sectors. "The National Water Supply and Sanitation Policy (2000)" and "the Rural Water and Sanitation Program (2004)" aimed at supplying safe water to all populations by 2011. At the time of project completion, one of the main goals of "Nigeria Vision 20:2020", which was published in 2009, was sustaining access to potable water and basic sanitation.

<Consistency with the Development Needs of Nigeria the Time of Ex-Ante Evaluation and Project Completion >

The project was consistent with the development needs of Nigeria for water supply. At the time of ex-ante evaluation, the management of training courses at NWRI was weak and the number and hours of training courses was limited. NWRI was not able to conduct the following activities regularly or in a well-coordinated manner: annual planning, revision of curriculum, promotion of the training courses, evaluation of the training, and follow-up of the participants. Besides, teaching materials and equipment were obsolete to response to new training courses. At the time of project completion, although the potential of water development in rural area in Nigeria was high, it was a

problem that private contractors had not been brought up sufficiently and they refused to have works which were in poor access area or in the area where it was difficult to excavate. Therefore, the role of RUWASSA was still important. RWSSC was expected to train RUWASSA officers through reinforcing the capacity of NWRI/RWSSC and therefore the need of capacity development was high.

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

The project was consistent with Japan's ODA Policy to Nigeria at the time of ex-ante evaluation. Rural infrastructure development including water supply was one of the prioritized areas for ODA under the third policy dialogues between Nigeria and Japan in October 2007.¹

<Evaluation Result>

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

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

Judging from the achievement levels of the indicators set to measure the level of achievement by the project, the Project Purpose was achieved at the time of project completion. The indicators "The evaluation result by the trainee at the end of the project is increased compared with the ones at the beginning of the project." (Indicator 1) and "350 RWSS staff will attend RWSSC trainings in total by the end of the project" (Indicator 2) were achieved.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

After the project was completed, the effects of the project have somewhat continued as the training has been taking place and the average training evaluation results have maintained high level of satisfaction by participants. However, RWSSC faces some financial challenges. The number of training has been under constraint because of the lack of availability or delay execution of RWSSC annual budget allocated by federal government. One to two training courses for each theme were carried out annually after the project end, however, some courses such as "Ground water investigation", "Rehabilitation of boreholes and maintenance" and "Development of alternative water source" have not been carried out. The courses which are done annually are dependent on the amount of funds available for NWRI, the courses with the most impact on the target groups based on the needs assessments and its established effectiveness. In addition, lack of funding by state governments to RUWASSA for their travel expenses has made it difficult to increase the number of participants from the states and conduct all training courses concurrently. The equipment items supplied under the project have been operational and utilized for training such as "Borehole Construction Management and "Drilling Technology". As to the number of trainees, although the accumulated number of trainees was 710 as of September 2017 and not exceeded the target number (800) which was set at the time of the terminal evaluation², it is possible to achieve the target number by the end of 2017 if the budget was released as same level as the last year.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was not verified as data is not obtained. The data is unavailable for two reasons. (1) The state RUWASSAs do not keep records of drilled boreholes. (2) The RWSSC records after 2014 does not specify the name of belonging organization where the participants that have attended the training courses came from.

Although there is no record of the out-of-service ratio of boreholes in the states which received the Grant Aid Projects³, there is a need to rehabilitate and maintain the boreholes in some villages according to some Evaluation Reports of JICA's Grant Aid Projects in rural water supply in Nigeria. The World Bank also reported that approximately 30% of boreholes in Nigeria are broken down two years after the installation⁴.

<Other Impacts at the time of Ex-post Evaluation>

As a result of the equipment supplied by the project being used for practical training courses, actual borehole rehabilitations are performed as part of the training courses in different communities. 12 boreholes have also been drilled so far, 4 in Abuja and 8 in Kaduna all under training courses. No land acquisition and resettlement occurred under this project, and no negative impacts on the natural environment were observed.

<Evaluation Result>

In light of the above, the project achieved the Project Purpose at the time of project completion, the effects of the project have partially continued, however, the Overall Goal was not verified at the time of ex-post evaluation. Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results																									
(Project Purpose) Rural Water Supply and Sanitation Centre for Capacity Development (RWSSC) is effectively operated.	Indicator 1: The evaluation result by the trainee at the end of the Project is increased compared with the ones at the beginning of the Project.	Status of the achievement: achieved (continued) (Project completion) Result of training evaluation become higher than beginning of the project on four implemented courses. Average of training evaluation by the participants																									
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		(Ex-post Evaluation)																									

¹Source: ODA Databook 2009

²At least 15 individuals per course are expected to take part in annually and therefore, the accumulated number would be more than 800 (15 individuals x 9 courses x 3 years in addition to the 405 individuals who already took part in.)

³The Project for Water Supply in Bauchi and Katsina States (2010), The Project for Improvement of Rural Water Supply (Grant aid project, 2012)

⁴Source: Nigeria Water, Sanitation, and Hygiene (WASH) Poverty Diagnostics: Preliminary Report (2016)

Results rating system has been changed from a grade point system to a percentage system which according to the head of training is easier to be interpreted and for the assessment to be carried out.

Average of training evaluation by the participants

	2013	2014	2015	2016
Groundwater Investigation	3.89	-	-	-
Borehole Construction and Management	4.25	4.44	89%	92%
Drilling Technology	4.49	4.67	95%	94%
Drilling Machinery Maintenance Technique	4.21	4.55	95%	90%
Other courses	93%	87%	85%	90%

Indicator 2: 350 RWSS staff will attend RWSSC trainings in total by the end of the Project.

Status of the Achievement: achieved (partially continued)
(Project Completion)

Number of participants of training by each year

Training course	2011	2012	2013	2014	Total
1. Groundwater Investigation	9	-	38	26	73
2. Borehole Construction and Management	14	25	20	45	104
3. Drilling Technology	-	-	20	32	52
4. Drilling Machinery Maintenance Technique	-	-	20	19	39
5. Installation of hand pump and operation and maintenance	44	-	-	-	44
6. Rehabilitation of boreholes and maintenance	33	-	-	-	33
7. Development of alternative water source	-	-	-	-	-
8. Public health	30	-	-	-	30
9. Community Mobilization	30	-	-	-	30
Total	160	25	98	122	405

(Ex-post Evaluation)

The number of participants of training by each year

	2015	2016	2017*
1. Groundwater Investigation	-	-	-
2. Borehole Construction and Management	20	20	-
3. Drilling Technology	25	60	30
4. Drilling Machinery Maintenance Technique	15	55	25
5. Installation of hand pump and operation and maintenance	20	15	-
6. Rehabilitation of boreholes and maintenance	-	-	-
7. Development of alternative water source	-	-	-
8. Public health	-	-	-
9. Community Mobilization	20	-	-
Total	100	150	55

*As of September 2017

(Overall Goal) Service delivery of RWSS is improved in Nigeria through Capacity Development of stakeholders.

Indicator 1: The rate of functional rural water supply facilities is increased compared with the ones before the participation to the Training at RWSSC in the specific States which received the Grant Aid Project.

Status of Achievement: not verified
(Ex-post Evaluation) not verified.
Data is unavailable.

Source : JICA internal documents, Questionnaire and interviews with NWRI/RWSSC

3 Efficiency

Although the project cost was within the plan (the ratio against the plan: 77%), the project period exceeds the plan (the ratio against the plan: 124%). However, the project was extended as it was suspended almost one year in the middle of the project period due to security constraints⁵. Considering this situation, the efficiency of the project is high.

⁵ Volatility increased at the Project Site in Kaduna in the latter half of 2011 with coordinated terrorist explosions occurring at 3 locations including the air force facility near the project office. Terrorist explosions continued thereafter in Kaduna and the Ministry of Foreign Affairs issued a warning in May 2012 to postpone travel to the entire Kaduna State including the City of Kaduna. As a result, it became impossible for Japanese experts to work in Kaduna and

4 Sustainability

<Policy Aspect>

There is an established support from the government's policy direction. The main goal of "The Partnership for Expanded Water Supply and Sanitation & Hygiene (PE-WASH)", launched in 2016 and covering a period till 2030 is to improve water supply particularly in rural areas and sanitation.

<Institutional Aspect>

An appropriate organizational structure is in place for sustaining the project effects. RWSSC is one of three main centres in charge of providing specialized training under Training Department of NWRI. At RWSSC, single coordinator/trainer is assigned to each course. All course coordinators of RWSSC report to the head of RWSSC who is also the head of the Training Department. NWRI oversees all the training centres and other programmes of the institute. It prepares its own budget and each year, decides how much it allocates to RWSSC and other centres. The number of staff at RWSSC is 22, who are course coordinators/trainers and their assistance. The overall number of staff at NWRI is 151. In order to provide training, NWRI recruited 86 persons in 2015 to add to their capacity.

<Technical Aspect>

NWRI/RWSSC has sufficient technical skills to conduct training. The staff members trained during the project are still working with the institute. In addition, newly recruited staff members were also trained. NWRI has a system to maintain or upgrade staff's skills. NWRI carries out induction courses and other trainings with support from a memorandum of understanding (MoU) with 6 universities signed. MoU mentions that lecturers from the 6 universities, in addition to the staff at NWRI are used as resource persons to help improve capacity of NWRI by giving lectures, seminars, trainings etc. On the other hand, although the project intended to improve the management capacity of RWSSC, activities under the component related to management skills were not fully materialized during the project period. Nonetheless, NWRI has sufficient management capacity. They had developed work plan and utilized it and manuals for administration and logistics as the project originally envisaged.

<Financial Aspect>

Although NWRI faces problems such as insufficient budget and delay in budget release, NWRI is able to secure funds to implement training courses which are highly needed the amount. The States do not allocate fund for tuition fee, therefore training courses are funded by NWRI only. FMWR has not promoted state governments to allocate funds for training at RWSSC.

Budget of NWRI and RWSSC

(Unit: NGN)

	2014	2015	2016
1.1 Applied budget of NWRI	403,000,000.00	350,000,000.00	1,001,330,552.00
1.2 Of which, the budget for RWSSC	20,925,000.00	6,000,000.00	19,535,884.40
2.1 Approved budget NWRI	353,000,000.00	142,000,000.00	1,001,330,552.00
2.2 Of which, the budget for RWSSC	10,006,699.18	3,000,000.00	16,826,190.19
3.1 Executed budget NWRI	153,599,622.00	71,138,410.00	848,947,303.00
3.2 Of which, the budget for RWSSC	9,762,274.18	3,000,000.00	16,826,190.19

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the technical and financial aspects of the implementing agency and state RUWASSAs such as lack of budget and delay in execution of the budget. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The Project Purpose was achieved at the time of project completion as indicators set to measure the achievement of the project such as the evaluation result by trainees and the number of trainees were achieved. The effects of the project somewhat continued, though the number of training courses and participants has been limited by the budget constraint. The Overall Goal was not verified at the time of ex-post evaluation. As to the sustainability, slight problems have been observed in terms of the financial aspect of the implementing agency and state RUWASSAs such as lack of budget and delay in execution of the budget. As for the efficiency, the project period exceeded the plan due to security constraints.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- Annually, especially before budget plan of following year is finalized, NWRI should make advocacy visit to influential government officials such as State governors, deputy governors, state house of assemblies, commissioners of water resources, and other high level officers that influence budget in the state in the company of RUWASSA and FMWR staff.
- NWRI/RWSSC is recommended to provide training course on rehabilitation of boreholes and maintenance for Water Sanitation and Hygiene Committee (WASHCOM) and Local Area Mechanics (LAMs) at state level. Although it is reported that approximately 30% of boreholes are out-of-service two years after the completion in Nigeria, some RUWASSAs could not secure the budget of the trainings for the village level. Since NWRI could secure the funds for travel expenses of RUWASSAs staffs to come to the institute, it might be good for NWRI to visit the states and provide training not only for RUWASSA alone, but for WASHCOMS and LAMs to extent possible.
- Many local NGOs are involved in improving access to portable water in Nigeria. However, many of them have not been trained in borehole rehabilitation and maintenance. NWRI, through Outreach Division which is responsible for designing and conducting short courses to extend the water related technology to industries and end users, is recommended to provide training to local NGOs in order to increase their capacity so that they are able to repair the broken boreholes in the villages.
- NWRI/RWSSC is recommended to do proper record keeping of data relevant to indicating whether the overall goal of this project and

the Project was suspended. Subsequent discussion with Nigeria in October 2012 led to decisions including extension of the project period and the minutes were signed.

other relevant projects is achieved e.g. number of boreholes drilled, number and organization of people attending training etc. Such data should be kept at the beginning of any training organized by the RWSSC. This will help both implementing agency and JICA in effectively and continuously evaluating the project effects.

Lessons Learned for JICA:

- In the project aiming to enhance cascade training system, not only the trainers' agency (NWRI) but trainees' agencies (State RUWASSAs) must be advocated through the project or included in the project members to ensure the sustainability after the project end, especially in the case of federal country that each state agency needs to secure the budget at state level.
- All the equipment donated to NWRI/RWSSC is in good working condition. This can be attributed to the fact that the staff was well educated and the maintenance of the equipment was assigned to one course coordinator who is also very competent. The equipment donated to a training institute should be handled by one trained officer (not the head of the organization) for proper operation and maintenance. An appropriate highly competent person should be identified during project execution in collaboration with senior staff of the institute.



Donated rig to NWRI in good working condition



Inside of the RWSSC