

Country Name	The Project for Improvement of Water Supply and Sanitation in Southern Part of Eastern Province
Republic of Rwanda	

I. Project Outline

Background	<p>In the southeast part of Eastern Province, almost 90% of the population lived in rural areas and mostly relied on agriculture for their livelihood. Before the start of the project, the rate of resettled people by the Imidugudu policy* in the area was the highest in the country, reaching 91% and the rate of water supply coverage was about 31%, much lower than the country average of 52%, due to the shortage of water supply facilities and the lack of proper operation and maintenance of the facilities. The project aimed at strengthening the capacity of water supply services and the management for operation and maintenance of water supply facilities as well as promoting hygiene and sanitation practices in the target area by a programmatic approach with the JICA's grant aid project "The Project for Rural Water Supply (Phase I and Phase II)" which constructed and renovated water supply facilities under the "Program for Rural Development in the Eastern Province."</p> <p>*Note: The Imidugudu policy is an initiative of the Government of Rwanda to resettle the rural population collectively in villages where vital utilities like water and electricity, and security of person and property, can be provided to them with more ease than in scattered, often isolated rural settlements.</p>												
Objectives of the Project	<p>The project aimed at improving the operation and maintenance system for water supply as well as the execution system for sanitation promotion activities in the 4 pilot sites selected from the 4 districts of Rwamagana, Kayonza, Ngoma and Kirehe in the southeast part of Eastern Province, thereby aiming at disseminating the improved system to other areas besides the pilot sites in the 4 districts. The Overall Goal and Project Purpose set forth are as follows.</p> <ol style="list-style-type: none"> 1. Overall Goal: The operation and maintenance system for water supply and execution system for sanitation promotion activities will be improved in the 4 target districts. 2. Project Purpose: The operation and maintenance system for water supply and execution system for sanitation promotion activities will be improved at the project sites. 												
Activities of the Project	<ol style="list-style-type: none"> 1. Project site: One site selected from each of the 4 districts (Rwamagana, Kayonza, Ngoma, Kirehe) in the Eastern Province (4 sites in total) 2. Main activities: 1) Preparation of operation and maintenance guidelines for water supply facilities as well as training and OJT for technicians of Water Service Providers (WSPs)* in the pilot sites; 2) Revision of the administrative support manual and training for district staff in charge of infrastructure, water and environment; 3) Conducting workshops for sharing good practices in the pilot sites with other WSPs; and 4) Training for hygiene promoters at the community level and implementation of hygiene and sanitation activities in schools. <p>*Note: WSP refers to water users association (WUA) or private operators including cooperatives and enterprises engaged in water supply management in rural areas.</p> <ol style="list-style-type: none"> 3. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Rwandan Side</td> </tr> <tr> <td>1. Experts: 8 persons</td> <td>1. Staff allocated: 31 persons</td> </tr> <tr> <td>2. Trainees received: 4 persons</td> <td>2. Land and facilities: Office space for JICA experts at the Rwamagana District Office</td> </tr> <tr> <td>3. Equipment: Computer with software, laser printer, projector, copy machine, UPS, multi-tester, etc.</td> <td>3. Local cost</td> </tr> </table>					Japanese Side	Rwandan Side	1. Experts: 8 persons	1. Staff allocated: 31 persons	2. Trainees received: 4 persons	2. Land and facilities: Office space for JICA experts at the Rwamagana District Office	3. Equipment: Computer with software, laser printer, projector, copy machine, UPS, multi-tester, etc.	3. Local cost
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Ex-Ante Evaluation	2006	Project Period	April 2007 – November 2011 (Extension period: October 2010 – November 2011)	Project Cost	335 million yen								
Implementing Agency	Ministry of Infrastructure (MININFRA), 4 districts (Rwamagana, Kayonza, Ngoma, Kirehe) of Eastern Province												
Cooperation Agency in Japan	Japan Techno Co, Ltd.												

II. Result of the Evaluation

(Constraints during the Evaluation Study)

1. While a household survey for 200 samples from the 4 target districts (sample size for each district is 50) was conducted for the ex-post evaluation, the survey needed to cover a wide range of area of 4 districts and the access to area outside the pilot sites was not easy so that the respondents of this survey covered residents only in the pilot sites of the 4 districts. The data on Indicator 2 for Overall Goal, which targets all residents in the 4 districts, was therefore limited in this household survey.
2. This project consists of two phases: the first phase was planned to conduct a survey on the implementation structure of rural water supply and hygiene/sanitation promotion in consideration of the progress of related grant aid project; and the detailed activities to be implemented in the second phase were decided based on the result of the survey. In view of this, the evaluation of efficiency in terms of the project cost was judged by the comparison between the planned project cost as of FY 2008, which was calculated at the beginning of the second phase (that includes the actual cost of the first phase), and the actual project cost.

(Notes)

1. Regarding the Indicator 2 of Project Purpose "The number of residents in the pilot sites with improved sanitary behaviors (such as washing hands with clean water at appropriate times) is increased," the rate of residents with improved sanitary behaviors in the pilot sites was used as the alternative indicator for the terminal evaluation, so the same indicator is used for the ex-post evaluation as well.
2. The organizational structure for rural water supply had frequently changed in Rwanda during the project period. At the beginning, the implementing agency of the project was the Ministry of Lands, Environment, Forestry, Water and Mine (MINITERE) and it was reorganized to the Ministry of

Natural Resources (MINIRENA) in 2008 with Rwanda Water and Sanitation Corporation (RWASCO) as the company in charge of urban water. In addition, the responsibility of water supply and sanitation was transferred to the Ministry of Infrastructure (MININFRA). Then, the Energy, Water and Sanitation Authority (EWSA) was established under MININFRA in 2010 by the integration of the Rwanda Electric Corporation (RECO), RWASCO and departments in charge of development of power supply projects and water and sanitation services of MININFRA.

1 Relevance

<Consistency with the Development Plan of Rwanda at the time of ex-ante and project completion>

The project was consistent with the national development plans “Vision 2020 (2000-2020)” and “Economic Development and Poverty Reduction Strategy I (2007-2012)” which placed ‘water and sanitation’ as one of the priority areas as well as the policy papers “Sectorial Policy on Water and Sanitation (2004)” and “National Policy and Strategy for Water Supply and Sanitation Services (2010)” which placed the ‘sustainable operation and maintenance of rural water supply infrastructure’ as one of the key challenges of the sector.

<Consistency with the Development Needs of Rwanda at the time of ex-ante and project completion >

The project aimed to respond to needs of development of water supply services by local administration staff in the 4 target districts and water service providers such as users’ associations and cooperatives, together with water users of the project area.

<Consistency with Japan’s ODA Policy at the time of ex-ante evaluation>

The project was positioned as part of the “Program for Rural Development in the Eastern Province” in rural development, which was one of the priority areas of the Rolling Plan for Rwanda that outlined the overall picture of Japan’s assistance to Rwanda.

<Evaluation Result>

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

2 Effectiveness/Impact

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

The Project Purpose was mostly achieved by the project completion. The 4 pilot sites were selected from the 4 districts, which are MKM operated by WUA in Rwamagana district, Nyankora operated by COGEPRENA in Kayonza district, Murama operated by KODUMU in Ngoma district and Gatore 2 operated by WUA in Kirehe district (see Table 1). Each water supply facility mostly achieved less than a week non-operational period (Indicator 1) as well as an increase in sales of water supply (Indicator 3) during the project period. In addition, the number of sanitation promotion activities in the 4 pilot sites increased by implementing the project activities (Indicator 4) and these activities resulted in another increase in the rate of residents with improved sanitary behaviors (such as washing hands with clean water at appropriate times) in the 4 pilot sites (Indicator 2).

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

The project effects described above have been partially continued. Out of the 4 WSPs, COGEPRENA for Nyankora in Kayonza district was changed to the Ayateke Star Company Ltd. in the end of 2014, which won the tender and took over the management of most of water systems in Kayonza district and WUA for Gatore 2 in Kirehe district also changed its legal status to the Ayateke Star Company Ltd. On the other hand, KODUMU for Murama in Ngoma district failed to manage the facility; people did not pay for water and the cooperative abandoned to manage it for all. Users committees took over the handpumps management but they experience technical and financial difficulties. Regarding the non-operational period of each water supply facility, 3 out of 4 have experienced more than a week non-operational period after the project (Nyankora: once for the period of 3 months, Murama: five times though the duration was not recorded, Gatore 2: once for 2 years) due to a dry-up of water sources, breakdown of the facilities and lack of spare parts. As for the sales of water supply, while MKM in Rwamagana district has been increasing the sales after the project, the relevant data was not available in other 3 pilot sites due to the changes of WSPs in Kayonza and Kirehe districts and no active WSP in the Murama area of Ngoma district. The sanitation promotion activities are still conducted by sanitation facilitators of health centers in the 4 pilot sites and the rate of residents with improved sanitary behaviors is being kept at a good level, although the detailed information on sanitation promotion activities was not found due to lack of consolidated reports made by each district office.

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

The Overall Goal is partially achieved at the time of ex-post evaluation. Regarding the Indicator 1, all WSPs except for KODUMU in Ngoma district have achieved positive figures in the 4 districts. This achievement could be realized by well-constructed water supply facilities with few case of breakdown, monitoring and follow-up by the district officers, good management and improved awareness of cooperatives and companies, and new adopted strategy for water supply system management by Public-Private Partnership. The achievement of Indicator 2 was not confirmed. There could be increase of residents with improved sanitary behaviors in the whole 4 districts including the pilot sites since the rate of residents with improved sanitary behaviors is being kept at a good level in the pilot sites, but the level in the areas outside the pilot sites was not observed in the ex-post evaluation as described in the first “Constraints during the Evaluation Study.”

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

Table 1: Pilot sites in the 4 districts

District	Water supply facilities	Scheme type/ Water source	WSPs
Rwamagana	MKM	Piped/ Spring	Water Users Association
Kayonza	Nyankora	Piped/ Groundwater	COGEPRENA (Cooperative) Ayateke Star Company
Ngoma	Murama	Hand pump/ Groundwater	KODUMU (Cooperative) None (managed by users committees)
Kirehe	Gatore 2	Piped/ Spring	Water Users Association Ayateke Star Company

Note: The lower columns of WSPs represent the present WSPs.

Regarding the situation of water supply services in the 4 target districts after the project, as shown in Table 2, the population rate covered by water supply services is increasing in the 4 districts. Furthermore, as shown in Table 3, the water volume supplied to the population is also increasing in the 4 districts. This physical improvement could be realized by the increase in water supply facilities constructed by the grant aid project in this area as well as interventions of other donors such as World Vision, etc. The government's investment has also contributed to improve the water supply situation in this area. On another front, no negative impact by the project has been observed in terms of the environmental and social aspects.

<Evaluation Result>

The Project Purpose was mostly achieved by the project completion and the operation and maintenance system for water supply as well as the execution system for sanitation promotion activities was improved at the 4 pilot sites. On the other hand, these project effects have been partially continued after the project since 1 WSP out of 4 in the pilot sites failed to manage the water supply facility. The Overall Goal is also partially achieved. While it was found that the improvement of operation and maintenance system for water supply has been disseminated in area outside the pilot sites in the 4 districts, explicit data on the dissemination of improved execution system for sanitation promotion activities throughout the 4 districts could not be found in the ex-post evaluation. Therefore, effectiveness and impact of the project are fair.

Table 2: Population rate covered by water supply services in the 4 districts

	2010/11	2011/12	2012/13	2013/14	2014/15
Rwamagana	-	80%	80%	83.7%	83.7%
Kayonza	45%	57.6%	57.6%	64.5%	64.5%
Ngoma	-	80%	80%	88.9%	88.9%
Kirehe	62%	62.7%	62.7%	78%	78%

Source: Eastern Province Report

Table 3: Water volume supplied to the population in the 4 districts

	2012/13	2013/14
Rwamagana	5,438,865 m ³	5,525,735 m ³
Kayonza	2,217,375 m ³	2,671,435 m ³
Ngoma	2,345,855 m ³	2,606,830 m ³
Kirehe	840,595 m ³	1,660,385 m ³

Source: WASAC, Province and Districts interviews

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) The operation and maintenance system for water supply and execution system for sanitation promotion activities will be improved at the project sites.	1. Non-operational periods of water supply facilities in the pilot sites do not last more than a week.	<u>Status of achievement: Achieved</u> (Project Completion) Each water supply facility in the 4 pilot sites achieved a less than a week non-operational period. (Ex-post Evaluation) The number of incidents of more than a week non-operational period of water supply facilities in the 4 pilot sites after the project are 0 for MKM (Rwamagana), 1 for 3 months at Nyankora (Kayonza), 5 at Murama (Ngoma) and 1 for 2 years at Gatore 2 (Kirehe) since the water sources are drying up and there are some breakdowns of facilities of Nyankora and Gatore 2 and it is difficult to purchase spare parts for repairing a non-functional hand pump of Murama in local markets in Ngoma district.
	2. The number of residents in the pilot sites with improved sanitary behaviors (such as washing hands with clean water at appropriate times) is increased.	<u>Status of achievement: Achieved</u> (Project Completion) According to the result of sample household survey for the 4 pilot sites conducted by the project, the rate of residents who practice hand washing before meal and after toilet was increased compared with the beginning of the project. (Ex-post Evaluation) According to the result of household survey for the 4 pilot sites conducted at the ex-post evaluation on the sanitary behaviors in terms of 1) washing hands with clean water, 2) treating water before using and 3) access to toilet with good conditions, the rate of residents with improved sanitary behaviors keeps a reasonable level in the 4 pilot sites with showing that more than 80% of the surveyed households maintained the improved sanitary behaviors.
	3. The sales of water supply schemes of the pilot sites increases.	<u>Status of achievement: Achieved</u> (Project Completion) The sales of water supply of the 4 pilot sites were mostly increased or sustained during the project period. (Ex-post Evaluation) While the sales of water supply in the pilot site in Rwamagana district increased from 59,940,100 RWF in 2012 to 65,740,100 RWF in 2014, the relevant data were not available in other 3 pilot sites.
	4. The number of sanitation promotion activities by the districts increases in the project area.	<u>Status of achievement: Achieved</u> (Project Completion) Although the baseline data on number of sanitation promotion activities were not collected, almost no activities had been conducted in the 4 districts before the project. The related activities had been regularly conducted in the 4 districts during the project period. (Ex-post Evaluation) Although the sanitation promotion activities have been still conducted by sanitation facilitators of health centers in the 4 districts, the data on number of activities were not available due to lack of consolidated reports on the information at the district offices.
(Overall Goal) The operation and maintenance system for water supply and execution system for sanitation promotion activities will be improved	1. The number of financially sound (such as not in the red) water supply service providers in the 4 target districts is increased.	<u>Status of achievement: Mostly achieved</u> (Ex-post Evaluation) The current numbers of WSPs are 2 in Rwamagana district, 1 in Kayonza district, 6 in Ngoma district and 7 in Kirehe district. The number of WSPs which are not in deficit has not increased in the 4 districts after the project. In practice, the contract with the districts cannot be renewed in case WSPs are in deficit. All WSPs except for one WSP (KODUMU in Ngoma district) have been successful in continuing their contracts, which means that they are not in deficit. Therefore, this indicator is judged as

in the 4 target districts.	2. The percentage of residents in the 4 target districts without improved sanitary behaviors (such as washing hands with clean water at appropriate times) decreases by 15%.	‘Mostly achieved.’ <u>Status of achievement: Not confirmed</u> (Ex-post Evaluation) The baseline data on percentage of residents in the 4 target districts without improved sanitary behaviors was not collected during the project, so it is not possible to show the 15% decrease compared with past data. In addition, the rate of residents without improved sanitary behaviors in the 4 target districts could decrease since the rate in the 4 pilot sites are decreasing, but the situation in the areas outside the pilot sites in the 4 districts was not found in the ex-post evaluation as mentioned in the “Constraints during the Evaluation Study.”
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Source: Internal documents, Interviews with WASAC, 4 districts, WSPs, Results of sample household survey, etc.

3 Efficiency

The project period was longer than planned (ratio against the plan: 133%) mainly due to the frequent institutional changes of implementing agency as described in the second Note above as well as a delayed schedule of construction of water supply facilities by the grant aid project. Regarding the appropriateness of inputs, while the volume of dispatched experts and the number of workshops were increased during the extension period mainly in order to ensure the sustainability of the project based on the recommendations by the terminal evaluation, the produced outputs to these additional inputs were reasonable and contributed to the achievement of Project Purpose as a result. The project cost was 335 million JPY against the planned one amounts 259 million JPY (ratio against the plan: 129%). Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

While the “National Policy and Strategy for Water Supply and Sanitation Services” has been still supported by the government, there were some changes in the government system in 2014 in practice. EWSA under MININFRA as a public agency, was re-organized by separating energy and water sections. The Water and Sanitation Corporation (WASAC) was created as a company and then reformed in order to make water business more effective. The rural water supply got a more important consideration with the creation of the Rural Water Services Department within the new company’s structure. District offices and WSPs have kept their responsibility, ownership and management of rural water facilities under the new policy. The national policy is planned to be revised in the future and some preparatory arrangements have been conducted at the time of the ex-post evaluation. This revision will focus more on water management development, although the main objectives of the policy will not be changed. Under the new policy, WSPs are required to conduct effective water management in order to make good business sense. JICA started the “Project for Strengthening Operation and Maintenance of Rural Water Supply Systems” in April 2015 and the project is planned to support to clarify and standardize the rural water management framework and update the national guidelines and manuals on operation and maintenance of rural water facilities, so it will ensure the government support to the rural water sector in the future.

<Institutional Aspect>

As described in the second Note above, the organizational structure for rural water supply had frequently changed during the project period. After the project, the new organizational restructuring arose in 2014 again and WASAC is now in charge of water, hygiene and sanitation management and the Rwanda Utilities Regulation Authority (RURA) is also involved in the water management as a regulator of tariff and service requirements to meet the standards. At the district level, although the organizational reform had been also implemented during the project period, the district offices had been positioned as the center of administration services under the decentralization policy. Under the new structure, all districts should have one officer in charge of water and sanitation from the fiscal year 2014, but the officer in charge has not been employed yet in the 4 target districts and the officer in charge of infrastructure is currently in charge of rural water services in Kayonza and Ngoma districts while the officer in charge of environment steps in for water supply matters in Rwamagana and Kirehe districts. Once the new officer is employed, the water management system as well as monitoring system is expected to be improved in the 4 districts.

<Technical Aspect>

The technicians and officers in charge trained by the project in the 4 districts have still sustained their skills and knowledge, but some of them have been oriented to other positions which are not related to water supply services. Others are still working in the water sector and involved in the operation and management of rural water supply services. The technicians still use skills and knowledge acquired from the projects and work properly with use of the manuals and guidelines received from the project, which help to train new staff with “learning by doing.” For example, the operation and maintenance manual as well as all materials for water quality testing have been still used in the 4 districts. The training for technicians of WSPs has been still conducted and other training are planned in the future such as the training prepared by the Forum of Private Operators in Water Management on water schemes management and the Public-Private Partnership in water management. In addition, different activities have been also conducted by the 4 districts to promote awareness on water sources and infrastructure protection.

<Financial Aspect>

WASAC is allocated for the necessary budget with increase in amount. The budget for the former District Support Unit provided by WASAC was 220 million RWF in 2013/2014 and 380 million RWF in 2014/2015 while the budget for the new Rural Water Services Department is 490 million RWF in 2015/2016. These budgets do not include the operational funds such as salaries and allowances for personnel and for construction projects of rural water services in the districts either by WASAC or the districts. On their side, the 4 districts have allocated enough budget for rural water services and these budgets represent the fund for development projects for construction where they are fully consumed within the fiscal year in payment of contracted amount with companies through tender process. Where they are not, it means there are delays in contract execution. The 3 WSPs in the 4 pilot sites except KODUMU in Ngoma district have good financial conditions to sustain the operation and management of water supply facilities and water services.

<Evaluation Result>

Some problems have been observed in terms of institutional aspect of the 4 districts. Therefore, sustainability of the project is fair.

5 Summary of the Evaluation

The Project Purpose was mostly achieved by the project completion and the operation and maintenance system for water supply and the execution system for sanitation promotion activities were improved at the 4 pilot sites. However, the project effects have been partially continued after the project and the Overall Goal is also partially achieved since the explicit data that confirm the achievement of dissemination of improved execution system for sanitation promotion activities throughout the 4 target districts could not be found in the ex-post evaluation. There are some challenges in the institutional aspect of sustainability since the new officer in charge of water and sanitation has not been assigned yet in the 4 districts. Furthermore, the project period was longer than planned mainly due to the frequent institutional changes of implementing agency and a delayed schedule of the grant aid project.

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

III. Recommendations & Lessons Learned

<Recommendations for Implementing Agency>

1. Regarding the breakdowns of Nyankora in Kayonza district and Gatore 2 in Kirehe district, districts should take action to rehabilitate the existing schemes for continuous services as soon as a breakdown is discovered since they have been keeping the royalty money.
2. Regarding the Murama hand pumps operated by KODUMU in Ngoma district, the WASAC Rural Water Services together with the district office should define and improve the management system for the particular type of facilities. The new JICA project is entitled to support to develop sustainable system on operation and maintenance for rural water supply.
3. As pointed out under the district staffing, the 4 districts should hire the planned one staff in charge of water and sanitation as soon as possible according to the new structure for all districts. This will enhance the monitoring of water management as well as the appropriate management of operators' contracts.
4. All the 4 districts have to make efforts of data compilation and reporting so as to make an effective follow-up of operators work and actions for behavior change in hygiene and sanitation.

<Lessons Learned for JICA>

1. It was found at the ex-post evaluation that the 4 districts did not monitor the implementation of hygiene and sanitation promotion activities after the project. The result was that the field survey could not confirm the number of promoters that continue to work nor the type and frequency of activities conducted. This is due to not only a shortage of personnel and insufficient budget at each district to follow up the hygiene promotion activities but also a lack of monitoring tools. Apart from the plan developed with support of the project, there are no other monitoring tools for hygiene and sanitation. The project should have developed monitoring tools and a reporting system in order to facilitate the districts to continue their task of following up the activities.
2. Even after the project, the WSP staff of pilot sites has continued to use the training manuals developed by the project in different operation and maintenance tasks. The contents of manuals are detailed enough, adaptable to educational and technical levels of targeted trainees and accessible to them in the local language, so they are very user-friendly made. The technical sustainability through the continuous use of manuals resulted from making training manuals user-friendly with taking into account the requirement of detail, adaptability to educational and technical levels of users and availability in a local language.



A full water tank in Rwamagana district



Toilet with hand washing station