Republic of Togo

FY2016 Ex-Post Evaluation of Japanese Grant Aid Project

"Rural Water Supply Project in Maritime and Savanes Regions"

External Evaluator: Noriyo Aoki, Alfapremia Co., Ltd.

0. Summary

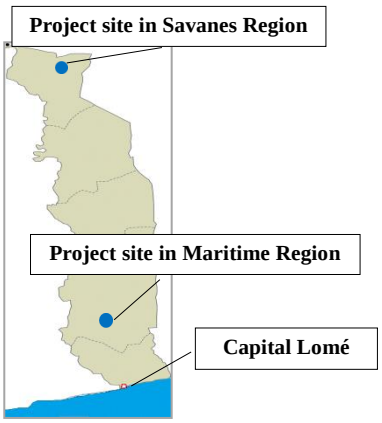
The project was implemented to improve access to safe drinking water, and thus improve the living environment, by constructing and rehabilitating water supply facilities in rural areas[1] and semi-urban areas throughout the Maritime and Savanes regions.

It was identified that the project is consistent with the policies of Japan and Togo. However, in terms of development needs and the project's plan and approach, while there were no problems in Savanes Region, the selection of sites and facility types in Maritime Region did not necessarily reflect the needs of users or the feasibility for maintenance and management; thus, the relevance of the project is fair. The project cost was within the plan, and the duration of the project was also within the plan; thus, the project's efficiency is high. Regarding the effectiveness of the project, the target population served in Maritime Region was not achieved because the type of water supply in some of the rehabilitated facilities was not suited to residents' needs. However, over 80% of the target water population was served. In Savanes Region, the facilities' operating rate was high, and the target of the population served was met. Regarding the impact of the project, in both regions, the project achieved a reduction in water-borne diseases an improvement in hygiene situation and a reduction of water fetching labor, which freed up time for productive activities and utilization of time for learning activities. Therefore, both the effectiveness and impact of the project are deemed high. As for sustainability, an institutional system for maintenance was established in Maritime Region, and no technical problems were observed. However, Maritime Region has an increasing number of privately financed simplified water stations, which are more convenient and cheaper to maintain than the manual pump facilities rehabilitated under this project. In relation to this trend, the payment of water user fees to the water committees was delayed in some of the project sites situated in the urban outskirts. This situation is predicted to have an impact on financial sustainability. In Savanes Region, an institutional system for maintenance was in place, and maintenance had been performed favorably. There are generally no technical and financial issues. Taking all these points into account, the sustainability is evaluated as fair.

In light of the above, this project is evaluated as satisfactory.

[1] Rural, semi-urban, and urban areas are defined by population size. A rural area has a population of less than 1,500 and a semi-urban area has a population of at least 1,500 (excludes prefectural capitals and county seats). An urban area is a major town such as regional capitals, or prefecture seats.

1. Project Description



Project Location

Level-2 Communal Taps in Cinkassé Prefecture, Savanes Region

1.1 Background

Togo adopted *the National 10-Year Water Supply Improvement Plan* starting from 1991 until 2000 and formulated a plan to construct deep wells in 10,099 locations across the country by 2000. Togo pursued this objective with support from major donors, including Japan. However, the country subsequently fell into a financial crisis and from 1993, experienced political strife and democratic impasse, which prompted major donors to withhold funding and the target achievement for provision of water facilities was merely 40%. Consequently, even by 2010, the water supply coverage rates in rural and semi-urban areas, including in Maritime and Savanes regions, remained low at around 43%. In response to the Togolese government's request, this project was implemented for improving access to safe drinking water.

1.2 Project Outline

This project was implemented to improve access to safe drinking water by constructing and rehabilitating water supply facilities in rural and semi-urban areas in the Maritime and Savanes regions, thereby contributing to improving the living environment.

E/N Grant Limit /Actual Grant Amount	899 million yen / 848 million yen
Exchange of Notes Date/ Grant Agreement Date	Feb. 2012 / Feb. 2012
Executing Agency	Ministry of Agriculture, Livestock and Water Resources (after June 2015) (*Ministère de l'Agriculture, de l'Elevage et de l'Hydraulique*) (hereinafter referred to as " MAEH ")
Project Completion	March 2014
Main Contractor	JV : Nissaku Co., Ltd. and Tone Engineering Corporation
Main Consultant	Sanyu Consultants Inc.

Preparatory Study	Preparatory study (1) Oct. 2009 to Jan. 2010 Preparatory study (2) Nov. 2010 to Nov. 2011
Related Projects	[Grant Aid Project] Rural Water Supply Project (1980) Groundwater Development Project (phase Ⅰ, 1985; phase Ⅱ, 1986) Groundwater Development Project (phase Ⅰ, 1990; phase Ⅱ, 1991) Rural Water Supply Project (phase Ⅰ, 1997; phase Ⅱ, 1998)

2. Outline of the Evaluation Study

2.1 External Evaluator

Noriyo Aoki (Alfapremia Co., Ltd.)

2.2 Duration of Evaluation Study

Studies for this ex-post evaluation were conducted during the following periods:

Duration of Study: July 2016–February 2018

Duration of Field Survey: April 2–April 25, 2017; July 17–20, 2017

3. Results of the Evaluation (Overall Rating: B[2])

3.1 Relevance (Rating: ②[3])

3.1.1 Consistency with the Development Plan of Togo

In May 2007, Togo formulated *the Long-term National Development Strategy Based on the Millennium Development Goals*. This strategy outlined the priority tasks for developing the nation's water and sanitation sector, namely, improving access to basic drinking water and hygiene environment, and rehabilitating existing water facilities and strengthening operation and maintenance. In 2010, Togo came up with *the National Action Plan for the Water and Sanitation Sector*, setting the goal of 64% water supply coverage rate in rural areas, and 62% in semi-urban areas, by 2015. To achieve this goal, Togo pushed forward construction and rehabilitation of a number of water facilities and an improvement of operational system.[4]

Prior to the above plans, in 2006, Togo had formulated *the National Policy for Water Supply and Sanitation in Rural and Semi-rural Areas* to comply with t*he Poverty Reduction Strategy Papers (PRSPs)* and *the Millennium Development Goals (MDGs)*. Under this policy, the government endeavored to improve the water coverage rate, encourage residents to participate in water services, and enhance the facilities' operational system.[5] At the time of ex-post evaluation, the above policy was still the country's basic policy for water supply in rural and semi-urban areas.[6]

At the time of ex-post evaluation, Togo was following *the Strategy for Boosting Growth and Promoting Employment (2013–2017)* as *the National Five Year Development Plan*, which

[2] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory
[3] ③: High, ②: Fair, and ①: Low.
[4] *Preparatory Study Report (2)*, 1-3 and A5-3.
[5] *Preparatory Study Report (1)*, 1-2.
[6] Materials provided by MAEH.

addresses securing people's access to safe drinking water. In January 2017, *The National Policy for Water and Sanitation (2017–2030)* for 2030 which is the year of achievement, with the aim of complying with *the Sustainable Development Goals (SDGs)* is under development.[7] In this long-term policy, further improving the water supply coverage rate, improvement of water facilities, building water facilities powered by new energy sources, and strengthening facilities' operation and maintenance are highlighted as priority targets, and these items are regarded as major policy by the Togolese government.

In light of the above, this project is consistent with the development policies of Togo both at the time of planning and ex-post evaluation.

3.1.2 Consistency with the Development Needs of Togo

During the project's planning stage, the average water supply coverage rates of the Maritime and Savanes regions were 37% and 40%, both of which are below the national average in rural and semi-urban areas of about 43% (2010), and an urgent need for water demand was high.[8] Many residents fetched water from unhygienic sources like ponds, shallow wells, and rivers, leading to the prevalence of water-borne diseases. According to data from the Ministry of Health, the incidence rate of water-borne disease[9] was 8.9% in Maritime Region (2009) and around 10% in Savanes Region (2003–2008).[10]

At the time of ex-post evaluation, the water supply coverage rates of the Maritime and Savanes regions were 44% (2015) and 54% (2015) respectively, the national average being around 50% (2015). While these rates marked an improvement from the time of planning, they are still low. The water supply needs were still high at the time of ex-post evaluation. Water-borne disease incidence rates had declined in both regions at the time of ex-post evaluation, the total rate for Maritime Region being 1.4–2.1% (2014–2015), and that for Savanes Region being 5.6–7.8% (2014–2015).[11]

At the time of planning stage, the outskirts of Lomé, the capital, were undergoing a period of major change after democratization, making it easier to introduce capital funding and aid from overseas. At the time of ex-post evaluation, there was still a strong need for water supply in the northern part of Maritime Region and in Savanes Region; thus, it was confirmed that the project had met water supply needs to a certain extent. On the other hand, in communities neighboring urban areas of Maritime Region, which are more influenced by urban lifestyles, people have been pursuing more convenient and user-friendly facilities. They showed preference for privately financed autonomous water stations (postes d'eau autonome in French, hereinafter referred to as " PEAs")[12] and door-to-door water facilities. Accordingly, there was a reduced

[7] Materials provided by MAEH.
[8] Ex-ante Evaluation Sheet.
[9] Includes amebiasis, ascariasis, dysentery, gastroenteritis, abdominal typhus, and diarrhea.
[10] *Preparatory Study Report (1)*, pp. 2–66.
[11] Ministry of Health statistics.
[12] The PEAs feature overhead water faucets similar to the motorized pump facilities that the project newly installed in Savanes Region. The height of the faucets are adjusted for easy operation by children and adults of small and large

demand for manually operated pumps (such as foot-operated[13] and hand-operated pumps), which are physically burdensome for the children and women, particularly pregnant women who fetch the water. As mentioned in Section 3.1.4 Appropriateness of the Project Plan and Approach, because of a limit on the extent to which the old water facilities could be rehabilitated, the selection of sites, and facility models[14] did not accord with demand. As a result, some of the facilities rehabilitated in the project used by residents were limited. Furthermore, the PEAs are cheaper to maintain than manually operated water facilities and do not require community-led joint management. Accordingly, for some facilities near city center rehabilitated in this project, there were delays in the payment of water user fees to the water committee. It is concluded that a study should have been done particularly on the needs of the facility users in city outskirts, and more examination of the feasibility of maintenance was needed.

If we look at the project from a development needs perspective, in terms of water supply needs, safe water supply was delivered in both regions, leading to reduction of water-borne diseases among the beneficiaries; however, water supply coverage rates were still low and water supply needs were high at the time of ex-post evaluation. In terms of the demand for specific types and operation models of water facilities, the project sites, the types, and models of facilities in Savanes Region were generally selected in line with residents' needs, and thus appropriate. In the areas surrounding urban city of Maritime Region, the selection of project sites, the types, and models of facilities did not accord with residents' needs owing to the restrictions mentioned above; thus, there were some problems from a development needs perspective.

3.1.3 Consistency with Japan's ODA Policy

Since 1981, Japan has contributed to improving water supply coverage rates by providing Grant Aid Project for improving water supply facilities and procuring materials four times. Togo became politically unstable in the 1990s, resulting in a temporary suspension of aid, but aid resumed after the country made progress in democratization from 2007. During the project's planning stage, Japan's ODA policy for Togo was placing priority on supporting the country's efforts to strengthen basic social infrastructure such as water supply services.[15] Thus, the support measures taken under the project matched Japan's ODA policy at the time of the project's planning stage. The project also accorded with *the 2008 Yokohama Action Plan*[16]

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stature, which are customized precisely to the needs of users, for more convenient water-fetching. According to the executing agency's interview survey, PEAs were introduced in 2015 following a 2014 EU pilot survey, and were becoming increasingly prevalent in Lomé at the time of ex-post evaluation. The survey also found that the Portable Water Supply Directorate had established a subsidy system for investments with the aim of diffusing PEAs. Given that PEAs are cheaper when compared to a water committee's operation and maintenance costs, it is anticipated that they will become widely used throughout Maritime Region (local water supply expert).

[13] It was pointed out that there is a cultural and customary reluctance to draw water by foot (information from a women's focus group). Furthermore, while foot-operated pumps are the only model capable of drawing water from groundwater in depths up to 100m, there is a limit to how much water users can draw.

[14] In this report, a facility's "type" describes whether the facility is a manually operated facility or motorized facility. Among the manually operated facilities, "operation model" describes whether the manually operated facility is hand-operated or foot-operated.

[15] *Japan's ODA Data by Country, 2011*.

[16] Developing water-related infrastructure was highlighted as one of the actions to be taken under the item "Accelerating Economic Growth" in *the Yokohama Action Plan*.

adopted by the Fourth Tokyo International Conference on African Development (TICAD IV).[17]

3.1.4 Appropriateness of the Project Plan and Approach

The project's plan and approach were appropriate in Savanes Region in that, by installing the water facilities, the project succeeded in delivering improved access to safe drinking water in this region as planned. In Maritime Region, although various restrictions of rehabilitating the old well facilities exists, which are degradation inside the well, contamination following deterioration of perforations in the borehole,[18] change in ownership status due to the lapse of time, and the unavailability of spare parts owing to the well type and model becoming obsolete and thus being no longer in production, rehabilitation work were only conducted focusing on those wells that were installed in the 1980s under Grant Aid Project (only the surface portions of the old wells were replaced). Thus, the manually operated pumps (hand-operated and foot-operated) that were rehabilitated as before, failed to meet the changing needs of the peri-urban people neighboring Maritime Region's capital (Lomé), and usage of some facilities were limited. The rehabilitation of old pumps under the project did not necessarily lead to improved access to drinking water among the peri-urban communities of Maritime Region's capital. As noted in the sustainability section, the project also did not necessarily secure sustainable use among the target rural communities in the rapidly developing capital state.

From this perspective, from the plan development stage onward, an examination should have been done in relation to the relevance of renovating old wells, and the matter of how to improve facilities in such a way as to incorporate the changing needs of residents. Thus, there were problems regarding the relevance of the project plan and its approach.

In light of the above, the implementation of this project is fully conformed to the development policies of Togo as well as Japan's assistance policy. However, there are problems concerning the consistency of the project with Togo's development needs and the appropriateness of the project's plan and approach. Therefore, the relevance of the project is judged to be fair.

3.2 Efficiency (Rating: ③)

3.2.1 Project Outputs

Table 1 shows the outputs developed and provided by Japan in this project. In accordance with the water facility classification system in JICA Grant Aid Projects, this report refers to manually operated deep well pump as "level-1 facilities" and motorized deep well pump for communal taps as "level-2 facilities."[19] There are two models of level-1 facility: hand-operated and foot-operated deep wells.

[17] Ex-ante Evaluation Sheet, p. 1.

[18] In this project, the water quality of the wells was examined before any rehabilitation work, and the rehabilitation work was only performed on those wells that were found to have no contamination issues.

[19] In the water facility classification system used in JICA Grant Aid projects, level-1 facilities are defined as point-source water facilities (deep wells with manually operated pumps) and level-2 facilities are defined as communal faucet water supply facilities (deep wells with electric pumps).

Table 1: Outputs Developed and Provided by Japan (planned and actual)

Planned Item	Number	Region	Actual
1) Development of level-1 facilities			
・Rehabilitation of existing manually operated pump-type deep well facilities Note 1) (replacement of manually operated pumps, additional rehabilitation work of incidental components, repair of mortar)	50	Maritime	As planned
・Installation of manual pump-type deep well facilities Note 2) (well-digging, installation of manually operated pumps, additional installation of incidental components)	100	Savanes	As planned
2) Development of level-2 facilities			
・Installation of motorized pump-based deep well water supply network facilities (8 water facilities with generator, 2 water facilities with solar panel system) (Installation of power source, pumping system, overhead tank, water distribution pipeline facilities, and communal tap)	10	Savanes	As planned
3) Capacity building program (soft component) Note 3)			As planned

Source: *Preparatory Study Report (2)*, materials provided by JICA, information from main consultant.
Note 1) 37 manual-operated pumps, 13 foot-operated pumps.
Note 2) 97 manual-operated pumps, 3 foot-operated pumps.[20]
Note 3) Raising residents' awareness about operating and maintaining the deep well water supply facilities and hygiene. Those activities were implemented for both Maritime and Savanes Regions.

There were some alterations to the plan. Of the 50 targeted villages in Maritime Region for level-1 rehabilitation work, two were replaced with another village. As to the reason for their replacement, the two villages expressed reluctance to accept the rehabilitation work at the construction stage and desired a newly constructed different type of water facility. It was, therefore, concluded that there was a concern about the prospects for sustainable use and maintenance of the water facilities after their rehabilitation, and two alternative villages were selected. Another alteration to the plan concerned level-2 facilities. Specifically, drainage openings were fitted on the overflow pipes of water tanks. There was a concern that human error, such as forgetting to switch off the pump or operation error might cause an overspill or discharge, so a flow-end treatment system was fitted as a safety measure.[21]

At the time of completion, the power sources for level-2 facilities were as planned. However, by the time of ex-post evaluation, commercial power facilities were becoming increasingly prevalent in semi-urban area. Accordingly, seven of the level-2 facilities used an additional commercial power source.[22] The regional directorate of water and sanitation had conducted a

[20] In Savanes Region, some areas their aquifers were deep as a geological feature, meaning that only foot-operated pumps were capable of drawing the water.
[21] Materials provided by JICA.
[22] At the time of ex-post evaluation, six of the level-2 facilities were using both a generator and a commercial power source. The additional use of commercial power was also observed in one of the solar-powered facilities.

technological inspection of these seven facilities, and an agent had then connected them to a commercial power source. These charges were being borne by the relevant "Association of Users of Drinking Water and Sanitation Services" (*Association des Usagers du Service d'Eau Potable et Assainissement*, hereinafter referred to as " AUSEPA").

The objective of the soft component in Grant Aid project was "to strengthen the capacity of the resident-led organizations in charge of operating and maintaining the community water facilities, which are the water committees (level-1 facilities) and AUSEPAs (level-2 facilities), through the self-driven efforts of beneficiary residents and the sustained support of the regional directorates of water and sanitation."[23] The soft component activities were mostly implemented as planned. However, the soft component's outcomes were limited in some areas of the Maritime Region. For example, some residents were not paying water user fees to their water committee, which was related to the fact that their needs regarding water facilities had changed.

Duties on the Togolese side were executed as planned. Table 2 shows the duties on the Togolese side.

Table 2: Duties on the Togolese Side (planned and actual)

Planned	Actual
1) Payment of personal expenses of counterpart and travel expenses during construction of the facilities	As planned
2) Construction of site offices and bearing the expenses	As planned
3) Monitor sites after construction and bear the expenses (counterpart personnel costs and expenses for activities)	As planned

Source: *Preparatory Study Report (2)*, 3-55, interview survey with officials, materials provided by the main consultant.

In light of the above, the project was mostly implemented as planned. The site and design alterations were appropriate to the needs on the ground. These alterations did not have any particular impact on project duration or project expenditure.[24]

[23] Materials provided by JICA.
[24] Information provided by the main consultant.

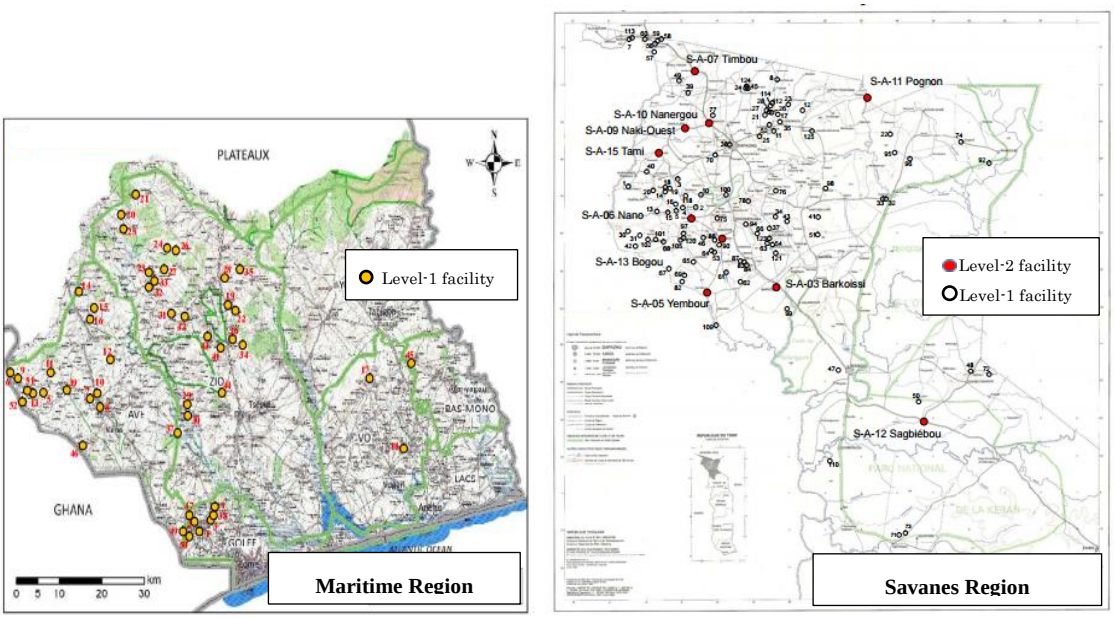


Figure 1: Location of Facilities in Maritime Region (left) and Savanes Region (right)

3.2.2 Project Inputs

3.2.2.1 Project Cost

The planned project cost for the Japanese side (E/N grant limit) was 899 million yen, while the actual project cost was 848 million yen.[25] The expenditure on the Togolese side could not be confirmed, so only the Japanese expenditure was used for ascertaining the proportion of actual total project costs against the planned project cost; the actual project cost was 94% of the planned value, which is within the planned budget.

3.2.2.2 Project Period

The project period was scheduled to take 26 months,[26] which included the envisaged time for procuring consultants, producing detailed designs, and organizing tenders. The actual project period was 26 months,[27] which was 100% of the planned period. The duties on the Togolese side were also implemented as planned.

The project remained within the planned budget and period. The outputs were mostly as planned, and the site and design alterations were appropriate considering that the utmost effort was made to reflect the circumstances on the ground. The site alterations did not have a significant impact on the project outcomes. There was no impact on the project cost or project period that was attributable to site or design alteration. In the light of the above, the project efficiency is judged as high.

[25] Materials provided by JICA.
[26] Total of 26 months from February 2012 (G/A) to March 2014 (Ex-ante Evaluation Sheet).
[27] Total of 26 months from February 2012 (G/A) to March 2014 (Materials provided by JICA).

3.3 Effectiveness[28] (Rating: ③)

3.3.1 Quantitative Effects (Operation and Effect Indicators)

The main indicator adopted during the time of planning was population served, but in this evaluation, the operating rate of water facilities is additionally used as an operation indicator. It should be noted that the region-wide water supply coverage rate has not been considered in this evaluation; the reason for this is that, since region-wide water supply coverage rate is affected by water facilities installed under other projects, it is difficult to determine the outcomes of this project.

3.3.1.1 Operating Rate

As shown in Table 3, the operating rate of facilities in Maritime Region was 96%, and that of Savanes Region was 98%.[29] Operating rate is based on the number of operating facilities[30] against the total number of facilities.

Table 3: Operating Rate of Each Facility

	Actual Value	
	2014	2017
	Project completion	Ex-post evaluation
Maritime Region Level-1 facilities Note)	100%	96% (48/50)
Savanes Region Level-1 facilities Level-2 facilities Note) Solar power Generator	100% 100% 100%	98% (98/100) 100% (2/2) 100% (8/8)

Source: Executing agency's responses in questionnaire, on-site survey.
Note) The planned unit of water supply amount was 20 liters / day / person. The each operating facility fulfilled this standard.[31]

3.3.1.2 Population Served

At the time of planning stages, population served included users of facilities not installed under this project, and was set based on the rates of population growth in the target villages and settlements. Accordingly, this ex-post evaluation adopted as the target value the total number of people designed to use the project's facilities. Regarding the population served at the time of ex-post evaluation, the actual value was calculated based on the number of people using the project's facilities at the time of the field survey.

In Maritime Region, restorable facility types were not always suited to the needs of the residents. This was particularly evident in peri-urban communities, where communal foot-

[28] In determining the effectiveness rating, consideration is also given to impact.
[29] Regarding the two non-operating facilities in Maritime Region, the residents opted to fetch water using a nearby PEA faucet, and thus did not use or maintain the rehabilitated facility. As for the two non-operating facilities in Savanes, these were not operating at the time of ex-post evaluation because it was taking time to order and receive spare parts for these manually operated pumps manufactured in India (India Mark II).
[30] Facilities in operation at the time of ex-post evaluation.
[31] Based on the results of the beneficiary survey. The details regarding volume of water per person are outlined in 3.3.2.2 Stable Supply of Water Volume.

operated pumps yielded only a limited volume of water, and where the residents, being more accustomed to urban lifestyles, preferred to use water faucets of door-to-door water facilities or private water facilities, which meant that the number of users was limited. However, in rural communities in the northern prefectures of Maritime Region, demand for water was high, and water facilities, particularly hand-operated pumps, were being used extensively. Accordingly, the population served in Maritime as a whole was 83% of the target. In Savanes Region, both level-1 and level-2 facilities were seeing extensive usage. The population using the facilities exceeded the projected figure by 137%, reflecting a new demand for water, one that was driven by population growth.

Table 4: Population Served
(Designed Population of Facility and Actual Facility-using Population)

(Unit: No. of people)

	Target	Actual	
	2017	2017	
	3 years after project completion	Ex-post evaluation	
Maritime Region	12,500 Note 1)	10,412	83%
Savanes Region	59,000 Note 2)	80,602	137%
Total	71,500	91,014	

Source: Executing agency's responses in questionnaire, on-site survey by local assistant survey staff.
Water output standard: 20L/day/person
Note 1) For Maritime Region, the figure of 12,500 persons (250 persons × 50 facilities) was used as the target performance figure. The projected figure at the time of planning took into account the rate of population growth in the villages (*Preparatory Study Report*).
Note 2) For Savanes Region, the figure of 59,000 persons ([250 persons × 100 facilities] + [68 communal faucet facilities × 500 persons]) was used as the target figure for population served in term of facilities. The 10 level-2 facilities include a total of 68 communal faucet facilities. The standard of 500 persons per communal faucet (consisting of two faucets) is the standard adopted in *the National Development Strategy (2007)* based on the Millennium Development Goals. The target values in t*he Preparatory Study Report* include existing population, and it is more accurate to count the number of persons using the project's facilities; therefore, the method of finding the population served was changed for this ex-post evaluation.

3.3.2 Qualitative Effects

3.3.2.1 Improvement in Water Quality

Because the water sources of all the facilities were in deep strata, many people reported that the water quality had improved significantly compared to the sources they used previously, which included ponds, shallow wells, and rivers, etc.[32]

[32] Results of interview survey. Results of beneficiary survey.

Table 5: Water Sources Previously Used (Unit: %)

	Maritime Region	Savanes Region	
	Level-1 facilities	Level-1 facilities	Level-2 facilities
Pond	9	4	15
Shallow well (no cover) Note 1)	12	12	8
Shallow well (with cover)	38	45	38
River/stream Note 2)	36	35	39
Other Note 3)	5	4	0
Total	100	100	100

Source: Results of beneficiary survey.
Note 1) including traditional hand-dug wells.
Note 2) In the Japanese-language version, the word used for "stream" is ogawa." It differs from the ogawa.in Japan.
Note 3) As the other water source, hand-operated pumps were previously used by users of the level-1 facilities in Maritime Region and the four level-1 facilities in Savanes Region.

3.3.2.2 Stable Supply of Water Volume

As mentioned in 3.3.2.1 (Improvement in Water Quality), since the water sources were in deep strata, most of the facilities provided a stable water supply that was unaffected by the dry season.[33] Actual performance, as measured by average usage volume per person, varied between the facilities in each region. Among level-1 facilities in Maritime Region, the average supply volume per person was 25 liters per day; among level-2 facilities in Savanes Region, an average of 26 liters was used per person per day; and among level-1 facilities in Savanes Region, an average of 22 liters was used per person per day. Thus, the planned water output standard was met.[34] Regarding the solar-powered level-2 facilities, one of the facilities secured a stable water supply regardless of the weather because it additionally used a commercial power source. Seven of the 10 level-2 facilities generally managed to provide a stable water supply by sourcing their power from a commercial power source in addition to a generator. According to the results of the beneficiary survey,[35] 87% of level-1 facilities in Maritime Region, and 97% of level-1 and

[33] Results of interview survey.
[34] Results of beneficiary survey.
[35] This survey was conducted in Maritime and Savanes regions between April 3 and April 25, 2017. The respondents were users of operating facilities and members of a water committee or AUSEPA.
Regarding the selection of facilities for the survey, the level-1 facilities were selected in such a way as to represent as proportionately as possible the numbers of facilities in each prefecture. Regarding the level-2 facilities, all 10 facilities were included. Regarding the selection of the facility users for the survey, included were those who were fetching water at the time of the survey (effective respondents: 102). These individuals were interviewed using a questionnaire form. The number of facilities surveyed and the respondent sample size were limited considering the total number of facilities and the size of the population covered in the project. This beneficiary survey was a case study conducted with the aim of capturing the conditions among as many facilities as possible and collecting various unquantifiable data. It does not adopt the sampling method to confirm statistical significance. In addition, the survey only included those users of operating facilities and thus did not capture data on users of non-operating facilities. To compensate for this, interviews were conducted with the water committees of non-operating facilities and the people who were expected to be the beneficiaries of such.

There were 102 effective respondents who were users of operating facilities; 16 (16%) were male and 86 (84%) were female. The gender and age breakdown was as follows: among male respondents, 13% were in their teens; 44% were in their 20s; 25% were in their 30s; 12% were in their 40s; and 6% were in their 50s. Among female respondents, 16% were in their teens; 24% were in their 20s; 31% were in their 30s; 21% were in their 40s; 4% were in their 50s; and 4% were in their 60s. Regarding regions, 87 respondents were from Savanes Region (73 were users of a level-1 facility, and 14 were users of a level-2 facility), and 15 were from Maritime Region.

100% of level-2 facilities in Savanes Region, achieved an increase in water supply volume after the project. As for those respondents who reported that their facility had not achieved such an increase, the facility concerned was a level-1 facility in all such cases. The reason for not achieving an increase was that a queue of users would form at the facility, hindering the users from fetching a large volume of water in one go.[36]

3.3.2.3 Change in Water Fetching Time

Before the project, the beneficiaries used distant water sources or water sources that were difficult to fetch water from. Thus, at the time of ex-post evaluation, water fetching time was significantly reduced.[37] The average reduction in water fetching time among users of level-1 facilities in Maritime Region was 2 hours 29 minutes, daily water fetching time per person. In Savanes Region, reduced on average by 2 hours and 25 minutes among level-1 facility users, and by 5 hours and 26 minutes among level-2 facility users[38].

3.3.2.4 Securing Safety for Water Fetching

Before the project, the accidents included cases in which a child fell into a pond, stream, or traditional hand-dug well (uncovered), etc. It is confirmed that there were cases in which the project secured the safety of water fetching where accidents had previously occurred. [39]

A traditional hand-dug well that was previously used in Tône Prefecture, Savanes Region.

3.3.2.5 Improvement in the Capacity of the Water Committees and AUSEPAs to Operate and Maintain Water Facilities

In relation to the capacity of the water committees and AUSEPAs to operate and maintain the water supply facilities, the project's soft component provided concrete management guidance. Such guidance contributed to strengthening the capacity of the operation and maintenance of the facilities.[40]

3.4 Impacts

3.4.1 Intended Impacts

3.4.1.1 Reduction in Water-borne Diseases

There were 47 effective respondents who were members of the water committees or AUSEPA; 37 were male (79%), and 10 (21%) were female. Among male respondents, 9% were in their 20s; 23% were in their 30s; 50% were in their 40s; 14% were in their 50s; 0% were in their 60s; and 4% were in their 70s. Among female respondents, 20% were in their 20s; 30% were in their 30s; 10% were in their 40s; and 40% were in their 50s. Regarding region, 32 were from Savanes Region (22 were responsible for a level-1 facility and 10 were responsible for a level-2 facility), and 15 were from Maritime Region.

[36] Results of the beneficiary survey.

[37] Results of interview survey.

[38] Results of the beneficiary survey.

[39] Results of interview survey with beneficiaries.

[40] Results of interview survey with water committees and AUSEPA.

Before the project, the residents used sources wherein the water quality was poor, such as ponds, shallow wells including traditional hand-dug wells, streams, etc. Many residents suffered from stomach pain and diarrhea caused by parasitic and gastrointestinal diseases. It is confirmed that the number of such complaints declined after the project.[41] In addition, water supplied by project facilities was being used not only for drinking but also for washing the body, which had resulted in lower numbers of skin diseases. Survey respondents cited, as a positive impact, a reduction in medicinal expenses.

3.4.1.2 Improvement in Hygiene Situation

According to the interview survey and beneficiary survey, the hygienic guidance provided in the project as part of the soft component led to a more strict observance of handwashing compared to before the project; moreover, the increase in amount of water use led to a rise in the times of body washing and laundry washing. There was a respondent that the residents were complying with rules such as prohibitions on children going to the toilet near the facility and disposing of garbage in the vicinity.[42]

Table 6: Water and Hygiene-related Behavior (multiple responses allowed) (Unit: %)

	Savanes Region		Maritime Region
	Level-1 facilities	Level-2 facilities	Level-1 facilities
Boil water	0	0	0
Wash hands frequently	100	100	100
Increase times of laundry washing	91	100	100
Wash body frequently	98	100	100

Source: Results of beneficiary survey.
Note) When asked whether there had been any changes in their behavior regarding water use or their attitudes toward hygiene, 100% answered that a change had occurred. The respondents then selected one or more of the above four items to indicate the specific changes.

3.4.1.3 Use of Surplus Time by the Reduction in Water Fetching Time

As mentioned in 3.3.2.3 Change in Water Fetching Time, because the residents, prior to the project, used distant water sources or water sources that were difficult to fetch water from, water fetching time had significantly reduced at the time of ex-post evaluation. Table 7 shows how the surplus time was spent according to the respondents.

[41] Results of the beneficiary survey, interview survey, and focus group discussion.
[42] Results of the field survey.

Table 7: Utilization of Surplus Time by Reduction in Water Fetching Time
(multiple responses) (Unit: %)

	Savanes Region		Maritime Region
	Level-1 facilities	Level-2 facilities	Level-1 facilities
Doing housework	81	84	86
Doing farm work	66	31	60
Doing income generating activities (non-farming)	45	38	33
Participate in a community activity	15	5	0
Have a rest	16	38	0

Source: Results of beneficiary survey.

As for children's water fetching time, in the beneficiary survey, 97% of the respondents said that children's water fetching time was reduced. Table 8 shows how the surplus time was spent according to the respondents.

Table 8: Influence on Children's Life by Reduction in Water Fetching Time
(multiple responses[43]) (Unit: %)

	Savanes Region		Maritime Region
	Level-1 facilities	Level-2 facilities	Level-1 facilities
Children can now help parents in their housework	84	77	67
Children can now go to school	46	39	13
Children now have more time to study	80	92	87

Source: Results of beneficiary survey.

Tône Prefecture, Savanes Region

Water fetching by a household with a person with disability

There were cases in which the installation of water supply facilities saved the labor involved in water fetching, freeing up time for livelihood improvement activities; for example, some women used the surplus time to obtain qualifications that would allow them to improve their earning capacity. There were also AUSEPAs' cases in which both male and female residents got involved in communal O&M activities, which made them actively engaged in community improvement projects.

3.4.1.4 Impact of Droughts on Groundwater Resources

According to a local hydrogeological specialist, the water sources are capable of bearing sufficient water even in the dry season because the water sources were not aquifers that are easily affected by the abundance of underground water resources and rainfall. Since many of the aquifers-served in the project lay in bedrock, the hydro fracking technique was used. Thus, even during the dry season, sufficient amount of pumping water was secured.[44]

[43] A person is defined as a child if they are of an elementary school age.
[44] Results of the field survey.

3.4.2 Other Positive and Negative Impacts

3.4.2.1 Impact on Natural Environment

Under Togolese domestic law, the project was not required to produce an Environmental Impact Assessment (EIA) document for level-1 facilities, but it was required to produce an Initial Environmental Examination (IEE)[45] document for level-2 facilities. Accordingly, the executing agency submitted an IEE document to the Division of Environmental Assessment (*Bureau d'étude d'impact*) in April 2011, and received permission to execute the project in the end of October 2011. None of the project sites were situated in or near national parks or similar areas, wherein natural scenery could be affected by construction works; thus, the project did not entail any undesirable environmental impacts.[46] Pumping water did not result in any ground subsidence or cause water sources to dry up, and the piping work did not damage the natural environment.[47] The regional directorate of water and sanitation and the Division of Environmental Assessment performed environmental impact monitoring during and after the construction work, and it found no particular points of concern.

As a result, there was no negative impact on the natural environment.

3.4.2.2 Resettlement and Land Acquisition

In this project, after a building appeal was issued, private land was provided as communal land voluntarily and free of charge. As such, the executing agency did not acquire land, and no residents needed to be relocated.[48]

3.4.2.3 Other Impacts on Residents during Construction

To minimize the impact of cross-drainage works on transport and economic activities at the time of construction, diversion routes were set up as a traffic-calming measure. The land on which the facilities were constructed was mostly vacant land, and so there was no impact on agricultural produce. To avoid influencing residents' lives, construction work was halted during the night, midday, and evening.[49]

In relation to the effectiveness, the facilities in Maritime Region had a high operating rate, but the model of water supply in some of these rehabilitated facilities was not suited to residents' needs, and so the population served fell short of the target; that said, the project achieved over 80% of the target. In Savanes Region, the operating rate was high and the targeted population served was met. Overall, the targeted figure for population served for both regions combined

[45] An IEE uses relatively accessible data (such as existing data) and, where necessary, conducts a simple field survey to produce alternative plans, predict, or evaluate environmental impact; formulate mitigation measures; and prepare an environmental monitoring plan.

[46] Results of beneficiary survey, interview survey, and focus group discussion. Also based on the results of an interview survey with the executing agency.

[47] Results of an interview survey with beneficiaries and stakeholders from beneficiary villages.

[48] Results of a questionnaire with the executing agency.

[49] Information provided by the main consultant.

was met, and the operating rate of the facilities was high; therefore, the effectiveness of the project is evaluated as high.

In relation to the impact, a number of positive impacts were confirmed, including a reduction in water-borne diseases, improved hygiene, a reduction in time required to fetch water, and the consequent free time was used for productive activities and learning opportunities. As regards the impact on the natural environment and other impacts, the project did not entail any destruction on the nature, and the impact of construction work on residents' lives and transport was minimized. Thus, the impact is comprehensively judged to be high.

In light of the above, the effectiveness and impact are high.

3.5 Sustainability (Rating: ②)

3.5.1 Institutional Aspects of Operation and Maintenance

3.5.1.1 MAEH Portable Water Supply Directorate

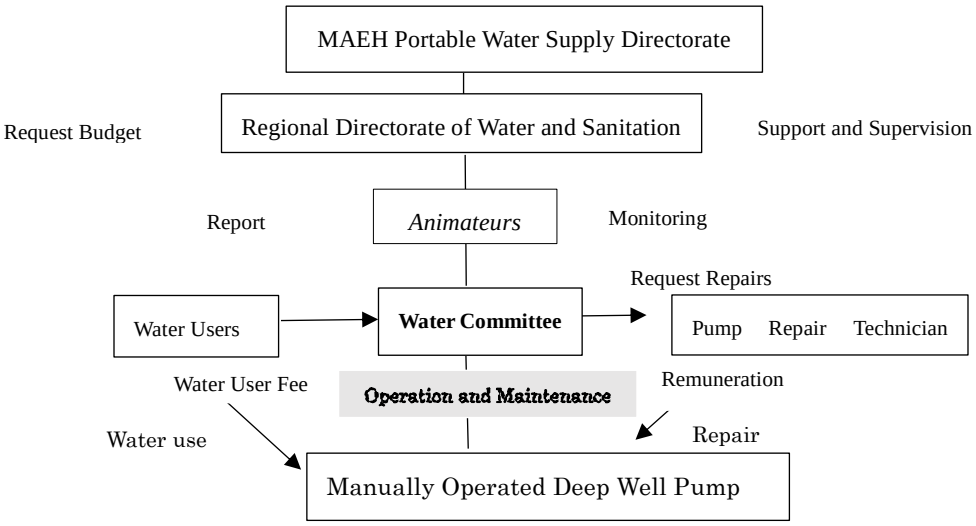
The Portable Water Supply Directorate of the MAEH's predecessor, Rural Water Supply Department under Ministry of Water, Sanitation and Rural Water Supply (*Ministére de l'Eau, de l'Assainissement et de l'Hydraulique Villageoise*), was in charge of the project, while the construction work was underway in 2012, but from June 2015 onward, the Portable Water Supply Directorate of the MAEH was in charge of coordinating and controlling all activities related to drinking water supply. However, despite the reorganization of the ministry, the fundamental institutional structure remained the same, so there was no notable impact.

3.5.1.2 Regional Directorates of Water and Sanitation

The regional directorates of water and sanitation were in charge of operating and maintaining regional water supply projects. Each directorate comprises three divisions: community, technology, and finance. The community division is staffed by community outreach officers called "*animateurs,*" and the technology division is staffed by technicians. Table 8 shows the division of duties among those involved in maintenance under the jurisdiction of the Regional Directorate of Water and Sanitation.

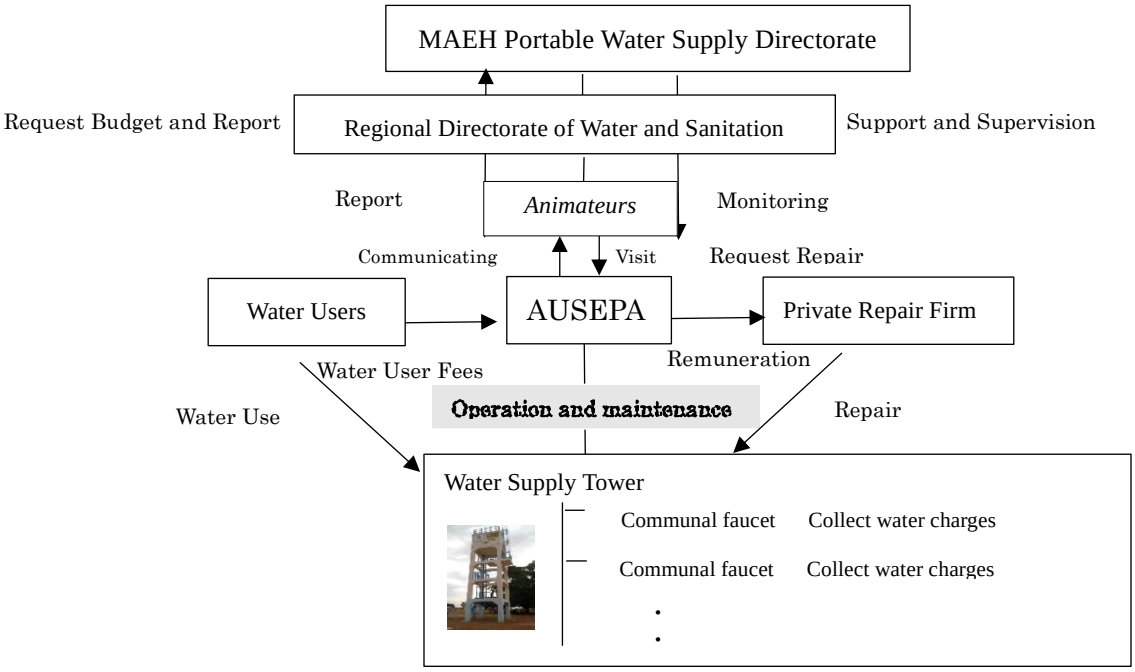
The decentralization of the water sector[50] had achieved little progress in Togo as a whole, and there were no communes in any of the rural or semi-urban areas in the target regions. At a policy level, there is a plan to further decentralize the water sector, but at the time of ex-post evaluation, the regional directorates of water and sanitation still played a central role in supervising maintenance and it is functioning.

[50] From 2003, Togolese water policy moved toward a commune system, and aimed to give communes independence over the execution, operation, and maintenance of water supply projects (information from a regional directorate of water and sanitation).



Source: Illustrated based on the results of on-site survey

Figure 2: Maintenance System for Level-1 Facilities



Source: Illustrated based on the results of on-site survey

Figure 3: Maintenance System for Level-2 Facilities

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Table 9: Division of Duties among Stakeholders (Actual)

	Roles and Duties	Reporting System, etc.
[Governmental personnel]		
Regional water supply specialists or sociologists (*sociologues*) Note 1)	Coordinate and supervise the activities of the animators of the region.	Submit quarterly and annual reports to the Portable Water Supply Directorate.
Animateurs Note 2)	Visit, guide, and monitor water supply sites. The sociologist or regional director organize a monthly reporting meeting in principle for *animateurs* at a regional level.	Submit quarterly reports to the Portable Water Supply Directorate.
[Resident-led maintenance framework]		
Water committees	Operate and maintain level-1 facility. Take action in the event of malfunction or other trouble.	Liaise with *animateurs* and AR.
AUSEPAs	Operate and manage level-2 facilities. Take action in the event of malfunction or other trouble. As part of their management of communal faucet facilities, AUSEPAs recruit local residents as "water supply facility operators," who are responsible for operating, suspending, and maintaining a generator and pumps, and it recruits people to clean the facilities and collect water charges.	Liaise with *animateurs* and private firms.
[Private contractors]		
Pump repair technician (*Artisan Réparateur*; AR)[51] (Level-1 facilities)	The water committee orders the purchase of spare parts and places them by pump repair technician. The *animateur* can support acquiring spare parts.	Respond to calls from an *animateur* or water committee in the event of malfunction or other trouble.
Repair contractors (Level-2 facilities)	Repair problem area after being contacted by an *animateur* or AUSEPA.	Respond to calls from an *animateur* or AUSEPA in the event of malfunction or other trouble.

Source: Results of interview surveys with the two regions' regional directorates of water and sanitation.
Note 1) Sociologists hold a Master's degree and specialize in social issues and community development.
Note 2) To be registered as an *animateur*, one must have at least completed high school, have a deep understanding of water supply and sanitation, and have a personal character that is suited to community work.

Each prefecture would have one *animateur* who visits and monitors water supply sites, but there was not a water supply-related office at a prefectural level. *Animateurs* in Maritime Region were in charge of 218 wells and facilities, and in Savanes Region, they were in charge of 375. In addition to water supply, *animateurs* also supervised sanitation (toilets). As shown in Table

[51] When a level-1 facility requires repair, the relevant regional directorate of water and sanitation would contract the repair work to a designated AR. The AR would procure the necessary spare parts from a sales agent and repair. The AR would be paid by the relevant water committee (according to the results of the field survey). ARs are private agents, but they had attended training seminars organized by the MAEH Water Supply Directorate and were listed as official ARs by the regional directorates of water and sanitation.

10, the numbers of personnel in Maritime Region increased slightly, and those in Savanes Region decreased slightly, compared to the planning stage, a situation that reflects Togo's tight finances. Nevertheless, their duties were not affected by the situation; indeed, many fulfilled their duties conscientiously.

Table 10: Change in Numbers of Technical Personnel in Each Region

(Unit: no. of persons)

	Planning	Ex-post evaluation	Planning	Ex-post evaluation
	Savanes Region		Maritime Region	
Sociologists	1	1 Note 1)	1	1
Geologists	1	1	1	1
Water supply specialists	1	1	1	2
Hand-operated pump technicians	1	0	1	2
Electronic machinery specialists (level-2 facilities)	0	0	0	0
Animateurs	6	6 Note 2)	6	6

Source: Results of interview surveys with the two regions' regional directorates of water and sanitation, questionnaire survey with executing agency.

Note 1) This sociologist was not full-time but a contracted volunteer (Agent Forment).[52]

Note 2) Three of the animateurs were full-time, while the other three were contracted volunteers (Agent Forment).

3.5.1.3 Water Committee and AUSEPAs

The water committees were in charge of maintaining level-1 facilities. Each water committee generally had five or more members, including a president, secretary, accountant, auditor, technical officer, and hygiene officer.

AUSEPAs were in charge of operating and maintaining level-2 facilities. Each AUSEPA had five or more members, including a president, secretary, treasurer/accountant, technical officer, and hygiene officer. Where necessary, supervision was undertaken by two advisors. Among communal faucet facilities (level-2 facilities), water charge collectors were employed by an AUSEPA to carry out cleaning and other maintenance work in the water facility. In addition, AUSEPAs would recruit residents as "operators"[53] to provide round-the-clock regulation of the water levels (impoundment levels) in the overhead tank by operating the pumping water.

The method for electing president varied between the water committees and AUSEPAs. In some cases, community beneficiaries would elect nominees. In other cases, members would be determined by the high-ranking members of the community, as per the community's customary tradition.

As regards the gender balance in the membership of water committees and AUSEPAs, women accounted for 39% of the membership. By type of membership, women made up 98% of accountants and 91% of hygiene officers,[54] but only 1% of presidents.[55]

[52] Contracted staff (Agent Forment) refers to someone who is recruited on a contract basis to perform water supply-related duties.

[53] AUSEPAs selected and recruited as operators from local residents who had technical expertise.

[54] Results of beneficiary survey.

[55] Results of questionnaire to executing agency.

3.5.2 Technical Aspects of Operation and Maintenance

The ARs who are responsible for repairing level-1 facilities, were technicians well-experienced in repairing pumps of deep wells; thus, there were no technical problems. At the time of ex-post evaluation, each AR in Maritime Region had responsibility for 38 facilities, and each AR in Savanes Region had responsibility for 78 facilities.

The operators that AUSEPAs employed for level-2 facilities had fully mastered the operation of level-2 facilities, having studied the theory and practice of such operation during the execution of the soft component, according to the interview survey. However, among the facilities that subsequently started using a commercial power source in addition to solar power or a generator, there were cases in which the AUSEPA had failed to balance the hours of generator or solar-powered operation with commercial power-based operation in such a way as to ensure that the level of water in the overhead tank (impoundment tank) was adequate for morning and evening water fetching. In another case, there was a need for a regional or state-level technician to provide guidance, such as how, under the blazing heat of the late dry season, a generator will require some cooldown time after six hours of operation, and that this problem can be overcome by adeptly combining the use of a generator with a commercial power source or solar power.[56]

For technical issues with level-1 facilities, the water committee concerned would first consult an *animateur* and then assign an AR to conduct the repairs. If the AR was insufficiently qualified to perform the repair work, the regional directorate of water and sanitation would step in. For technical issues with level-2 facilities, an operator of water facilities would first be assigned to perform repairs if only simple work was required, and where more extensive work proved necessary, the AUSEPA would assign an *animateur* to contact a technician from the regional directorate of water and sanitation, who would then perform the repairs. If a higher level of technical skill was required, the AUSEPA would hire a private agent.

3.5.3 Financial Aspects of Operation and Maintenance

3.5.3.1 Finance of the MAEH Portable Water Supply Directorate

Table 11 shows the budgeted revenues of the MAEH Water Supply Division. Regular expenses were on the decline due to a reduction in personnel expenses. The amount allocated for investment varied with each fiscal year. In addition, while the amount of aid from overseas donors fluctuates by fiscal year, a fiscal official from the MAEH Water Supply Division reported that there was an increasing trend on the whole.

[56] Results of on-site inspection by local water expert and interview survey.

Table 11: Budgeted Revenues of the MAEH Portable Water Supply Directorate Note)

(Unit: FCA)

	2015	2016	2017
Regular expenses	1,502,304,000	1,105,391,000	1,017,623,000
Budget allocation for investment	20,718,853,000	24,924,034,000	14,604,800,000
Amount provided by donors	21,173,820,000	13,490,590,000	35,564,490,000

Source: MAEH Portable Water Supply Directorate

Note 1) Since the ministry underwent a reorganization in fiscal 2015, the above table shows the data from 2015 onward. The above amounts represent the budgeted (estimated) amounts and not the actual amounts.

Note 2) The MAEH Portable Water Supply Directorate's accounting year is from January to December.

3.5.3.2 Collection of Water User Fees

Generally speaking, each facility was financially independent.[57] There were two methods for collecting water charges: flat-rate system and meter-rate system. For both level-1 and level-2 facilities, the regional directorates of water and sanitation calculated the amounts based on maintenance cost, number of users, and water output volume. For level-1 facilities, the water committees, under the guidance of their regional directorate of water and sanitation, would select whether to adopt a meter-rate system or flat-rate system. As an example of a meter-rate system, two 30-liter tubs carried on the head would be charged 25 FCA, and as an example of a flat-rate system, there would be a monthly rate of 100 FCA per person. All level-2 facilities adopted a meter-rate system.[58]

Regarding reserve funds, the level-1 facilities of Maritime Region held on average 98,635 FCA (18,740 JPY) in reserve. In Savanes Region, the average amount of reserve was 130,000 FCA (24,700 JPY) among level-1 facilities, and 1,535,635 FCA (291,770 JPY) among level-2 facilities. On the whole, the facilities had managed to secure the reserves to meet future spending requirements. Among the operating facilities in Maritime Region, the average collection rate was 73%, and around half of the water committees had accrued a reserve fund.[59] Among the level-1 facilities of Savanes Region, the average collection rate of water user fees was 98%, and around 80% of the water committees had accrued a reserve fund. Among the level-2 facilities in Savanes, the collection rate was 100%, and every AUSEPA had accrued a reserve fund.

In Savanes Region, the regional directorate of water and sanitation ascertained the balance in the saving bank. The directorate would enable funds to be withdrawn when necessary of expenditures by issuing a notice of permission to withdraw to the bank.[60] Such a system was not adopted in Maritime Region.

In Savanes Region, when a water committee or AUSEPA had uncollected water charges, an

[57] Information from the executing agency.

[58] Results of interview survey with regional directorates of water and sanitation. Regarding exchange rate, as of April 2, 2017, 1 EUR = 125 JPY, 1 EUR = 656 FCA, 1 FCA = 0.19 JPY.

[59] Results of beneficiary survey.

[60] Results of interview survey with the Savanes Regional Directorate of Water and Sanitation.

animateur would instruct the water committee or AUSEPA to make the residents duly pay the outstanding charges. If a large number of the residents were not paying the charges for their facility, they would be informed that, for example, no warranty would be provided for repair work in the case in which repairs became necessary within the facility's service life.[61] In Maritime Region, such a strict approach would have little prospect for ensuring the maintenance of the facilities. Each director for regional directorate of water and sanitation adopted a different policy. However, the MAEH Portable Water Supply Directorate had access to a state subsidy for large-scale repair expenses, and stated that it was able to invoke this subsidy when necessary.[62]

3.5.3.3 Users' Opinion about Water User Fees and Measures to Households that Have Difficulties to Pay the Charges

The water charges were considered appropriate by 100% of the users of the level-1 facilities in Maritime Region. In Savanes Region, they were considered appropriate by 97% of level-1 facility users and 92% of level-2 facility users. Regarding support for households that struggled to pay the charges, 73% of the water committees in the beneficiary survey had an exemption system. In Savanes Region, 54% of the water committees and AUSEPAs had a special exemption system.[63] According to the interview survey, there were cases in which users offered their labor as a substitute for paying water charges.

3.5.4 Current Status of Operation and Maintenance

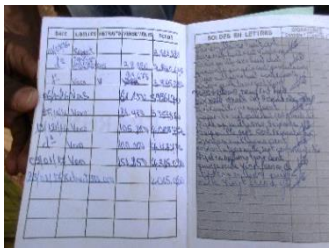
3.5.4.1 Current Status of Operation and Maintenance in Each Facility

The operation and maintenance of each facility was generally favorable. From visual observation, the status of cleaning and drainage among facilities in both regions was generally favorable. With the guidance of *animateurs*, facility rules were being upheld, except among non-operating sites. Each *animateur* would submit a monthly monitoring report to the regional directorate of water and sanitation describing the operation and maintenance status of facilities. *Animateurs* were visiting facilities at least once a quarter and preparing visiting guidance records and repair records. The regional directorates of water and sanitation would log these records on a digital database called "Programme." When a malfunction occurred, the directorates of water and sanitation would issue a repair request to an AR, who would then perform the repair swiftly. ARs would take one to two days to complete the repair in the case of level-1 facilities. In the case of level-2 facilities, repair time varied depending on the repair location, but it would generally take as long as a week or so because the hired private firms were based in Kara[64] or Lomé.[65]

[61] Results of the field survey.
[62] Results of interview survey with regional directorates of water and sanitation.
[63] Results of beneficiary survey.
[64] Kara is the closest city to Savanes Region, situated 413 kilometers to the north of Lomé,
[65] Results of interview survey with *animateurs*. Results of interview survey with beneficiaries.

Tône Prefecture, Savanes Region
Water fetching
at a level-1 facility

Capital of Savanes Region
A retailer of spare parts
for level-1 facilities



Cinkassé Prefecture, Savanes Region
A record of reserve funds from water user fees payments pertaining to level-2 facilities

In Maritime Region, the regional directorate of water and sanitation and water committees have put in place an institutional system for maintenance, and there were no major problems related to maintenance at the time of ex-post evaluation. Neither were there any technical problems. There were, however, some issues with finance; around 30% of water committees experienced difficulty collecting water charges for the operating facilities. Another issue concerned PEAs; peri-urban residents showed preference for PEAs, which have lower maintenance costs than the manual pumps rehabilitated in the project and do not require community-led joint management, and the Togolese government has been subsidizing private investment into PEAs, suggesting that PEAs will become even more prevalent in the future. The diffusion of PEAs may have an influence on the operation and maintenance of the rehabilitated facilities in Maritime Region, and this may pose an issue to sustainability.

In Savanes Region, a maintenance system has been established based on the supervision of the regional directorate of water and sanitation, and the monitoring report system was functioning. The maintenance status was favorable. At a technical level too, the ARs had adequate repair skills necessary to maintain level-1 facilities, and the AUSEPAs were able to maintain level-2 facilities thanks to the technical expertise of operators; thus, there were generally no technical problems. On the financial side, each facility was financially independent and had accrued from the collected water charges a reserve fund for major future repairs. In addition, the Togolese government provides a subsidy for future repair work. There are no financial concerns. Therefore, the sustainability of Savanes Region is judged high.

In light of the above, the project's overall sustainability is judged fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The project was implemented to improve access to safe drinking water, and thus improve the living environment, by constructing and rehabilitating water supply facilities in rural areas and semi-urban areas throughout the Maritime and Savanes regions.

It was identified that the project is consistent with the policies of Japan and Togo. However, in terms of development needs and the project's plan and approach, while there were no problems in Savanes Region, the selection of sites and facility types in Maritime Region did not necessarily reflect the needs of users or the feasibility for maintenance and management; thus, the relevance of the project is fair. The project cost was within the plan, and the duration of the project was also within the plan; thus, the project's efficiency is high. Regarding the effectiveness of the project, the target population served in Maritime Region was not achieved because the type of water supply in some of the rehabilitated facilities was not suited to residents' needs. However, over 80% of the target water population was served. In Savanes Region, the facilities' operating rate was high, and the target of the population served was met. Regarding the impact of the project, in both regions, the project achieved a reduction in water-borne diseases an improvement in hygiene situation and a reduction of water fetching labor, which freed up time for productive activities and utilization of time for learning activities. Therefore, both the effectiveness and impact of the project are deemed high. As for sustainability, an institutional system for maintenance was established in Maritime Region, and no technical problems were observed. However, Maritime Region has an increasing number of privately financed simplified water stations, which are more convenient and cheaper to maintain than the manual pump facilities rehabilitated under this project. In relation to this trend, the payment of water user fees to the water committees was delayed in some of the project sites situated in the urban outskirts. This situation is predicted to have an impact on financial sustainability. In Savanes Region, an institutional system for maintenance was in place, and maintenance had been performed favorably. There are generally no technical and financial issues. Taking all these points into account, the sustainability is evaluated as fair.

In light of the above, this project is evaluated as satisfactory.

4.2 Recommendation

4.2.1 Recommendation to Executing Agency

<u>Strengthening technical level of technicians of the regional directorates of water and sanitation, and conducting walk around inspections</u>

Among the level-2 facilities that used a commercial power source in addition to a generator or solar panels, there was one facility for which the AUSEPA needed to have operated the facility more adeptly, specifically, by balancing the hours of generator or solar-powered operation with the hours of commercial power-based operation in such a way as to ensure that the level of water in the overhead tank (impoundment tank) was adequate for morning and evening water fetching. There was also a facility that was in want of expert guidance on operation and management from

a technical specialist, including advice on how a generator requires some cooldown time after six hours of operation during the late dry season, when the temperature rises to over 40 degrees Celsius. It is recommended that efforts be made to enhance the skills of the technicians assigned by the regional directorates of water and sanitation, and that regular inspection tours be carried out by technically proficient technicians. Impounding water into the overhead tank at the appropriate times will enable residents to access water as needed, which will in turn increase the water charge revenue. With collected water charges as their source of funds, AUSEPAs will be able to make provision for future O& M expenses. Operating the pumps correctly and in accordance with seasonal conditions will also help ensure that the pumps have a long service life. Efforts to enhance the skills of technicians and thus ensure they are equipped to provide technical guidance for the facilities should be made at a regional level.

4.2.2 Recommendation to JICA

None.

4.3 Lessons Learned

<u>The rapid change of water supply needs in the capital region and the future demand projection of facilities</u>

With Capital Lomé's rapid development, the needs (preferences) of residents in places such as Maritime Region – a region that is home to the capital and that is expected to be rapidly transformed by urban expansion – are set to change as they become increasingly exposed to urban lifestyles. These residents are becoming less interested in water supply facilities that are maintained by the community, such as communal faucet facilities and deep well facilities, and are showing greater preference for door-to-door water distribution systems and water supply facilities that do not require community-led management. Since private water supply systems and door-to-door water distribution systems are likely to become widely used in the future, there is little prospect for the sustained use of level-1 facilities. If a project is taking place in a country or region (particularly a region that is home to the national capital) where rapid development is anticipated, it is essential to forecast demand and to survey needs appropriately, bearing in mind that urbanization will bring changes to the social environment and raise income levels, and that this will be accompanied by a rapid change in residents' needs.

<u>Constraints on the rehabilitation of old wells</u>

In Maritime Region, the project implemented the rehabilitation of the old wells, which had been constructed under the Grand Aid Projects since the 1980s. In this project, however, there were various problems, including deterioration of the wells, water quality contamination inside the wells, the inaccessibility of the spare parts necessary for replacing old facilities, the withdrawal from production of the well models, and changes in the ownership of the land residing the wells. The responded measures to these issues were taken to undertake a simple renewal by replacing the models of pumps – hand-operated and foot-operated pumps – with

another of the same type. Foot-operated pumps were problematic in that there was a limit of the amount how much people could fetch water, more time is required to fetch the water compared to hand-operated pumps. Moreover, this placed a strain on the lower body of pregnant women who used them. One lesson to learn is that rehabilitating the same types of facilities again no longer match the water fetching needs of many residents. When it comes to rehabilitating old well facilities, there needs to be a feasibility study regarding the rehabilitation of the facilities before the project formulation.

The case of women's involvement in the water committee

While carrying out the ex-post evaluation, the external evaluator also investigated women's empowerment in the rural water supply project as well as some cases in which women are either positively or negatively influenced.[1]

Among 160 water committees in the Savanes and Maritime regions that are supported by the project, there is only one committee with a woman as the chairperson. This committee is collaboratively run by men and women, and the water supply facilities are more actively used to improve the living environment, which is the community's asset, in a manner that also reflects the villagers' needs.[2]

Nano Village (Level 2 facility), Savanes Region

In the majority of cases, the members of a water committee are either appointed by a traditional chief or decided by influential people of the village. However, in Nano Village, Nano Canton, Tandjouaré Prefecture, Savanes Region (population of beneficiaries, 394 persons), when selecting a chairperson of the water committee, seven people put their name forward, and from those candidates, a woman was elected as the chairperson. The rest of the candidates were men. The woman chair, while she understands French, is illiterate, and so a male secretary of the water committee supports her by describing documents in French, and thus there is no problem in the running of the water committee.[3] Cleaning of the water storage tank and maintenance of communal taps are strictly carried out. Both male and female villagers are actively involved in the water committee's activities, and information is shared equally between men and women.

In contrast, in other water committees, the posts of chairperson and secretary are usually taken up by men, and "women's involvement" often means appointing women as a treasurer or hygiene officer. In terms of decision-making in the committee, the chairperson and secretary usually have the most authority in making decisions, and in many cases, because women are a treasurer or hygiene officer, they are separated from decision-making and are not at all involved in it. The external evaluator has also confirmed that when the main committee posts are taken up by men, female members often find it difficult to speak out on the condition of water supply. The external evaluator have also seen cases in which there is little transparency in decision-making and finance. The group interviews with women in these villages suggested that the patriarchal division of labor is deeply rooted and that men control the finances. Many women voiced their concern that they are forced to follow men's decisions with regard to land, money, and other family issues, and they cannot even speak out their views. On the other hand, in the case of Nano Village, unlike other villages in the rural area, because it is situated on the trading route in sub-urban area and because they have been trading with many ethnic groups, women have had the opportunity to participate in society and economy. The external evaluator speculates that this is the background for the appointment of a woman chair.

Pogno Village, (Level 2 facility), Savanes Region

[1] The external evaluator conducted group interviews and focus group interviews with the residents and members of the water committee (including AUSEPA) who operate, maintain, and manage the water supply facilities.

[2] In Nano Village whose committee is led by a woman, when making decisions about the timings of the use of water and additional places for communal taps (an additional work carried out by the villagers after the completion of the project with approval and supervision from the region's Water Safety Board), views of men and women of the village were reflected in the operating, maintenance, and management of the committee.

[3] While the villagers use a tribal language, official documents are written in French. The woman chair, who has not received education in French, asks the French-speaking secretary to create official documents.

When influential people exist in the community, women who occupy the weaker position in the power relationship still find it difficult to express their views or comment on their needs at the water committee meetings. However, it has been confirmed through the discussions and interviews with women that women's involvement in the committee as members enhances the function of the water committee and increases the transparency of the decision-making process and accounting, because they express their views and put forward proposals about the water supply facilities as women, the main users of the facilities. The case of Nano Village has confirmed that it is important to reflect residents' needs, especially women's needs, who are the main users of the facilities, in order to sustainably continue the maintenance of the facilities in a community.

Apeyeme Village
(Level 1 facility), Maritime Region