

Country Name	<b>Improvement of the rural water supply management and hygiene practice in Atsimo Andrefana region</b>
Republic of Madagascar	

**I. Project Outline**

Background	<p>In the region of Atsimo Andrefana, located in the southwest of Madagascar, as low as 25% and 10% of the population had access to safe water and to safe sanitation facilities, respectively (as of 2007). With 400 mm to 500 mm annual rainfall and limited water resource availability, ensuring safe water and sanitation in this region was one of national priorities in Madagascar. Over the past two decades, the Japanese government continued cooperation with Madagascar in the field of water resources. New water supply facilities were installed through the development study "Groundwater Development Study in South-western Region (1989-1991)" and the grant aid "The Project for Groundwater Development in the South-western Region (1992-1994)". However, these facilities did not operate continuously or properly due to their malfunction and breakdown. To strengthen the rural water supply management, JICA's follow-up survey was carried out and following issues were recognized: the improvement of water management committees' capacity to manage, operate and maintain water supply facilities including setting and collecting water charges, the improvement of technologies of drilling and mechanical engineers, and the sensitization on hygiene and sanitation in rural areas.</p>				
Objectives of the Project	<p>Through establishing the methodology of capacity building of officers of Regional Directorate of the Ministry of Water (DRE), communes<sup>1</sup> and village level organizations and improving sensitization activity of hygiene and sanitary education by administrative agencies, the project aimed at establishing and operationalizing the monitoring system for management and maintenance of water supply facilities and boosting the mechanism of sensitization on hygiene and sanitation in the four target districts, thereby contributing to the expansion of project effects to the whole Atsimo Andrefana Region. The project objectives set forth are as follows:</p>				
	<ol style="list-style-type: none"> <li>Overall Goal: To establish and operationalize the monitoring system for management and maintenance system of water supply facilities and mechanism of sensitization on hygiene and sanitation in Atsimo Andrefana Region.</li> <li>Project Purpose: To establish and operationalize the monitoring system for management and maintenance of water supply facilities and to boost the mechanism of sensitization on hygiene and sanitation in the four target districts of the project in Atsimo Andrefana Region.</li> </ol>				
Activities of the project	<ol style="list-style-type: none"> <li>Project site: Morombe, Toliara II, Sakahara, and Ankazoabo districts in Atsimo Andrefana Region</li> <li>Main activities: (1) Conduct trainings for staff of DRE and regional repairmen on operation, inspection and repair of water supply facilities; (2) Prepare manuals for DRE, regional repairmen, communes and water management committees (CPEs) etc.; (3) Establish the regular reporting and monitoring system among managers of water supply facilities, communes, DRE and Ministry of Water (ME); (4) Hold regular meetings among DRE, Regional Directorate of the Ministry of Education (DREN) and Regional Directorate of the Ministry of Health (DRSP) and seminars at district level to share operation and maintenance (O&amp;M) practices in project-targeted four districts with other five districts; (5) Conduct trainings for staff of 15 pilot communes on water policies, roles of regional directorates and communes, procedures for outsourcing O&amp;M and repair of water supply facilities and collection of water charges and expenditure management required for O&amp;M; (6) Conduct trainings for the head of the Fokontany<sup>2</sup> and/or village in 24 project sites on water policies, roles of regional directorates, communes, CPEs and users of water supply facilities, trainings for CPEs to improve O&amp;M capabilities (division of roles, internal rules, determining water charges, managing financial records and monitoring system); (7) Conduct trainings for staff of Basic Health Center, volunteer health workers and teachers of primary schools; and (8) Install facilities for sensitization on hygiene and sanitation (toilets and hand wash tanks) at primary schools in project sites, etc.</li> <li>Inputs (to carry out above activities) <ul style="list-style-type: none"> <li>Japanese Side</li> <li>1) Experts: 11 persons</li> <li>2) Trainees received: 0 person</li> <li>3) Equipment for trainings, hand wash tanks etc.</li> <li>4) Local cost</li> <li>Madagascar Side</li> <li>1) Staff allocated: 30 persons</li> <li>2) Office space and facilities</li> </ul> </li> </ol>				
Ex-Ante Evaluation	2007	Project Period	September 2008 – March 2013 (Extension Period: September 2010– March 2013)	Project Cost	(ex-ante) 180 million yen (actual) 501 million yen
Implementing Agency	Ministry of Water (Ministere de l'eau: ME), Ministry of Health (Ministère de la Santé Publique: MSANP), Ministry of Education (Ministère de l'Education Nationale: MEN) and their provincial branches in Atsimo Andrefana				
Cooperation Agency in Japan	N/A				

**II. Result of the Evaluation**

<sup>1</sup> Commune is the administrative unit under region – district.

<sup>2</sup> Fokontany is the smallest administrative unit under commune in Madagascar.

## 1 Relevance

<Consistency with the Development Policy of Madagascar at the time of ex-ante evaluation and project completion>

The project was consistent with Madagascar's development policy on 'reduction of incidence rate of infectious diseases', 'access to safe water' and 'improvement of hygiene' as set forth in the "National Development Plan (1997-2001)", "Poverty Reduction Strategy Paper (PRSP)(2003-2006)", "Madagascar Action Plan (2007-2011)" and "National Water Supply and Sanitation Program (Programme National d'Accès à l'Eau Potable et à l'Assainissement / PNAEPA) for 2008-2012" at the time of both ex-ante evaluation and project completion.

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

The needs for improving O&M of water supply facilities and hygiene education were high at the time of ex-ante evaluation considering the situation described in "Background" above. According to ME, such needs were also recognized at the time of project completion.

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

The project was consistent with Japan's ODA policy, as stated in the ODA Country Data Book (2007), since agricultural and fishery industries and rural development were emphasized as priority areas of assistance to Madagascar, in which access to safe water and improvement of hygiene situation were included.

<Relevance to Appropriateness of Project Planning and Approach>

The project established a monitoring system for management and maintenance of water supply facilities and the mechanism of sensitization on hygiene and sanitation, but it was not institutionalized (i.e. did not continue) after project completion, since the project did not consider how to integrate it into the existing monitoring systems and/or training systems at the time of project planning.

<Evaluation Result>

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

## 2 Effectiveness/Impact

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

The Project Purpose was mostly achieved by the time of project completion. While the actual number of communes that submitted monitoring reports to DRE did not reach the target (Indicator 2), quarterly monitoring reports were submitted from DRE to ME (Indicator 1), the actual rate of water facilities in operation in the four target districts achieved the target, and the rate in 24 pilot villages mostly achieved the target (Indicator 3), training on hygiene education was conducted by DREN and DRSP (Indicator 4), and a feedback meeting on monitoring results was held among DRSP, District Service for Public Health (SDSP), Basic Health Center (CSB), DREN, District School Office (CISCO), Administrative Office of Education (ZAP) and Public Primary School (EPP) (Indicators 5 and 6).

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

The project effects have not been maintained since project completion. Although some awareness tools introduced under this project such as PHAST card have been used in some CSBs in the pilot sites, the monitoring system and the sensitization mechanism of this project did not continue. DRE no longer conducts systematic monitoring of the developed "water operation and management system" regularly, there is no commune that submits monitoring reports to DRE, no training is conducted by DREN and DRSP for schools and CSB on their own initiatives, and a feedback meeting on monitoring results is no longer held among DRSP, SDSP, CSB, DREN, CISCO, ZAP and EPP. Since activities in the water, sanitation and hygiene (WASH) sector are conducted under the lead of ME/DRE, ME developed a standardized reporting system of the WASH sector in order to harmonize data collection and indicators and avoid duplication of reporting within the WASH sector. Some EPP/CSB reported to the DRE. However, submission from the DRE to the ME is not as it should be since the standardized monitoring system of the WASH sector is not yet fully functional and is still being improved to date.

Other major reasons for not maintaining the project effects are a lack of budget<sup>3</sup> and a low level of institutionalization of the monitoring system/mechanism established by the project among relevant organizations. In fact, responsibility of each organization regarding management and maintenance of water supply facilities and sensitization on hygiene and sanitation has not been stated in any official documents such as municipal order, which makes it difficult to maintain and expand project effects to non-project targeted areas. Moreover, the actual rate of water facilities in operation has been worsened by more than ten percent since project completion, as most of the facilities are very old (constructed more than 20 years ago), and they are not functional anymore after a breakdown due to lack of funds for repair (see "Sustainability").

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

The Overall Goal was not achieved at the time of ex-post evaluation. The actual water access rate in Atsimo Andrefana Region at the time of ex-post evaluation has not achieved the target and remains the same level as before project implementation (around 40%) (Indicator 1), as existing water facilities are old and insufficient to supply water for the increasing number of population, while construction of new facilities by ME remains limited. Moreover, as mentioned above, there is no commune that submits monitoring reports to DRE (Indicator 2).

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

No negative impact on natural environment has been observed and no land acquisition and resettlement has been occurred under the project. On the other hand, some positive impacts have been noticed on the development in Befandriana-Sud, one of the pilot communes. The project interventions (rehabilitation of an existing borehole, construction of a water tower, installation of fountains (type 2) and implementation of delegated management of water supply - still running at the time of evaluation) facilitated access to safe water for the population and contributed to the socio-economic development of the village. Many small investors (hoteliers) as well as inhabitants of surrounding villages were attracted and moved to Befandriana-Sud, and about fifteen private water connections were installed. Such a success was because of outsourcing of water supply to private sector (delegated management system).

Regarding impacts on women, DRE commented that thanks to the project, girls' enrollment and attendance in school improved and time spent by women to produce and generate income increased. Also, as explained in "4. Sustainability" below, CPE members are mainly people that are trusted in the community. As a result, most of them are women, and treasury is mostly assigned to women (see the first picture below). Despite a greater involvement of women, social structure and norms in Madagascar remains a constraint to women leadership or organization.

<Evaluation Result>

<sup>3</sup> For the first two years following the project completion, DRE included the monitoring of the developed system in its annual work plan. However, budget cuts persisted and the allocation for each DRE was restricted for routine operation.

In light of the above, while targets set in indicators for the Project Purpose were mostly achieved by the time of project completion, project effects have not been maintained since project completion. Although positive impacts have been observed in a pilot site and on women, the degree of achievement of the Overall Goal is low at the time of ex-post evaluation, as targets set in indicators have not been achieved at all. Therefore, the effectiveness/impact of the project is low.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) To establish and operationalize the monitoring system for management and maintenance of water supply facilities and to boost the mechanism of sensitization on hygiene and sanitation in the four target districts of the project in Atsimo Andrefana Region.	1. Quarterly reports on the established “water operation & management system” to be constantly submitted from DRE to Ministry of Water (MoW)	Status of the achievement: achieved (not continued) (Project Completion) Constant reporting on monitoring was conducted from DRE to MoW (ME) from April 2012. (Ex-post Evaluation) DRE has not conducted specific and systematic monitoring of the developed “water operation & management system” since project completion. Monitoring has been conducted only occasionally, during field visits with other donors.
	2. The number of communes that submit the monitoring report in 4 pilot districts to be increased from 0% to 50%	Status of the achievement: not achieved (not continued) (Project completion) The number of communes that submitted reports was 27% (13/49) in November 2011, 6% (3/49) in May 2012 and 22% (11/49) in August 2012. (Ex-post Evaluation) The number of communes that submitted reports was 2% (1/49) in 2013 and 0% after 2014.
	3. The rate of water facilities ( <i>that were constructed with Japan’s assistance</i> ) in operation to be increased from 45% to 60% (Indicator 3-1) In 15 pilot communes, the rate of water facilities in operation to be increased by XX% (Indicator 3-2) In 24 pilot villages, the rate of water facilities in operation to be increased from 70% to 100%	Status of the achievement: mostly achieved (partially continued) (Project completion) The rate of water facilities in operation was 64.2% ((21 pilot sites + 13 non-pilot sites) / 53 sites in total). (3-1) Data is not available and could not be judged. (3-2) The rate of water facilities in operation in 24 pilot villages was 87.5% (21 pilot sites / 24 pilot sites in total). (Ex-post Evaluation) The rate of water facilities in operation is 50.9% ((18 pilot sites + 9 non-pilot sites) / 53 sites in total). (3-2) The rate of water facilities in operation in 24 pilot villages was 75.0% (18 pilot sites / 24 pilot sites in total).
	4. Training to be organized by DREN and DRSP on schools and CSB in pilot villages	Status of the achievement: achieved (not continued) (Project completion) Training was conducted by DREN and DRSP for practitioners of hygiene education from 22 to 26 November 2011. (Ex-post Evaluation) No training has been conducted by DREN and DRSP for schools and CSB in pilot villages on their own initiatives since project completion, except for some trainings funded by other donors such as UNICEF and EU.
	5. Monitoring results to be reported among DRSP-SDSP-CSB <i>more than once a year</i>	Status of the achievement: achieved (not continued) (Project completion) Feedback meeting on monitoring results was held in September 2012. (Ex-post Evaluation) Monitoring results have not been reported since project completion.
	6. Monitoring results to be reported among DREN-CISCO-ZAP-EPP <i>more than once a year</i>	Status of the achievement: achieved (not continued) (Project completion) Feedback meeting on monitoring results was held in September 2012. (Ex-post Evaluation) Monitoring results have not been reported since project completion.
(Overall goal) To establish and operationalize the monitoring system for management and maintenance system of water supply facilities and mechanism of sensitization on hygiene and sanitation in Atsimo Andrefana Region.	1. Water access rate will increase from 40% (as of 2007) to 65% by 2015 in Atsimo Andrefana Region.	Status of the achievement: not achieved (Ex-post Evaluation) Water access rate in Atsimo Andrefana Region is 39.2% in 2015.
	2. The number of communes submitting reports becomes over 50 by 2015 in Atsimo Andrefana Region.	Status of the achievement: not achieved (Ex-post Evaluation) No commune has submitted reports to DRE since 2014.

Source: JICA internal document, questionnaire survey/interview with ME, DRE, DREN, DRSP, communes, CSB, and SDSP

Note: The words in *Italic* were added to the original indicators in English according to Japanese translation.

### 3 Efficiency

The project cost was significantly higher than planned (ratio against the plan: 278%) and the project period was significantly longer than planned (ratio against the plan: 225%), as the project period needed to be extended due to political instability and the aim of establishing O&M system. Therefore, the efficiency of the project is low.

### 4 Sustainability

#### <Policy Aspect>

The current policy documents still state the need for access to safe water, as follows:

- the General Policy of the State 2014-2019 (Politique Générale de l'Etat), which has among its main objectives to ensure (i) access to drinking water, sanitation facilities and hygiene for all and (ii) effectiveness of integrated water resources management.
- the National Water, Sanitation and Hygiene Strategy 2013-2018 (Stratégie Nationale de l'Eau, Assainissement et Hygiène) and the General Guidelines of the Water, Sanitation and Hygiene Sector 2013-2018 (Lignes Directrices du Secteur de l'Eau, Assainissement et Hygiène), which focuses on increasing access to sustainable drinking water and sanitation facilities, developing and making functional an integrated water resources management (IWRM) plan, developing the Private-Public partnership in the promotion of WASH, and strengthening the institutional capacities of ME in coordination, planning and monitoring;

However, no policies/plans that support institutionalization of the system developed under this project were made.

#### <Institutional Aspect>

Organizational structures established under the project are as follows: in terms of maintenance and repair of water supply facilities, (1) ME is responsible for supervising DRE; (2) DRE is responsible for establishing repair system and networks, providing technical guidance to regional repairmen, and supervising commune staff for monitoring care takers; (3) regional repairmen are responsible for conducting repairs that cannot be done by care takers; (4) care takers are responsible for conducting daily maintenance and small repairs (with remuneration paid by CPE); and (5) commune is responsible for monitoring care takers, introducing regional repairmen to CPE and advising CPE.

In terms of monitoring of O&M of water supply facilities, (1) ME is responsible for supervising DRE, understanding operational situations of water supply facilities nationwide, and sharing outcomes from establishment of O&M system with the Ministry as a whole, other donors and other organizations; (2) DRE is responsible for quarterly reporting to ME on O&M situations, supervising the monitoring system of O&M and the usage of water charges in its responsible areas; (3) commune is responsible for quarterly reporting to DRE on O&M situations, and preparing water supply plans in its responsible areas; and (4) CPE is responsible for O&M, information sharing with commune on O&M situations, reporting to residents on O&M situations, public awareness among residents on how to use facilities and paying water charges etc. These organizational structures are basically not changed at the time of ex-post evaluation, however, they do not function sufficiently due to a lack of budget, insufficient human resources and a low level of institutionalization of the monitoring system/mechanism established by the project among relevant organizations.

The number of staff is 20 in DRE, 72 in DRSP and 133 in DREN at the time of ex-post evaluation. According to these organizations, these numbers in total are generally sufficient, however, the number of personnel assigned to the section in charge of monitoring (which is usually the planning section) is most of the time insufficient. There are 15 district level repairmen and 4 hand pump area repairmen officially registered by DRE in Atsimo Andrefana Region at the time of ex-post evaluation (there were no new recruitments at the end of the project), which is not sufficient, as they only cover the 4 districts targeted by the project out of nine districts in the Region. As for care takers, no data is available which makes it impossible to know whether they are sufficient or not in number. For communes, the number of staff is sufficient in terms of the total number, however, not sufficient in terms of the service in charge of water, sanitation and hygiene (only one resource person). For CPEs, there are usually three to ten members in each CPE and no specific problem is observed in terms of the number of members.

#### <Technical Aspect>

Except for the DRE, technical level in the implementing agencies (ME, MSANP, MEN and their regional branches) is fair, considering staff rotation combined with a low level of skill transfer and capacity building since the end of the project. Many project counterparts at central and regional level have retired or been transferred to other departments following the ministerial restructuring due to the presidential election in 2014. But for the DRE, the staff capacity to properly monitor the system is maintained as most of the technicians in charge at the time of the project still work for the organization and will still be responsible for the monitoring.

Talking about the repairmen, they globally need refresher trainings. For the 15 district level repairmen in particular, most of them met the technical criteria established during the recruitment process. All of them also received training before taking up their duties. However, recycling trainings were highly irregular although necessary. As for the hand pump area repairmen and care takers, they have been recruited among reliable persons within the community, though they did not necessarily meet all of the technical criteria. Moreover, they have not benefited from any refreshing training since the end of the project.

Concerning communes staff, most of them have also been changed after the presidential election. Thus, retraining is needed for newly assigned staff in these organizations, however, no training has been conducted since project completion due to a lack of resources and a low level of institutionalization of the monitoring system/mechanism established by the project among relevant organizations.

For the management and monitoring skills of CPE members, most of them met the required criteria, but their selection was less stringent compared to that of district/area repairmen (the two main criteria were prioritized: their literacy level and the confidence granted by the community). Although all of them received training before taking up their duties and their rotation rate is low, retraining is needed (delegate management by the communes is not in place and retraining by the DRE is rare).

Various manuals and training materials prepared under the project are not much utilized, while some manuals are utilized by other donors to some extent. On the other hand, the sensitization tools developed under the project for promoting hygiene practice are utilized by several schools, community health centers, DRSP and DREN.

#### <Financial Aspect>

Implementing agencies do not have sufficient budget to maintain project effects. The total budget of DRE in 2015 was approximately 39,000,000 Ariary, which was to cover usual operational costs only and not enough for monitoring activities mentioned above. DRSP and DREN also do not have sufficient budget, and thus no training or monitoring of sensitization on hygiene and sanitation is conducted on their own initiatives at the time of ex-post evaluation.

Communes also do not have sufficient budget for monitoring activities. Actually, since decentralization has not been effective in Madagascar, communes usually do not have enough budgets for social programs such as education, health, and water etc.

Many CPEs do not have sufficient amount of revenues from water charges as they are not successful in collecting sufficient amount of water charges from users. This is because community ownership is generally low and communes are in precarious financial situation. The field survey for ex-post evaluation found out that only three CPEs out of nine visited have enough financial resources to afford maintenance and repair of water supply facilities. A convention between ME and the Ministry of Interior and Decentralization was established and signed in 2015, with the objective of effectively delegating project management to communes and strengthening community ownership, which is expected to lead to allocation of budget for monitoring activities. However, this convention has not yet

been in operation at the time of ex-post evaluation<sup>4</sup>.

<Evaluation Result>

In light of the above, major problems have been observed in terms of institutional, technical and financial aspects of the implementing agencies. Therefore, the sustainability of the effectiveness through the project is low.

5 Summary of the Evaluation

Through the project, targets set in indicators for the Project Purpose were mostly achieved, however, project effects have not been maintained after project completion. The degree of achievement of the Overall Goal is low at the time of ex-post evaluation, as targets set in indicators have not been achieved at all. Nevertheless, positive impacts have been observed in a pilot site and on women. In terms of sustainability, there are major challenges in institutional, technical and financial aspects, as organizational structures established under the project are not functional, and the number of staff members, technical skills and amount of budgets in implementing agencies are not sufficient. Regarding relevance, inappropriate project approach caused the low level of institutionalization of the system developed by the project, which affected impact and sustainability. As for efficiency, both project cost and project period significantly exceeded the plan due to political instability and the aim of establishing O&M system.

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

**III. Recommendations & Lessons Learned**

**Recommendations for Implementing agency:**

It is recommended to ME that the mechanism and organizational structure on O&M (including monitoring system), which was established under the project, should be clearly stated in official documents and institutionalized among relevant organizations, so that the system and mechanism can be functional nationwide, i.e., the project's organizational structure and mechanism (including monitoring mechanism) should be integrated to the existing national mechanism, in order to facilitate institutionalization and sustainability. Also, ME and the Ministry of Interior and Decentralization should collaborate to elaborate the roadmap on O&M system, clarify roles and responsibilities of actors (DRE, commune, regional repairmen and CPE, etc.) and establish the adequate monitoring mechanism involving the two Ministries. This should be done through effective application of the bipartite convention signed in 2015 regarding the O&M system of water supply facilities, which will strengthen the role and responsibilities of the commune regarding O&M.

**Lessons learned for JICA:**

As mentioned above, the monitoring system for management and maintenance of water supply facilities and the mechanism of sensitization on hygiene and sanitation, which were established under the project, did not continue after the completion of the project, not to mention that they were not adopted in other districts of the target region. In other words, the project could not integrate them into the existing monitoring systems and/or training systems, because of the low level of institutionalization including the insufficient budget allocation. Thus, when the similar projects will be formulated and implemented in the future, at the planning phase and/or the early stage of the implementation phase, it is necessary to identify the process and activities to be taken at the policy level for the institutionalization (ex. validation of the model and its incorporation into the official documents such as decrees) as well as to carefully analyze and examine a model which is sustainable and can be institutionalized among relevant organizations.

<sup>4</sup> The related implementation plan is currently being developed.



6 members of the water management committee of a pumping water supply system



User fetching water from a fountain connected to a pumping water supply system



The PHAST awareness cards are still used by the Chief of CSB, in combination with other tools developed through other projects