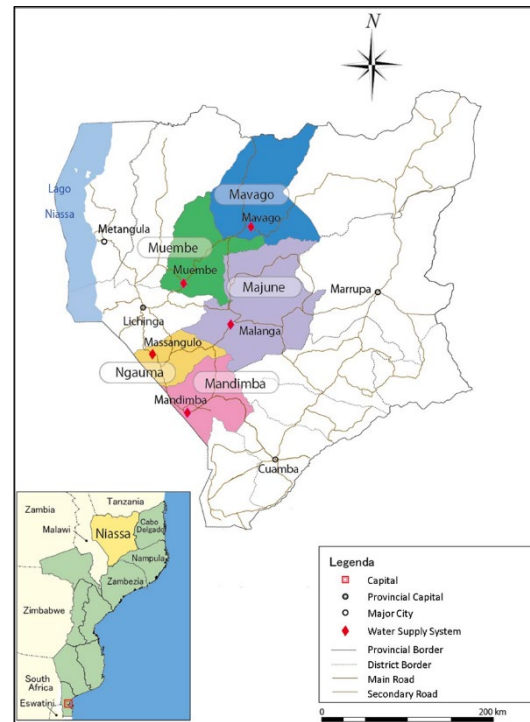


Project on Promoting Sustainability of Water Supply System and Sanitation in Niassa Province, Mozambique

~Continuous Assistance to Expand Water Supply Services and Ensure Sustainability~

July 2022



1. Project Background and Issues

The Mozambican government formulated the “National Rural Water Supply and Sanitation Program (PRONASAR: 2010-2015)” as a specific policy for the water supply and sanitation sector and set a national water supply rate target (2015: 70%), but fell short of the target value at only 55% (2019) (National Water Supply and Sanitation Authority (DNAAS)). In addition, compared to the nationwide water supply rate of 78% in urban areas (DNAAS, 2019), the water supply rate in rural areas remains at a low level of 45.7% (DNAAS, 2019). Although the target year of the above national program was 2015, the government of Mozambique and donors reviewed the program and revised PRONASAR to a

period from 2019 to 2030. In order to achieve the goals of the water supply sector set out in the SDGs, it is necessary to ensure that residents across the country have access to sustainable and safe water supply and sanitation services by 2030, and in the midterm (2024), the two goals are to ensure that 80% of the rural population has a safe water supply and 75% have access to sanitation facilities.

Niassa Province, located in the northern part of Mozambique, is one of the least developed regions in the country, and at the same time, it is located in the Nacala Corridor, where future economic development and industrial promotion, including natural resources development and agricultural development, are expected. The assistance policy of the Japanese government also

attaches importance to support corridor development centering on the Nacala Corridor.

Based on the above, the Japan International Cooperation Agency (JICA) has assisted the formation of operation and maintenance systems for borehole water supply facilities with handpumps in rural areas through the technical cooperation project “The Project for Sustainable Rural Water Supply, Sanitation and Hygiene Promotion in Niassa Province” (March 2013 – February 2017) (hereafter referred to as “the previous project”)

On the other hand, the development of piped water supply facilities has not progressed in response to the increasing population and water demand, and the water supply rate in regional cities is showing a downward trend as the population increases. Behind the delay in improving the water supply rate in regional cities are various problems such as insufficient maintenance of water supply facilities and weak organizational management systems.

In response to the above situation, in May 2021, a grant aid project, “the Project for Construction of Rural Water Supply Facility in Niassa Province”, was launched with the aim of establishing a stable and sustainable water supply system by installing piped water supply facilities and strengthening capacity for water supply and sanitation in 4 districts and one municipality in Niassa Province. Furthermore, the technical cooperation project “Project on Promoting Sustainability of Water Supply System and Sanitation in Niassa Province” (hereinafter referred to as “this project”) started in July 2021.

2. Approach for Problem Solving

The framework is shown below and the implementation structure in the next page.

In this project, mainly the following subjects will be implemented as basic policies.

【Overall Goal】

Sustainable water supply services and sanitation that contributes to nutrition improvement are promoted through continuous capacity development of AIAS and the provincial, municipal and district governments in Niassa Province.

【Project Purpose】

Water supply services and sanitation that contributes to nutrition improvement are improved through institutional capacity development of AIAS and the provincial, municipal and district governments in the target areas.

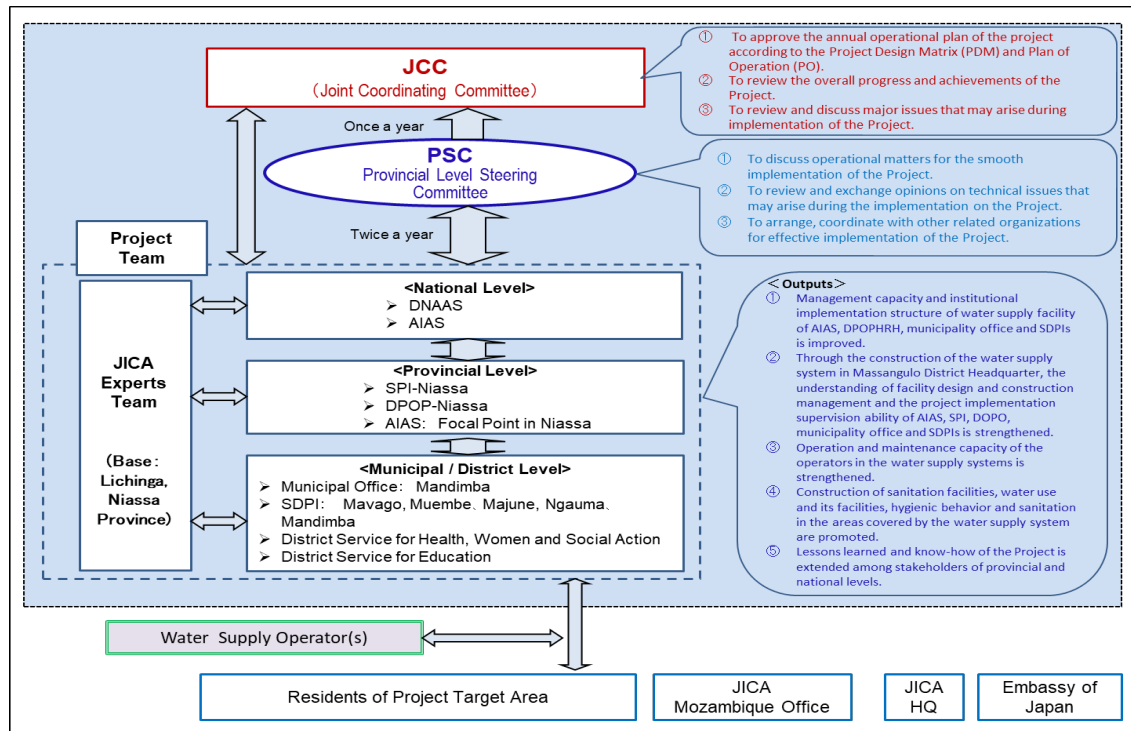
【Outputs】

- (1) Management capacity and institutional implementation structure of water supply facilities of AIAS, SPI, DPOP, municipality office and SDPIs is improved.
- (2) Through the construction of the water supply system in Massangulo District Headquarter, the understanding of facility design and construction management and the project implementation supervision ability of AIAS, SPI, DOPO, municipality office and SDPIs is strengthened.
- (3) Operation and maintenance capacity of the operators in the water supply systems is strengthened.
- (4) Construction of sanitation facilities, water use and its facilities, hygienic behaviour and sanitation in the areas covered by the water supply system are promoted.
- (5) Lessons learned and know-how of the Project are spread over stakeholders at provincial and national levels.

(1) Utilization of Local Private Resources

Since the Mozambican government has set out policies to promote decentralization and privatization, this project will also provide cooperation in accordance with Mozambican policies. Outsourcing the operation of water supply facilities to the private sector will particularly be actively introduced as it has the potential to improve operation and maintenance of the facilities.

In Niassa Province, since the quantity and quality of private resources for the construction and management of water supply facilities are insufficient, in order to ensure sustainability of the project, it is important to improve the technical level of local private consultants, contractors and water supply operators, to accumulate their achievements, and to prepare the implementation environment. However, if there are concerns about the implementation and sustainability of the project due to the low capacity of



private resources on construction and management of the facilities in Niassa Province, consideration will be given to select business entities that can secure sustainability by carrying out a nationwide tender as necessary rather than limiting to local areas.

(2) Establishment of Operation and Maintenance System for Piped Water Supply Facilities Considering Sustainability

In order for piped water supply facilities to be operated and maintained sustainably, it is necessary not only to improve the capacity of the water supply operators who operate the facilities, but also to strengthen the overall capacity of the government and the residents who use the facilities.

In this project, a comprehensive capacity development will be implemented as necessary for all parties involved in the operation and maintenance of the facilities up to the provincial level.

Regarding the capacity development related to the operation and maintenance of facilities, this is a comprehensive program that not only acquires knowledge, but also

uses the opportunity of actual facilities construction and combines on-site training in accordance with the series of processes including survey, design, tendering and construction supervision. Then, the aim will be to contribute to the sustainability of the facilities through improvement of the water supply services and the water supply rate.

Furthermore, particular attention will be given to ensure that provincial and district level officials (counterparts (C/Ps)) acquire the necessary skills for guidance and monitoring of water supply operators.

At the user level, awareness raising activities will be carried out to the target households on the responsibilities and obligations related to the use of facilities, the importance of paying water fees, and the proper use of water supply facilities. This aims to ensure the sustainability of the facilities.

(3) Sanitation and Hygiene Promotion in Piped Water Supply Areas

Improving the sanitary and hygiene environment using safe water as well as improving access to safe water is essential for

reducing water-borne diseases and improving the quality of life. This project will also implement hygiene behavior promotion for the target residents and construction of sanitation facilities.

Regarding the hygiene behavior promotion, the promotion activity will be carried out to the target households as a part of the above-mentioned awareness raising activities.

Furthermore, flush-type improved sanitation facilities will be constructed as models for public facilities in the target four districts and one municipality. Schools and health facilities will be considered as target public facilities.

As for the design, the current situation and issues of the sanitation facilities of selected public facilities will be identified and some candidate facility models will be compared in consideration of the natural conditions, the use of local resources, and the ease of maintenance. Also, in addition to adopting inclusive design in consideration of the needs of diverse users such as women and people with disabilities, interviews will be conducted with relevant parties to promote the proper use of the facilities, then design a model sanitation facility from multifaceted factors such as social and cultural acceptability and introduction of nudges.

In the construction, selected consultants and construction companies will be strengthened in the capacity of construction supervision (management), and attention will be paid to making it a pilot project for the future sanitation facilities construction project.

(4) Coordination with Multi-Sectoral Program for Nutrition Improvement (MENU)

Malnutrition is caused by a combination of factors, including insufficient food intake, inadequate health services, improper early childhood care, and unhealthy household hygiene. Therefore, since it is difficult to

solve malnutrition through intervention by a single sector, simultaneous intervention by multiple sectors such as agriculture, health, education, and water and sanitation is considered essential.

In Mozambique, the prevalence of chronic malnutrition (stunting) among children under 5 years of age is 43%, significantly higher than in neighboring countries at comparable economic levels, and especially in Niassa Province, at 47% which is extremely serious (WFP, 2018).

Based on the above, JICA decided to implement a multi-sectoral program (commonly known as MENU) for nutrition improvement through cooperation in the 3 sectors of maternal and child health, agriculture, and water and sanitation in two of the target districts of this project. Therefore, the project is one of the cooperation projects in the water and sanitation sector mentioned above.

In this project, in order to contribute to the improvement of nutrition in the target area from the aspect of providing safe water and improving the sanitation and hygiene environment, the theme of the importance of water, sanitation and hygiene for improving nutrition will be incorporated into the awareness raising activities. Furthermore, efforts will be made to coordinate with the Mozambican parties and among the projects in the other sectors concerned with MENU.

(5) Scale-up through Synergistic Effects with Grant Aid Project

Of the four districts and one municipality targeted by this project, piped water supply facilities will be constructed in parallel in three districts and one municipality through the grant aid project.

In Niassa Province, many piped water supply facilities are frequently interrupted due to defects in design and construction quality, hindering smooth operation and maintenance.

In the grant aid project, since ensuring the quality of facilities is prioritized, it is expected to be a good practice to improve the issues related to design and construction quality as mentioned above. On the other hand, since the main objective of this project is to ensure sustainable operation and maintenance of water supply facilities from a soft perspective, through cooperation between the 2 projects, it will be possible to provide support that leads to problem solving from both hard and soft aspects.

In this project, many activities and OJT are scheduled to be implemented in conjunction with the progress of facilities construction for the grant aid project. Therefore, a working group will be set up by both projects to share the issues and lessons learned from the activities of both and make use of them in their respective activities in order to produce more efficient and effective results.

(6) Utilization of Results and Lessons Learned from Previous Technical Cooperation Project (PROSUAS)

In this project, it will attempt to conduct the project by making the most use of the achievements, lessons learned, assets, and other aspects obtained from the previous project, such as continuous use of the C/Ps of the executing agency of Mozambique who were trained in the previous technical cooperation project, relationships of trust with stakeholders (relevant agencies, other donors, and other ministries and agencies) at the provincial level, and the spare parts supply chain for water supply facilities.

(7) Expansion to Other Districts and Provinces

The project will actively participate in the National and Provincial Water and Sanitation Groups (GAS), which the Mozambican government has established as a mechanism for information sharing and coordination among development partners and related

institutions in the water and sanitation sector and will collaborate with other donors and stakeholders as well as utilize it as a forum for information sharing and dissemination of the project activities.

3. Results of Practical Approach

(1) Implementation of Capacity Assessment of Provincial and District C/Ps

In order to identify the current capacity of each organization and individuals to formulate training approaches and plans according to their respective roles and situations, a capacity assessment survey (assessment of organizational and individual capacities) was conducted targeting the headquarter of the Authority for Water Supply and Sanitation Infrastructure (AIAS), focal points in Niassa Province, provincial implementation agencies, and C/Ps in four districts and one municipality. With the exception of the AIAS headquarter, basically two staff members of section chief level and technician level from each organization were selected, and after evaluating individual capacities, the average value was used as a reference for evaluating the capacity of the organization. Also, the survey results were quantified by evaluating the responses from the interviewees on a five point scale for each question item.

As a result of the survey, it was found that it is necessary to deepen the knowledge of water supply related technology and piped water supply facilities in general. Moreover, since the main work of the district C/Ps is monitoring of existing facilities, it was found that many staffs lacked experience in project planning, and regarding computer operation, many of them were poor at using Excel which is used for their normal work.

Therefore, in the future, training will be conducted focusing on these points that need to be particularly improved.

(2) Identification of Issues related to National Water Supply and Sanitation System (SINAS)

The Government of Mozambique operates a nationwide water supply and sanitation facilities information system called the National Water and Sanitation Information System (SINAS) which uses GIS (geographic information system) and aims to complete and continuously update the database. However, the facilities data registration work has not progressed at the pace expected by the central government, and the collected data lack accuracy and completeness.

In this project, the district C/Ps who are involved in data collection were visited to conduct interviews and site visits regarding the progress, implementation system and problems of facilities data registration and continuous monitoring. As a result, it was found that the government budget for data collection was not properly executed, and that the district C/Ps themselves had difficulties referring to the database and lacked motivation to collect data which delayed the progress of the data collection. Also, the district C/Ps lack the arithmetic skills necessary for data entry, especially in terms of unit conversion, and the input system has not been devised to follow it up. Furthermore, it was confirmed that the central government is not aware of the lack of necessary equipment (such as pH meters).

Concerning these issues, capacity development of the district C/Ps are provided through on-site accompaniment and workshops, and the central government is provided with information sharing on the current situation of the districts and proposals for improvement from the perspective of the system.

Creating the database contributes to effective planning for the operation and maintenance. In the future, support for smooth data collection and monitoring will continue to be provided, while discussions on how to

use the accumulated data will be deepened to aim for the creation of the system in which the central, provincial and district C/Ps can operate and improve the system through their own motives.

(3) Monitoring of Water Source (Spring) in Massangulo (Ngaúma District)

Together with the district C/P, the mountain where the water source of the water supply facility in Massangulo is located was surveyed to confirm the source of the spring that does not dry up even in the dry season. Also, a simple measurement of flow rate and water quality was carried out at the spring source point and downstream water intake facility construction site, and the minimum flow rate of the spring was 33.3 m³/hr against the planned water supply rate of 21.4 m³/hr (Massangulo spring: refer to the attached Flow Monitoring Chart).

A point several tens of meters downstream of the planned water intake point was decided as the annual flow rate monitoring (by flow velocity measurement) point, and technology transfer on monitoring was carried out to district C/Ps. In principle, measurements will be taken once a month (about twice a month during the rainy season), and are scheduled to continue until December 2025.

(4) Implementation of Awareness Raising Activity

Door-to-door explanations were conducted as a part of the awareness raising activities to candidate households for water supply house connections. Based on the list of candidate households prepared in advance by the district C/Ps, the local consultants visited each candidate household to explain the outline of the water supply facility to be constructed, the estimated monthly fee, and the responsibilities and obligations of users. After receiving the above explanations and understanding details and the importance of the obligations related to house connections,

households wishing to make house connections submitted request forms to the district office, and the list of households to be connected in this project was confirmed.



Conducting explanations to candidate households

(5) Collaboration with Multi-Sectoral Program for Nutrition Improvement (MENU)

The stakeholders of MENU are diverse consisting of, on the Mozambican side, central, provincial and district level concerns from the agriculture sector, health sector, and water and sanitation sector, and on the Japanese side, the three departments in charge within JICA headquarters, the JICA Mozambique Office, and project team members of each project.

At present, the Mozambican side has established the Technical Secretariat for Food Security and Nutrition (SETSAN) within the Ministry of Agriculture and Rural Development, which is responsible for coordination among the three sectors at the central level. Also, the establishment of provincial SETSAN as a provincial level coordinating body is currently being advanced.

As the coordinating function on the Japanese side, a person in charge of coordinating MENU was assigned to JICA headquarters, and regular meetings were held among all concerned stakeholders.

After the establishment of the coordinating bodies on both side, although several meetings were held, since holding these

meetings to share information on a regular basis is essential, the challenge is whether leadership and coordination functions in the multi-sectoral approach can be maintained even in the future.

As the activities of this project, since July 2021, the details and progress of the project have been shared at the regular meetings with the Japanese side and also at the Mozambican side coordination meetings.

With regard to collaboration with other sectors, consultations were held on specific matters to be coordinated at the field level between the health project, and further, concerning the construction of the above mentioned sanitation facilities, in order to overlap the target areas of MENU, discussions and coordination through the district C/Ps were held, and the health center, which is the target of the health project, was selected as the construction site for the sanitation facilities of this project.

(6) Reactivation of Provincial GAS

The provincial GAS meetings had been suspended due to the reorganization of the provincial government and the impact of COVID-19, but under the initiative of this project, the resumption of meetings was urged, and as a result, were resumed as online meetings. Nine organizations involved in water and sanitation at the provincial level attended the provincial GAS meeting, and agreement was reached on the election of the secretariat, the regular holding of the meeting, and the content of future discussions. The meeting is still held regularly today.

Moreover, at the meeting in November 2021, this project made a presentation on the two JICA projects in Niassa Province (this Project and the grant aid project) to enable wide dissemination of these projects to stakeholders at the provincial level. Also, at the meeting in June 2022, an outline of the manual for the awareness rising activity for piped water supply facilities, which is currently being prepared, was shared.

4. Innovations and Lessons Learned in Project Implementation

(1) Support to Introducing Online Meetings (Zoom) for Stakeholders at Provincial and District Levels

Due to the impact of COVID-19 infectious disease, it became an urgent matter to create a system for holding online meetings, so a one-on-one support was provided to C/P agencies of the province, target districts and municipalities on how to introduce, set up and operate the Zoom platform, making it possible to hold online meetings using Zoom if the participant number is small.

Furthermore, for the provincial GAS meetings, training sessions for the Zoom were held for the provincial GAS secretariat and some GAS members, and a hybrid method of face-to-face and online meetings was introduced and is continuously being held even today.

(2) Ensuring Flexibility of Implementation System at Provincial Level

In 2019, the Provincial Directorate of Public Works, Housing and Water Resources (DPOPHRH) was reorganized into two organizations, the Provincial Infrastructure Development Service (SPI) and the Provincial Directorate of Public Works (DPOP), and both organizations set up offices in charge of water supply and sanitation. When the organization was first divided, staff and related supplies were also divided, and since there were many ambiguities about the work responsibilities and target areas for each, information that distrust and confusion occurred between the two organizations and that cooperation in work did not proceed smoothly was received.

One of the most important factors in the smooth operation of a project and the achievement of its goals is the creation of mutual trust. Therefore, in this project, in

consideration of the above situation, by paying attention to even the smallest details, creation of a collaborative relationship by involving both organizations equally in project activities such as opportunities to participate in training and the sharing of responsibilities has been attempted.

(3) Support for Forest Conservation Activities to Protect Water Resources

In the mountains and surrounding forests of Massangulo, where the spring water source for the water supply system is located, trees are currently being cut down and burned in an unregulated manner. Since these actions may have a negative impact on water resources in a short period of time, it is essential to protect the environment around water sources.

In this project, in order to enable the sustainable use of the natural environment around water sources, this project decided to support a local organization that is currently engaged in reforestation and conservation activities, as well as support awareness raising activities related to environmental protection.

(4) Promoting Payment of Water Fees to Ensure Sustainability of Water Supply Facilities

One of the major problems with piped water supply facilities in semi urban areas is that non-payment of water fees hinders the smooth operation and maintenance of the facilities. It was also learned that many of the unpaid water bills are not due solely to the economic situation of users. Therefore, from the perspective of promoting payment of water fees and ensuring the sustainability of the facilities, this project aimed to ensure that households with the ability to pay fully understand and consent to the obligation to pay receiving water supply services by making **door-to-door visits to candidate households** prior to the start of construction work to facilitate an understanding of their payment obligations. Furthermore, when

giving explanations, consideration is given to ensure that the household head and spouse can be present as much as possible from a gender perspective and careful attention was paid to providing detailed explanations so that they could gain sufficient understanding, and to carefully answering questions from the households until they were satisfied.

(Project Implementation Period:

Phase 1: June 2021 to October 2023

Phase 2: November 2023 to May 2026)