

Ex-post Evaluation Report 2019-02

Ex-post Evaluation of Improvement of Water Supply System in Dodoma Town Project

Final Report

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World Economic and Social Research Institute

 **Korea Eximbank**

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This evaluation was entrusted to the external research team led by Professor Park Myungho at World Economic and Social Research Institute for the purpose of conducting an independent assessment. The findings or statements contained herein do not necessarily reflect the official position of Korea Eximbank and EDCF.

1. Overview

- The Government of the United Republic of Tanzania requested EDCF's support for the Improvement of Water Supply System in Dodoma Town Project ("Project") in 2009. The main objective of the Project was to improve the public health and quality of life for Dodoma residents by expanding potable water services and preventing water-borne diseases. The Project also aimed to respond to the increasing demand for drinking water for growing population in Dodoma, the new capital of Tanzania, and to support economic growth across the region.
- The Project was implemented by the Dodoma Urban Water Supply & Sewerage Authority (DUWASA), along with Kolon Global Corporation and Saman Corporation as the developer and the consultant, respectively.

2. Evaluation Method and Results

- The purpose of this evaluation is (1) to address accountability for the Project and analyze the reasons for the success and failure of the Project and (2) to provide lessons learned and recommendations for improvement of similar projects in the future.
- This ex-post evaluation adopted relevance, efficiency, effectiveness and sustainability for the criteria in accordance with the evaluation guidelines of the Sub-committee for Evaluation under the Committee for International Development Cooperation (CIDC) and EDCF guidelines for ex-post evaluation.
- (Overall Rating) The Project was rated as "successful."
- Relevance was found to be very high, and efficiency, effectiveness and

sustainability were evaluated to be high.

<table 1> **Summary of Findings**

Criteria	Score	Rate	Results
Relevance	4.0	Highly Relevant	<ul style="list-style-type: none"> • The Project was highly relevant to the policy priority of the Government of Tanzania at the time of identification of the Project. • The Project coincided with the goal of the Tanzanian government's policy to expand potable water services across the country. ✓ As part of its policy to support development both at regional and national levels, the Tanzanian government planned the Project which was consistent with its goals of socio-economic development and welfare improvement. ✓ The Ministry of Water and DUWASA appropriately designed the key targets related to water resources development as part of the efforts to improve living conditions of people. ✓ The Ministry of Water and DUWASA actively participated in the Project with a sense of ownership.
Efficiency	3.0	Efficient	<ul style="list-style-type: none"> • Due to design modification and additional work, the actual implementation period of the Project was extended to 50 months from 36 months as in the original plan, an increase of 39 percent compared to the original schedule. • The Project was completed efficiently within the planned budget although there were some changes in the composition of the costs due to design modification.
Effectiveness	3.73	Highly Effective	<ul style="list-style-type: none"> • Most of the outputs originally planned in the Project were completed. • Most of the outputs were observed to function properly although water supply quantity and a non-revenue water ratio failed to achieve their targets.

			<ul style="list-style-type: none"> • With new facilities installed and aging equipment repaired, a larger supply of high-quality potable water was available. • Overall, the Project has contributed to improving the public health and quality of life for Dodoma residents.
Sustainability	3.7	Highly Sustainable	<ul style="list-style-type: none"> • Water demand is expected to increase because government ministries are moving into Dodoma, the national capital of Tanzania. • In Dodoma, the supply of water resources has been managed appropriately based on an effective collaboration between the Ministry of Water and DUWASA. • However, frequent power outages and insufficient O&M budget could serve as constraints on stable water supply. • The water resources preservation areas were designated and the fences to protect each well head were installed. However, the fences for the whole water resources area were not placed, since the source water area is too broad to control. • The employees of DUWASA are found to be fully capable of dealing with technical matters. • Dodoma's potable water system is currently sustainable, but additional financing to respond to the increasing population might be difficult in the future.
Cross-cutting issues	-	-	<ul style="list-style-type: none"> • Although the Project did not cause any serious environmental problems such as ground subsidence, some living conditions of residents were found to be damaged in the course of installing facilities. • Most households replied that their time spent for collecting drinking water was reduced substantially.
Overall rating	3.6	Successful	

Relevance

- The Project was highly relevant to the development policy of Tanzania since it was a part of the water resources project, i.e. one of the eight major initiatives of Tanzania's Big Result Now (RBN) program that has been promoted since 2012, and it was closely related to the Tanzanian government's development strategy (2005-2015) in water resources.
- The Project is in conformity with the development cooperation policy of the Korean government and its partner country is Tanzania, one of Korea's 24 priority partner countries. The Project is important for EDCF since it is related to Clean Water and Sanitation, i.e. the sixth goal of the Sustainable Development Goals (SDGs).
- The Project for water resources development in Dodoma, the administrative capital of Tanzania, was planned adequately and the risk factors identified in the course of implementing the Project were controlled appropriately.
- The Government of Tanzania and DUWASA participated in the Project with a strong sense of ownership from planning, selecting contractors, operating the Project, to offering consulting services.

Efficiency

- When the efficiency of the Project was evaluated based on the achievement of outputs within the given budget and period of time, it is rated as efficient since it was completed within the planned budget although there was some delay in completing the Project.
- The Project was expected to be completed in 36 months after employing consultants, but the implementation period was extended to 50 months, leading to an increase of 39 percent. Such delay was caused by design modification and additional work.
- Actual expenditure increased in many items as the water supply method was changed and the project cost was properly adjusted. Nevertheless, the Project was

completed within the planned budget of USD 49,623 thousand by using the contingency budget of USD 7,861 thousand.

- The Government of Tanzania views the Project as having been completed very efficiently despite some delay. This is because the implementation period was adjusted in close cooperation between the employer and the contractor as an effort to fully reflect local conditions.

Effectiveness

- The Project fulfilled most of its effectiveness targets in terms of output completion, output performance, and customer satisfaction.
- The Project seemed to become more effective after the project scope was modified to reflect local conditions.
- Most of the facilities, such as well heads, pumps, storage tanks, chlorine injection facility and electric system, are functioning properly. The pipe lines including intake pipes, transmission mains and distribution mains were installed as planned and are also working properly.
- About 30,000m³/day of water was supplied by DUWASA before completion of the Project, and its water supply capacity increased to 61,500m³/day after completion of the Project. However, currently 54,000m³/day is actually supplied in the city of Dodoma.
- Meanwhile, the targets of non-revenue water (NRW) ratio and water supply service ratio were not achieved. That is, the NRW ratio is 26.6% in 2019, which is somewhat higher than the target of the Project (25%). Also, the water supply service ratio is currently 52%, which is quite lower than the original target of 70%. This low level of water supply service ratio is mainly attributable to a continually increasing population in Dodoma.

Sustainability

- The Project was sustainable in terms of water demand, water supply, and the

project executing agency's human resources and financial stability.

- Water demand will gradually increase in Dodoma because of its continuously growing population as government ministries were moving into the administrative capital.
- In Dodoma, water supply was well managed by DUWASA. It had an appropriate operation and maintenance (O&M) program, including a precautionary management plan, based on its effective cooperation with the Ministry of Water. However, frequent power outages and insufficient O&M budget could be constraints on stable water supply. The Tanzanian government needs to finance installation of water pipes. Although the fences protecting each well head were constructed, the fences for the whole water resources area were not placed. While water resources preservation areas should be designated by law, it is still difficult to preserve the whole water resources area.
- DUWASA has enough human resources and capabilities for the O&M of the facilities since it has high-quality labor forces and an adequate compensation program for employees. In terms of financial conditions, DUWASA's net profit and net asset were good and it operated the water supply system without subsidies from the government. However, financing for new water supply facilities could be a major challenge to DUWASA.

Cross-cutting Issues

- As for the environmental impact of the Project, there were no apparent environmental problems including ground subsidence.
 - It was reported, however, that there were some minor environmental problems related to the living conditions to people such as dust and noise in the course of installing facilities.
- According to the surveys and interviews of residents, the time spent for collecting drinking water was substantially reduced in most households.

3. Lessons Learned and Recommendations

Success Factors

- The Government of Tanzania and DUWASA actively implemented the Project with a strong sense of ownership. The water resources development project was one of the high priority policies in the partner country.
- DUWASA continued its efforts to improve effectiveness after the completion of the Project by introducing mobile payments.
- The new goals of the Project set to reflect local conditions contributed to improving the living standards of residents.

Challenges and Limitations

- The period of the Project was extended by 39 percent due to changes in the design and scope of the Project.
- Since the forecasted water demand is quite different from the actual water demand, Dodoma residents still have to endure water supply interruptions.

Recommendations

- (Government of Tanzania) Its planned water supply capacity was achieved, but the actual quantity of water supply is still lower than the planned quantity. As such, additional investments in facilities such as distribution pipeline are needed.
- Population continues to increase in Dodoma as government ministries are moving to this administrative capital.
- A long-term plan, including a development strategy for developing new water resources, is necessary.
- (DUWASA) On-site training needs to be reinforced for reliable operation of facilities and more efforts to secure stable funds are needed to undertake new or

additional projects.

- (EDCF) Improved quality of feasibility study, close consultation with project executing agencies, and better understanding of local conditions will help minimize delays and raise efficiency.