

Ex-post Evaluation of Kilimanjaro-Arusha Transmission Line Project in Tanzania

- Executive Summary -

March 2022

1. Project Overview

- Kilimanjaro-Arusha Transmission Line Project (the “Project”) of the United Republic of Tanzania was promoted as part of the Tanzania Energy Development and Access Expansion Project (TEDAP), a co-financed project with WB, JICA and AfDB. The Project aimed to revitalize the local economy and improve the quality of life of the local residents by reducing transmission power loss and blackouts and supplying stable power through the expansion of the transmission network in Kilimanjaro and Arusha regions. Also, it was intended to contribute to laying the foundation for expanding energy supply in rural areas.
- Through this Project, 35km of transmission lines were built at Eunjiro and Kilimanjaro International Airport (KIA) substations; 70km in total. Also, KIA substation capacity was expanded and Kiyungi substaion was renovated. During renovating Kiyungi substation, the location of installing transformers and switchyards was changed in order to avoid overlap with the scope of JICA project within TEDAP and to maximize the effectiveness of the Project. The implementing agency of the Project was Tanzania Electric Supply Company Ltd. (TANESCO).

2. Evaluation Method and Results

1) Purpose of the Ex-post Evaluation

- The ex-post evaluation was performed to acquire lessons by evaluating the relevance and effectiveness of the project objectively and to derive suggestions for sustainable project operation by local institutions in Tanzania. Its purpose includes improving effectiveness and efficiency of new EDCF projects in similar sector by making use of the lessons learned from the Project in the development, appraisal, and management of the new ones. Through this, EDCF is expected to promote public understanding and support for development cooperation activities.

2) Evaluation Method

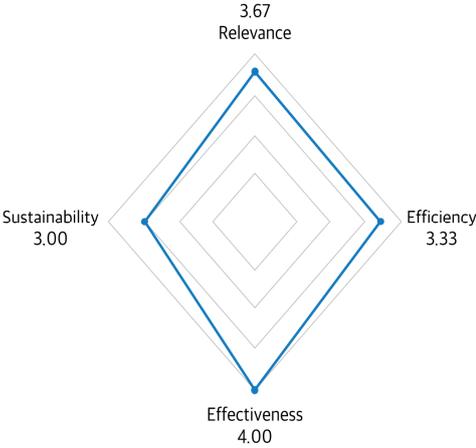
- This ex-post evaluation was carried out in comprehensive consideration of OECD DAC evaluation criteria, EDCF ex-post evaluation report guideline, and cross-cutting issues such as environment and gender.
- This ex-post evaluation was carried out based on data collected through documentary review, stakeholder interview, and field investigation.

3) Comprehensive Evaluation Results

- The comprehensive evaluation result is the average of scores of the four evaluation criteria: relevance, efficiency, effectiveness, and sustainability. This Project was evaluated as ‘successful (3.50 points)’.

<Comprehensive Evaluation Results>

Criteria	Weight	Result	Rating
Relevance	25%	3.67	Relevant
Efficiency	25%	3.33	Efficient
Effectiveness	25%	4.00	Highly Effective
Sustainability	25%	3.00	Sustainable
Overall Result		3.50/4	Successful



4) Results by Evaluation Criterion

- (Relevance)** This Project has high relevance with the Country Partnership Program of Korea and EDCF Operational Strategy Plan, and the national development strategy of Tanzania such as Tanzania Development Vision 2025 and Power System Master Plan. The partner country actively participated in the overall project design and implementation process, and the project design was appropriate for achieving the project goal. In addition, it was considered that institutional devices such as Development Partner Group (DPG) in Tanzania was well arranged to strongly support national ownership and leadership on its own development agenda of the partner country.

* DPG in Tanzania was established to promote principles of Aid Effectiveness in development assistance to Tanzania. It comprises 17 bilateral and 5 multilateral development agencies. EDCF also participates in energy sector group forums on a monthly basis.
- (Efficiency)** Interviews with suppliers and local staff found that there were less smooth cooperation in resolving tax issues. Even so, it was evaluated that communication and collaboration between stakeholders were relatively adequate according to the survey of local stakeholders. The project period was extended but cost-wise the Project was implemented efficiently within the planned budget.
- (Effectiveness)** Outputs such as constructing new transmission lines (70km) and capacity expansion of Kiyungi and KIA substations were all delivered as planned and are currently being operated. By achieving all four short-term outcomes, smooth supply of electricity in the project area was accomplished.
- (Impact)** Although it was difficult to obtain sufficient data for the mid-to-long-term performance indicators, it was confirmed that targets for power consumption, the usage rate of transmission lines, and the number of electricity customers were achieved among the five performance indicators. However, the number of annual power outage was not reduced enough to meet the target.

- Tanzanian government has been striving to encourage industrial development via developing energy infrastructure and providing sufficient power supply. The government could lay the foundation for the growth of the industries by ensuring a stable power supply through TEDAP including this Project.
- **(Sustainability)** Through the expansion and digitalization of the transmission network, busbar capacity and load control ability were improved, and the convenience of monitoring and operating the central control room was greatly enhanced. Under the Power System Master Plan (PSMP) of the Tanzanian government, capacity of transmission and substation facilities has been constantly increasing. Although it is still required to establish some management standards and to build systems to nurture technicians, this Project was evaluated to be sustainable as institutional, human, and technological capacities were satisfied.
- **(Cross-Cutting Issues)** TANESCO voluntarily planted trees around the substations when the substations were completed as part of environmental mitigation measures of Environment and Social Impact Assessment (ESIA).
- In addition, as a transmission network expansion project, this Project had no direct effects to the group of energy-poor unlike the power distribution network project. However, it was found that the group of energy-poor was indirectly affected as the transmission network expansion project contributed to the efficiency of power distribution, playing a part of the groundwork to supply electricity to villages suffering from energy poverty.

3. Lessons and Recommendations

1) Lessons learned

□ Success Factor

- **(Relevance to the Partner Country's Development Policy)** Tanzania's development policy in energy sector and mid-to-long-term power master plan were directly linked to the Project. Thus, the government's priority in energy development ensured the smooth implementation of the Project and contributed to securing sustainability of the project output, increasing the possibility for a follow on project.
- **(Reflection of Local Needs for Development)** Project effectiveness was improved as the local demand for development in energy sector was well reflected. Also, the improvement of overall quality of power supply could directly alleviate the energy poverty in the region, which was consistent with the purpose of the development cooperation project. In addition, the national policy to bolster manufacturing industry helped to predict the increase in power demand. In sum, this Project contributed to national economic growth and welfare of the local residents.

- **(Close Cooperation between Co-financiers)** EDCF participated in TEDAP with WB, JICA and AfDB, and effectively managed unexpected risk factors such as claiming tax refunds through a close collaboration and joint action with co-financiers.

□ **Limitations**

- **(Administrative Delay in Land Compensation)** The Project was delayed because land compensation was not completed before starting the construction. Measures to prevent such delays are required for the partner country; strengthening the verification process of land compensation and fast-tracking the administrative procedure of land compensation.
- **(Administrative Delay due to Changes in Legislation)** As Tanzania's VAT law was amended in 2014, the tax exemption for local purchases of ODA projects was revised to post-refund, and goods and services provided by subcontractors were no longer eligible for tax exemption. Consequently, the project period has been extended due to the administrative procedure to claim tax refunds.
- **(Insufficient Fire Safety Management)** Due to the insufficient fire prevention system in substations, there is a concern that operating personnel of the facilities may not be able to appropriately handle the emergency in the event of a fire.

2) Recommendations

□ **EDCF**

- **(Supporting the Partner Country's O&M Capacity Reinforcement)** To maximize the effectiveness and sustainability of the Project to be supported by EDCF, it is recommended to include sufficient O&M training and professional training course in the project scope, so that the employees of project implementation unit could operate the facility on their own after the defect liability period of the supplier.
- **(Establishing a Viable Logical Framework for Co-financing Projects)** It is crucial to establish a viable logical framework and performance management plan considering the limited scope of EDCF project within the overall co-financing project. Also, it is important to prepare plans on how to manage the performance indicators and to collect the data before and after the project completion through a close network with a supplier(s) or partner country.
- **(Preparing Measures to Prevent Delays during the Implementation)** Based on EDCF's accumulated experience in developing countries, realistic countermeasures for the repeated delays during project implementation should be prepared. For example, it is recommended that EDCF should establish risk management plan related to the revisions in the legal or administrative systems of the partner countries, set up feasible project period considering sector characteristics, and strengthen pre-analysis for relevant stakeholders.

- **(Establishing Risk Management Plan regarding Changes in Partner Country's Legislation)** It is recommended to impose obligations for the partner country to consult in advance in case there are any amendments of local laws or regulations that may affect project implementation. For example, a restrictive covenant shall be included in loan agreement which obligates the partner country to sufficiently consult with EDCF before it amends its legislation, or otherwise be given disadvantage.
- **(Setting up Feasible Implementation Period considering Sector or Type of Project)** It is important to plan sufficient implementation period for projects in the appraisal step to prevent unexpected project delays. EDCF is recommended to estimate the respective feasible implementation periods by sector, type, and area of projects based on analysis of data collected from its previous projects, and reflect them in planning implementation period for similar projects in the future.
- **(Deepening Preliminary Analysis on Relevant Stakeholders)** When a change occurs in the project environment, such as an amendment in partner country's legislation, project-related stakeholders' appropriate course of action is required to complete the project within the planned time period. Therefore, it is crucial to perform preliminary analysis on the roles that key stakeholders should play in case any changes take place in the project circumstances, and to specify the roles of key stakeholders in the Minutes of Discussion (MOD). This will help manage an external event or risk that may happen during project implementation.

□ **Partner Country**

- **(Preparing Renewable Energy Policy to Respond to Climate Change)** Considering the rapid climate change, it is recommended to consider the promotion of renewable energy projects such as solar power plant construction to secure sustainable energy sources.
- **(Amending Regulations on Inventory Management and Constructing a Storage Warehouse)** It is necessary to improve sustainability and efficiency of equipment maintenance for power system. For this purpose, it is recommended to establish an inventory management system by revising regulations on inventory management and to construct a storage warehouse.
- **(Enhancing Performance Management System)** In order to ensure an efficient performance management in line with EDCF's logical framework, the partner country should continuously collect and record the relevant data which is the basis for evaluation of each performance indicator. Also, it is required to ensure reliability of the relevant data.
- **(Establishing a Cooperative System between Ministries and Government Agencies)** It is necessary to prevent any delays and to improve efficiency of the project by quickly dealing with the problems such as tax exemption, customs clearance, and land compensation through close inter-ministry cooperation.