

Ex-post Evaluation Report

2017-04

**Ex-post Evaluation of Krang Ponley
Water Resources Development
Project in Cambodia**

December 2017

The Export-Import Bank of Korea

EDCF Evaluation Team

(Evaluated by Future Resources Institute)

This evaluation was entrusted to the external research team led by Evaluation Project Manager Sungje Park, director at the Future Resources 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.

Summary

1. Project Overview

○ (Purpose) To secure water resources and improve living conditions of local residents by constructing and reinforcing dams and waterways as well as supplying agricultural water through the water facility project in the Krang Ponley River basin in northwest Phnom Penh, Cambodia.

○ (Background) The Cambodian government has set water resources development projects as the top priority in step with its poverty eradication policies for northwest area development since early 2003. As part of these policies, the Cambodian government requested support from the Korean government's representative ODA agency, or the Economic Development Cooperation Fund (EDCF), for this project.

- When the Cambodian government requested support for this project, Cambodia's water facilities needed urgent improvement: structures were severely shabby due to erosion and scour and non-operation of most water facilities made it impossible to secure necessary water. Particularly, as water resources were depleted from the reservoir during dry seasons, residents were not able to supply water to their farmlands.

○ (Project Period) The planned project period was 48 months at the time of approval, but as raw material prices were up across the world, the project scope had to be adjusted and thus this led to delayed construction company selection. As a result, the actual project period was 57 months.

○ (Target Area) Krang Ponley basin area, approximately 45km northwest of Phnom Penh

○ (Budget) \$26.7 million in support amount / \$33.5 million in total budget

○ (Project Details) The adjusted project scope involves 3 mid-stream dams (i.e. Anlong Chrey Dam, Prambei Mom Dam and Kdol Dam), a power generator with 170kW capacity on Anlong Chrey Dam, 3 downstream regulators (i.e. Tavay, Krapeu Truom and Yutasas), 2 small hydro power generators, and 2 waterways (i.e. 3rd and 4th waterways).

2. Evaluation by Criteria

○ (Purpose) To formulate more appropriate support strategies in the future, based on the success factors and limitations identified through an ex-post evaluation of the effectiveness, impact and sustainability of the Krang Ponley Water Resources Development Project

○ (Criteria) Based on the EDCF Ex-post Evaluation Report Guidelines and the Comprehensive Evaluation Guide by the evaluation subcommittee of the Korean Official Development Assistance, the 5 OECD/DAC evaluation criteria (i.e. relevance, efficiency, effectiveness, impact and sustainability) as well as cross-cutting issues such as environment and gender equality were taken into account.

○ (Method) Assessed according to the matrix that was developed for project characteristics based on the 5 OECD/DAC evaluation criteria of relevance, efficiency, effectiveness, impact and sustainability. Furthermore, to evaluate the technical part in more detail, the evaluation items were divided into facility formation, facility operation and facility maintenance. Each item was then further divided into relevance, effectiveness and sustainability.

○ (Results) The final comprehensive rating was 3.74 points (total 18.7 points), so the project was evaluated as “very successful.”

Comprehensive Evaluation Table

Criteria	Weighting	Evaluation	Rating
Relevance	20%	Relevant	3.7
Efficiency	20%	Efficient	3.5
Effectiveness	20%	Effective	3.8
Impact	20%	High Impact	4.0
Sustainability	20%	Sustainable	3.7
Comprehensive Evaluation Rating		Very Successful	3.74

○ (Relevance) Relevance was evaluated based on (i) whether the project outputs are compatible with the partner country's development policies and strategies, (ii) whether the project plan is appropriate, (iii) the degree of coordination and cooperation with the development partner(s) and (iv) whether facility formation is appropriate. This project was found to be relevant.

- (Compatibility with Policy and Strategy) This project will secure water resources to supply agricultural water and improve residents' quality of life by constructing dams, waterways and other water facilities. This is compatible with the recipient country's policies and the donor country's support strategies.
- (Appropriateness of Project Plan) Even though the project scope was greatly reduced from the initial plan, such reduction is deemed to be unavoidable since raw material prices skyrocketed across the world amid the global financial crisis.

○ (Efficiency) The project was evaluated to be efficient based on the appropriate implementation of the project period and budget compared to the plan.

- (Efficiency of Project Implementing Period) 9 month-delay occurred as skyrocketing raw material prices and volatile exchange rates pushed back the construction company selection and caused the project scope adjustment.

- (Efficiency of Project Budget Execution) This project's budget execution rate was within the budget scope, i.e. 99.9% of the loan limit, and the recipient country covered compensation expenses, project management fees and taxes. As such, the overall project budget was executed in an efficient manner.

○ (Effectiveness) The project was found to be effective after assessing the quantitative performance achievement as well as the short-, mid- and long-term performance achievements.

- (Quantitative Performance Achievement) All targeted quantitative performance for the adjusted project scope was achieved.

- (Short-term Performance) The analysis of irrigable areas and available water supplies found that the effect of securing water resources after dam construction and reinforcement was outstanding. The newly constructed small hydro power plants supplied electricity to approximately 800 households nearby, but some hydro power facilities are not operating due to lack of funds.

- (Mid- to Long-term Performance) Local farmers' quality of life was evaluated to improve as they earned more income with water supplies and larger irrigable areas and accessed better living conditions with household water and electricity supplies.

○ (Impact) The project was evaluated to have a great impact taking into account that social and cultural conditions in society that were transformed by water facility construction will change local community and residents for the long term.

- (Social and Cultural Impact) As for the sociocultural impact from the dam construction, the relevant region is now able to hold the water festival, one of Cambodia's biggest festivals. This project allowed the recipient country to hold a new cultural activity, so its cultural impact was assessed to be very high.

- (Environmental Impact) There were almost no negative environmental impacts such as water quality pollution, erosion, noise and fugitive dust. As for fugitive dusts produced

by material-carrying vehicles during the project, the constructor took appropriate measures in accordance with the environmental management plan.

- (Other Impact) The recipient country is sustainably expanding the irrigable area by building additional branch waterways and irrigation canals to connect to the principal waterway after taking over the facilities.

○ (Sustainability) The project was found to be sustainable after assessing the technical and institutional capabilities required for maintenance after transferring the facilities to the recipient country. The afore-said capabilities include organization, personnel, finance, technology and ownership awareness.

- (Sustainability of Organization and Personnel) PDWRAM, which oversees the project maintenance, formed an organization and assigned personnel for the maintenance. The technical level of the current personnel is still low, but PDWRAM is committed to the facility maintenance and responds to the situation.
- (Financial Sustainability) Since 2015, Cambodia's Ministry of Finance has increased the budget for water resources facility operations and maintenance (O&M). However, priority is given to aged facilities that urgently need repairs, so the facilities that were relatively newly completed for this project have almost no budgetary support for maintenance.
- (Maintenance Sustainability) This project provided the recipient country with agricultural water through a large-scale facility construction involving the principal waterway and the reservoir. Consequently, PDWRAM and local farmers have autonomously constructed branch waterways and irrigation canals connected to the principal waterway to access agricultural water. This facility maintenance based on the ownership awareness of the recipient country was evaluated to be positive in terms of sustainability.

3. Lessons and Recommendations

○ (Lessons) The success factors for this project are (i) a close partnership with recipient country, (ii) facilities designed to boost the project's effects and (iii) residents' strong request for water access.

- (Success Factors) It is advisable for underdeveloped countries with limited budget to construct large facilities to secure water resources in the first place and then to connect them to branch waterways or irrigation canals which supply water to farmlands.
- (Limitations) The lack of hydro-meteorological data made it difficult to find the dam operation methods and the measures for improvement. Under such circumstances, water facility could be possibly operated in an inefficient manner.

○ (Recommendations) With a more clear purpose, setting project performance indicators, monitoring and strict evaluation should be conducted.

- The purpose of this project is to secure water for agricultural use by constructing a reservoir, i.e. "water securing" project. But the original project goal which includes "more agricultural production and less flood damage" has limitations in failing to clearly present the details and effect of the project. Setting a proper goal is a starting point for performance management of the project, so that a practical goal should be determined to reflect the full details of the project.

○ (Recommendations for Recipient Country's Government) The recipient country needs to increase its agricultural water utilization by constructing principal waterways to boost the effects from the project. By supporting the maintenance of this project, the recipient country's awareness of maintenance is expected to improve.

- The recipient country is required to make continuous efforts for more water utilization by making hydrological database and for post-management by improving dam operation methods for the O&M of the relevant facilities.