EDCF Cambodia
Mongkol Borey Dam Development
Project Ex-Post Evaluation

- Summary Report -

(January 2026)

The Export-Import Bank of Korea

(KEXIM)

Executive Summary

1. Evaluation Objectives

- This ex-post evaluation was undertaken to assess the overall performance of the Mongkol Borei Dam Development Project(KHM-10) in Cambodia, financed by the Economic Development Cooperation Fund(EDCF). The evaluation seeks to determine the extent to which the project achieved its intended development objectives and to examine the effectiveness of institutional, technical, and operational mechanisms established during the design and implementation phases to support the sustainability of outcomes.
- In addition, the evaluation reviews the project's impacts and analyzes the factors contributing to its achievements and limitations, thereby providing a basis for determining the appropriateness of any future support as well as identifying lessons and areas for improvement for similar projects.

2. Evaluation Methodology and Findings

☐ Evaluation Methodology

- This ex-post evaluation was conducted in accordance with the standards and principles set forth in the "Guidelines for Evaluation Ethics in International Development Cooperation" issued by the Committee for International Development Cooperation under the Office for Government Policy Coordination, and in alignment with the evaluation principles and criteria of the OECD DAC EvalNet. Cross-cutting issues were comprehensively integrated throughout the evaluation process. The assessment was based on data collected through a literature review, stakeholder interviews conducted in Korea, and field investigations.
- The evaluation applied an integrated interpretation of the criteria and indicators presented in the "International Development Cooperation Evaluation Manual," and the "EDCF Ex-Post Evaluation Manual," reflecting the specific characteristics of EDCF-financed projects.
- The evaluation also reviewed the adequacy of the performance indicators established during the project's planning stage (including the feasibility study and appraisal). As a result, a logical framework for the ex-post evaluation was developed, comprehensively reflecting the project's logical structure and comprising indicators that are measurable at the time of evaluation.

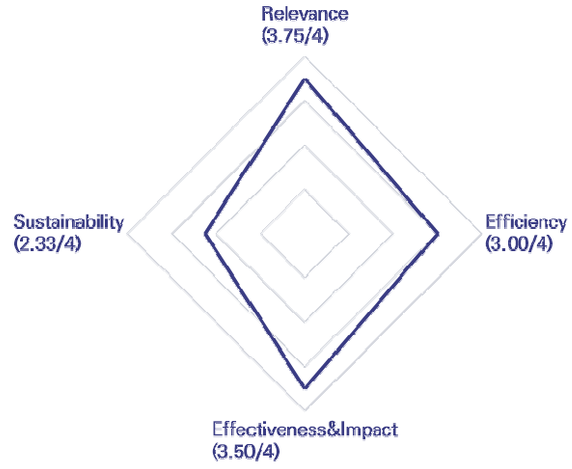
- However, as the Battambang Province in Cambodia is a region where weather conditions significantly affect agricultural productivity, quantitative analysis of the project's contribution to agricultural productivity required rainfall and hydrological observation data for the periods before and after project implementation. Such data were difficult to obtain through the implementing agency. Accordingly, supplementary rainfall data were secured from alternative sources (NASA Global) based on the latitude and longitude coordinates of the KHM-10 project site, reviewed for suitability, and utilized for the analysis.

☐ Overall Performance Rating

- The overall performance rating was determined by taking into account the individual scores across four evaluation criteria: relevance, efficiency, effectiveness and impact, and sustainability. Based on this assessment, the EDCF-financed KHM-10 project was rated as "Successful (3.15/4)."

Overall Performance Rating

Evaluation Criteria	Weight	Score	Rating
Relevance	25%	3.75 / 4	Very Relevant
Efficiency	25%	3.00 / 4	Efficient
Effectiveness and Impact	25%	3.50 / 4	Effective
Sustainability	25%	2.33 / 4	Partially Sustainable
Overall	100%	3.15 / 4	Successful



Overall Performance Rating

☐ Evaluation Results by Criteria

- (Relevance) KHM-10 demonstrates strong alignment with Cambodia's national development strategy, particularly its priority on agricultural sector development, and is consistent with international development goals. The project was selected at the request of the Government of Cambodia, reflecting strong country ownership. Following completion, clear roles and responsibilities for post-project management have been established between the central and provincial governments. Guided by well-defined higher-level objectives, the project's results chain and beneficiary groups were systematically structured, and appropriate design adjustments were made to reflect Cambodia's technical and institutional context. In response to changes in the external environment, reasonable measures were taken, including adjustments to project scope that did not materially affect the core objectives. Overall, the project is assessed positively in terms of relevance.
- (Efficiency) The project was completed within 126 percent of the originally planned implementation period. Considering the nature of the tasks involved, however, the extended implementation period did not have a significant adverse effect on the project outcomes. Despite changes in project scope, expenditures were managed within the contingency budget, and the planned outputs were delivered within the originally approved total project cost. Taking into account both the achievement of outputs within the planned budget and the overall implementation timeline, KHM-10 is assessed as having been implemented efficiently.
- (Effectiveness and Impact) All planned outputs of the project were completed as intended, and the short-term outcomes for infrastructure installation were achieved at a reasonable level. While multiple interpretations are possible regarding the intended medium- and long-term impacts (based on performance data from the operating agency and stakeholder interviews), key indicators including increased rice production are substantiated by quantitative data maintained by the project operating agency, indicating a high level of effectiveness. The project addressed the core needs of farmers in a climate-vulnerable region, and there is limited scope for benefits to accrue disproportionately to specific socioeconomic groups, suggesting an inclusive intervention. In addition, gradual improvements in institutional awareness within the implementing agency and positive effects at the community level were observed, indicating meaningful social, economic, and institutional spillover effects.
- (Sustainability) From financial and institutional perspectives, the legal and administrative foundations for sustaining project outcomes have been established. However, constraints remain in ensuring stable financing for operation and maintenance, including limitations related to resource mobilization. In terms of human capacity and maintenance systems, an organizational structure centered on the Battambang PDOWRAM has been established; nevertheless, the number of operational staff is limited, and personnel are responsible for managing multiple facilities concurrently, posing challenges for the accumulation of long-term maintenance capacity. Despite these constraints in financial, institutional, and human resource dimensions, the implementing agency demonstrates strong ownership in promoting and sustaining project outcomes. As such, while limitations exist, the project is assessed as partially sustainable.
- (Coherence) In terms of internal coherence, the project reflects a systematic division of roles between grant and loan agencies. KOICA-financed 2008 Master Plan informed the EDCF feasibility study, which in turn led to the implementation of the project. The intervention is also closely aligned with the Republic of Korea's then-current New Southern Policy and strategies on agriculture and climate change response. Externally, the project is consistent with the Government of Cambodia's top national priority (water resources infrastructure development) and has fostered effective collaboration with other development partners and international organizations through participation in the Technical Working Group (TWG). The sequence from KOICA-supported master planning to EDCF feasibility study and subsequent project financing represents a coordinated example of inter-agency collaboration within the donor country.
- (Cross-cutting Issues) Although KHM-10 did not explicitly prioritize cross-cutting issues as core objectives, positive elements were observed in several areas. From an environmental perspective, the project relied on the rehabilitation and utilization of existing water infrastructure, thereby limiting potential environmental degradation. Survey and interview findings indicate that improved water supply stability has positively contributed to livelihood security for some households, which may be interpreted as having a limited but positive effect on reducing vulnerability to poverty. In terms of gender equality and mainstreaming, project benefits appear to have been distributed in a broadly equitable manner. From a governance and institutional standpoint, the project is expected to have enhanced the understanding and capacity of relevant practitioners, representing an indirect positive effect. However, with respect to housing and human rights considerations, some respondents in surveys of households relocated near the Kamping Puoy reservoir indicated that they did not receive compensation from the government. While the survey results alone are not enough to draw definitive conclusions, they suggest the possibility of gaps in protecting vulnerable groups during project implementation. This underscores the need for stronger ex-ante social impact assessments and continued monitoring of resettlement and compensation processes in future similar projects.

3. Lessons Learned and Recommendations

A. Lessons Learned

☐ Success Factors

- (High alignment with water resources and agricultural development plans) The project was designed and implemented in close alignment with Cambodia's national water resources management policy and irrigation and flood management needs of Battambang Province. This strong policy and demand alignment not only justified project initiation but also facilitated sustained cooperation from both central and provincial government authorities throughout implementation. Beyond delivering stand-alone project results, this alignment positioned EDCF as a key development partner within Cambodia's medium- to long-term water resources development strategy.
- (Infrastructure quality and visible results enhancing project credibility) The Ta Haen Dam and associated irrigation canals were constructed in accordance with the project's core objectives established during the planning stages. At present, even under a minimum level of maintenance, the infrastructure is functioning as intended. Household surveys, field observations, and stakeholder interviews indicate that a majority of respondents gave positive feedback on the project's results, by stating that access to agricultural water and the sustainability of dry-season farming had improved. High levels of satisfaction among key government stakeholders further demonstrate that project achievements extended beyond technical outputs to tangible and perceived benefits among beneficiaries and the operating agency.
- (Strong ownership and institutional experience of the Cambodian Government) The strong ownership demonstrated by MOWRAM and Battambang PDOWRAM, combined with their prior experience in implementing development cooperation project, was identified as a key contributor to the project's success. Interviews confirmed that relevant agencies clearly recognize the importance of operation and maintenance (O&M) for sustaining long-term performance and have expressed commitment to pursuing similar initiatives in collaboration with multiple development partners. This institutional ownership contributed positively to the sustainability assessment and indicates a high likelihood that project outcomes will be internalized within the partner country's administrative and institutional systems.

☐ Limitations

- (Structural weaknesses in O&M human resources and organizational systems) A key structural constraint relates to limitations in the Government of Cambodia's O&M staffing and organizational arrangements. In rural areas, including Battambang Province, the pool of qualified public sector applicants is limited, and budgetary allocations for recruiting and retaining technical personnel remain insufficient. As a result, the majority of technical staff within PDOWRAM are employed on annual contracts. This staffing structure undermines continuity, institutional memory, and technical accumulation, posing potential risks to long-term sustainability.
- (Uncertainty regarding sustainable O&M financing) The absence of stable and predictable funding for regular maintenance was also identified as a limiting factor. Uncertainty surrounding the scale and continuity of central government subsidies to PDOWRAM, coupled with chronic fiscal constraints at the provincial level, represents a clear risk to maintaining infrastructure performance over time. This underscores the importance of structurally incorporating long-term O&M financing considerations into project design, beyond the initial capital investment.
- (Role delineation challenges between FWUCs and government maintenance systems) Field findings indicate that the Farmer Water User Committees (FWUCs), which are intended to serve as community-based maintenance actors, are currently not equipped to substitute for government-led maintenance functions. In contexts where government maintenance systems are insufficiently established and FWUC organizational capacity remains limited, assigning regular and performance-based responsibilities to FWUCs may inadvertently impose excessive burdens, potentially undermining project outcomes. This suggests that participatory approaches can only be effective when implemented in parallel with strengthened government systems.
- (Limited strategic and empirical basis for expansion despite strong commitment) Although MOWRAM has expressed a clear intention to scale up similar activities and pursue follow-up project through development financing, it currently lacks sufficiently consolidated basin-level water resource plans, hydrological and agricultural productivity datasets, and robust economic and financial feasibility analyses to substantiate future investments. This gap constrains the ability to present evidence-based justifications for project expansion.

B. Recommendations

☐ For the Export-Import Bank of Korea (EDCF)

- (Strengthening sectoral expertise in strategic priority areas) To ensure systematic project identification, planning, and portfolio management that reflect local context and sectoral specificity, it is recommended that EDCF strengthen sector expertise within its country offices. Given that water supply infrastructure in Cambodia generates cumulative and interconnected effects across projects, long-term visibility and aid effectiveness depend on the ability to design and manage a coherent sector portfolio aligned with national and basin-level strategies. Enhancing internal sectoral expertise is therefore critical to achieving sustained impact.

- (Enhancing review of sustainability-related factors at the appraisal stage) In the evolving development cooperation landscape, environmental and social safeguards, climate change considerations, beneficiary characteristics, and integrated performance management systems increasingly shape project effectiveness and sustainability. It is recommended that EDCF reinforce the review of such cross-cutting dimensions at the project planning and appraisal stage. Possible measures include commissioning specialized firms for environmental and climate-related components, requiring joint ventures or consortia between engineering and sustainability experts, or involving private-sector specialists in the appraisal process. This approach would strengthen analytical rigor without compromising technical design quality, thereby enhancing overall project validity and policy relevance.
- (Improving implementation efficiency through strengthened administrative and procurement capacity) Project performance and timeliness depend not only on infrastructure quality, but also on the administrative and procurement capacity of the implementing agency. Stakeholder interviews indicated recurring delays linked to limitations in drafting Terms of Reference (ToR) and Requests for Proposals (RfP). To sustain and expand its partnership with MOWRAM, EDCF may consider supporting institutional capacity development in procurement planning, bid evaluation, and contract management for the implementing agency, thereby addressing systemic constraints rather than project-specific issues alone.
- (Incorporating budget for monitoring equipment in water infrastructure projects) Although integrated water resources management (IWRM) was not explicitly included in the project scope, effective infrastructure operation requires data-driven planning and monitoring. Future water resource projects should incorporate budget allocations for hydrological and monitoring equipment to enable systematic collection of performance data. Strengthening data availability and utilization would enhance operational efficiency and support evidence-based evaluation.

☐ For the Ministry of Water Resources and Meteorology (MOWRAM)

- (Strengthening inter-donor coordination mechanisms) Insufficient coordination among multiple donors operating within the same basin or irrigation system has resulted in cases where incomplete infrastructure components were subsequently addressed through separate donor funding. MOWRAM should establish basin-level coordination mechanisms at the planning stage to define comprehensive project scopes, identify financing gaps early on, and explore joint financing or role-sharing to minimize duplication and inefficiency.
- (Promoting life-cycle-based project linkages) Large-scale water and irrigation infrastructure projects require complementary investments beyond physical construction. Without parallel support for O&M capacity, agricultural productivity enhancement, community organization, and livelihood improvement, long-term development effects may remain limited. MOWRAM is encouraged to adopt a life-cycle perspective and systematically link infrastructure development with follow-on capacity-building and complementary interventions.
- (Establishing institutionalized O&M capacity development systems) One-off training for individual staff is insufficient to ensure sustained O&M capacity, particularly in contexts of staff turnover. Drawing lessons from institutional models such as specialized agriculture or rural infrastructure agencies, MOWRAM may consider institutionalizing maintenance training functions within existing structures or establishing a dedicated training entity. In addition, providing maintenance equipment and storage facilities as project components, and introducing an operational model that leases or shares them with farmers and local organizations, could enhance maintenance effectiveness and operational sustainability while generating additional operational revenue.
- (Systematic collection of baseline and monitoring data) Reliable verification of project effectiveness requires systematic collection of rainfall, water level, discharge, and water quality data. The absence of such baseline and monitoring data limited the rigor of the present evaluation. MOWRAM should establish systems for continuous data collection from the project's inception, enabling optimization of facility operations, climate adaptation planning, and robust evaluation of development effectiveness. Such data can also provide valuable reference information for feasibility studies and planning of similar future projects.
- (Strengthening internal project management and evaluation systems) Building internal capacity to conduct efficiency assessment and performance analysis would enhance MOWRAM's ability to design future projects and engage strategically with development partners. Standardizing procurement and project management procedures, developing operational manuals, and providing regular staff training would reduce reliance on individual personnel and mitigate implementation delays.
- (Advancing multi-sector integrated project design) Institutional fragmentation among MOWRAM, MAFF, and MOE has led to sector-specific project designs, limiting broader development synergies. In the evaluated project, components related to power generation and agricultural extension were excluded despite their close linkage to water infrastructure. While respecting institutional mandates, future initiatives should gradually expand toward integrated, multi-sector project design (linking water development, agricultural productivity, and energy utilization). Establishing inter-ministerial coordination bodies or joint project steering committees at the planning stage would facilitate shared objective-setting and clearer delineation of roles, thereby maximizing overall development impact.