EDCF Cambodia
Sala Ta Orn 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 Sala Ta Orn Dam Development Project(KHM-13) 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.

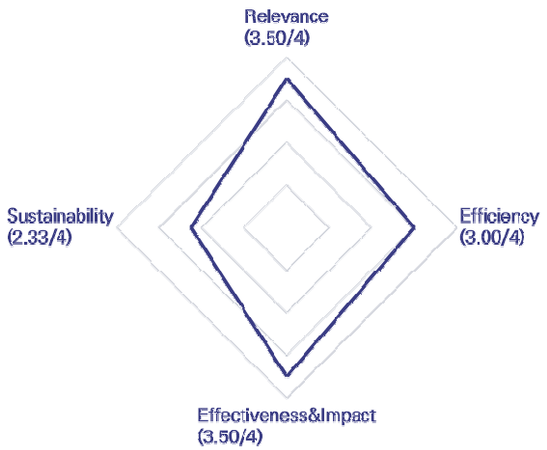
- However, as the Battambang Province in Cambodia is a region where weather conditions significantly affect agricultural productivity, quantitative analysis of the project's contribution to agricultural productivity required rainfall and hydrological observation data for the periods before and after 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-13 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-13 project was rated as "Successful (3.08/4)."

Overall Performance Rating

Evaluation Criteria	Weight	Score	Rating
Relevance	25%	3.50 / 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%	3.08 / 4	Successful



Overall Performance Rating

☐ Evaluation Results by Criteria

- (Relevance) The project is well aligned with Cambodia's national development strategy and the Republic of Korea's Country Partnership Strategy for Cambodia, while appropriately reflecting local demand in the agricultural sector. MOWRAM and the Battambang PDOWRAM were actively involved at each stage of implementation, and a clear division of roles between the central and provincial governments has been established for post-completion management. The results chain and target beneficiaries were systematically defined in accordance with the project's higher-level objectives. However, from a risk management perspective, implementation delays occurred due to resettlement and compensation issues, a recurrent risk in similar projects. Nevertheless, as the key outputs were successfully delivered and all relevant factors are considered comprehensively, the project's relevance is assessed positively.
- (Efficiency) At the planning stage, the project period was set in accordance with EDCF's standard implementation schedule. In practice, however, significant delays occurred due to limited procurement capacity of the implementing agency, design and scope modifications, and resettlement compensation issues, resulting in an extension of approximately two years. In terms of cost, the Cambodian government contributed additional funding to cover increased land compensation expenses. On the EDCF side, despite certain budget adjustments arising from scope and design changes, the project was implemented within the total approved loan amount through the use of contingency funds.
- (Effectiveness and Impact) Both intended outputs and outcomes achieved more than 90 percent of their original target levels. The verification of medium- to long-term impacts for the KHM-13 project relied primarily on increased rice production in the beneficiary area as a key indicator. Performance data maintained by the operating agency confirm that rice production increased as a result of the project. Although the project did not explicitly target specific socioeconomically vulnerable groups at the design stage, it was structured to ensure stable agricultural water supply for all regional farmers, who are vulnerable to climate variability and rainfall fluctuations. Survey findings further indicate that the project generated positive effects in terms of agricultural water supply stability, flood control, local economic activity, and improvements in living conditions. Given the limited evidence of negative impacts, the project is assessed as effective.
- (Sustainability) From financial and institutional perspectives, the legal and administrative foundations for sustaining project outcomes have been established. However, limitations remain in securing stable financial resources for operation and maintenance (O&M), and the practical enforceability of the institutional framework remains somewhat uncertain. While an O&M system has been established, constraints exist in the recruitment and retention of operational and technical personnel. Compared to the original plan, structural constraints during the operational phase may limit long-term sustainability. Nonetheless, strong ownership demonstrated by the implementing agency and the potential for dissemination of lessons learned through this project contribute positively to sustainability. Overall, the project is assessed as sustainable relative to initial expectations, despite existing structural limitations.
- (Coherence) From an internal coherence perspective, the project does not overlap with other EDCF-supported or domestically implemented initiatives. Instead, it was developed sequentially (beginning with KOICA-funded Master Plan, following by an EDCF feasibility study, and subsequently leading to full-scale project implementation) representing a relatively effective case of role division and harmonization among Korean aid agencies. The project was also well aligned with Korea's broader external cooperation frameworks at the time, including the "New Asia Initiative," and the "New Southern Policy." Externally, the project aligns with Cambodia's top national priority of water resource infrastructure development. Through participation in the Technical Working Group (TWG), EDCF established effective coordination and cooperation with other bilateral donors and international organizations. Given that EDCF has been highly regarded within the Cambodian Government for expanding support to priority sectors such as agricultural development infrastructure, this project may be considered a model example of both internal and external coherence.
- (Cross-cutting Issues) As an infrastructure-centered intervention focused on agricultural water resource development, cross-cutting issues were not explicitly formulated as core performance objectives. Nonetheless, from on environmental perspective, KHM-13 incorporate mitigation measures to address potential ecological impacts associated with water resource development. However, these environmental considerations were not institutionalized through systematic monitoring indicators or long-term management mechanisms, suggesting room for strengthening environmental performance monitoring in future similar projects. In terms of climate change, the project contributed to climate adaptation by improving agricultural water security and flood regulation in a context characterized by intensifying dry-season droughts in Cambodia. Nevertheless, more visible and systematic climate mainstreaming approaches will be required in future operations. With respect to poverty reduction among vulnerable groups, housing and human rights improvements, and gender equality and mainstreaming, no significant impacts were clearly identified. However, through the implementation process, MOWRAM is expected to have strengthened its institutional capacity and staff understanding in areas such as international development finance procedures, environmental and social safeguards, results-based management frameworks, consultant selection, and procurement processes. These governance and institutional capacity gains are positively assessed, as such experience can well serve as a foundation for the more explicit and systematic integration and mainstreaming of cross-cutting issues in future water resources development 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 Sala Ta Orn 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 outcomes 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.