

Validation Report
November 2018

Cambodia: Tonle Sap Lowlands Rural Development Project

Reference Number: PVR-553
Project Number: 37287-013 and 37287-022
Loan Number: 2376
Grant Number: 0092

Independent
Evaluation  ADB

Raising development impact through evaluation

ABBREVIATIONS

ADB	–	Asian Development Bank
DMF	–	design and monitoring framework
EIRR	–	economic internal rate of return
FWUG	–	farmer water user group
km	–	kilometer
MAFF	–	Ministry of Agriculture, Forestry and Fisheries
MOWRAM	–	Ministry of Water Resources and Meteorology
MRD	–	Ministry of Rural Development
MTR	–	midterm review
O&M	–	operation and maintenance
PCR	–	project completion report
PMO	–	project management office

NOTE

In this report, "\$" refers to United States dollars.

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PROJECT BASIC DATA

Project Numbers	37287-013 and 37287-022	PCR Circulation Date	14 August 2017	
Loan/Grant Numbers	2376 and 0092	PCR Validation Date	Nov 2018	
Project Name	Tonle Sap Lowlands Rural Development Project			
Sector and subsector	Agriculture, natural resources and rural development, Transport	Agricultural policy, agricultural production, irrigation, rural market infrastructure	Road transport (non-urban)	
Strategic agenda	Environmental sustainable growth and inclusive economic growth			
Safeguard categories	Environment		B	
	Involuntary Resettlement		B	
	Indigenous Peoples		B	
Country	Cambodia		Approved (\$ million)	Actual (\$ million)
ADB Financing (\$ million)	ADF: 9.90	Total Project Costs	24.00	21.76
	OCR: 10.10	Project Loan/Grant		
		Loan 2376	10.10	9.73
		Grant 0092	9.90	9.88
		Borrower	3.00	2.14
		Beneficiaries	1.00	0.00
	Others	0.00	0.00	
Cofinancier	-	Total Cofinancing	0.00	0.00
Approval Date	5 Dec 2007	Effectiveness Date	18 May 2008	5 Nov 2008
Signing Date	18 Feb 2008	Closing Date	30 Jun 2015	19 Jul 2016 (Loan 2376) 25 Aug 2016 (Grant 0092)
Project Officers	P. Long	Location Cambodia Resident Mission	From May 2008	To Aug 2017
IED Review Director Team Leader	N. Subramaniam, IESP S. Takahashi, Evaluation Specialist, IESP*			

ADB = Asian Development Bank, ADF = Asian Development Fund, IED = Independent Evaluation Department, IESP = Sector and Project Division, OCR = ordinary capital resources, PCR = project completion report.

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I. PROJECT DESCRIPTION

A. Rationale

1. During the project preparation stage, the agriculture sector represented one-third of Cambodia's gross domestic product and was the main source of income and livelihood for almost 80% of the population. The rural sector in Cambodia accounted for most of the population, production, and employment. The Tonle Sap region had the highest incidence of poverty, at 38%. The situation was particularly critical in the lowland areas of the Tonle Sap, where communities' livelihoods were dependent on subsistence agriculture. Water shortages for agricultural production and human consumption left many households vulnerable to food supply instability and water-borne diseases. Lowland communities located out of the buffer zone surrounding the lake had limited access to water infrastructure, roads, technology, markets, and financial services. This constrained their livelihood opportunities, which resulted in food shortages and seasonal migration into the Tonle Sap lake buffer zone that in turn created risks of overexploitation of the lake's resources.

2. The Tonle Sap Lowlands Rural Development Project was designed to support the development and upgrading of rural infrastructure such as rural access roads, irrigation canals, and village markets.¹ The project aimed to enhance rural incomes and reduce pressure on the natural resource base of the Tonle Sap basin. This project was one of the major projects of the Tonle Sap Initiative,² a partnership of organizations and people launched by the Asian Development Bank (ADB) in 2002 to reduce poverty and manage natural resources in the Tonle Sap Lake and within the Tonle Sap Biosphere Reserve.

B. Expected Impact, Outcome, and Outputs

3. The project's expected impact was improved livelihood of people in 40 selected communes across three provinces (Kampong Chhnang, Kampong Thom, and Pursat) in the Tonle Sap basin through increased economic activity and household incomes. The project's intended outcome was the rural populations' usage of improved infrastructure services to increase economic activity and household income. There were three major expected outputs: (i) improved rural infrastructure, which encompassed enhancement of farmers' access to rural markets,³ establishment of irrigation canals, and improvement of rural access roads; (ii) increased rural livelihood options through improved access to technical services; and (iii) effective management of project implementation. The design and monitoring framework (DMF) was revised during the midterm review in March 2012 wherein three performance targets and/or indicators at the output level were modified.⁴ The midterm review (MTR) report clarified that the project communes were

¹ ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Asian Development Fund Grant to the Kingdom of Cambodia for Tonle Sap Lowlands Rural Development Project*. Manila.

² ADB. 2004. *Future Solutions Now: The Tonle Sap Initiative*. Manila. Revised and updated May 2006. The major investment projects in the Tonle Sap Initiative are (i) Tonle Sap Environmental Management Project, (ii) Tonle Sap Sustainable Livelihoods Project, (iii) Tonle Sap Rural Water Supply and Sanitation Sector Project, (iv) Tonle Sap Lowlands Rural Development Project, and (v) Tonle Sap Poverty Reduction and Smallholder Development Project.

³ Output 1 had three sub-outputs: 1a, improvement and development of social infrastructure; 1b, improvement of agricultural water management infrastructure; and 1c, improvement of rural roads. Under sub-output 1a, the design summary "access to rural markets is enhanced" was changed to "access to selected communes is enhanced" after the midterm review.

⁴ ADB. 2017. *Completion Report: Tonle Sap Lowlands Rural Development Project in the Kingdom of Cambodia*. Manila. The PCR mentioned that the revisions of indicators were made in order to strengthen linkages between activities and outputs. ADB (South East Asia Department). 2012. Mid-term Review Mission to Cambodia: Tonle Sap Lowlands Rural Development Project. Back-to-office report. 12 March (internal). It reported that the indicators were revised to "better reflect the on-going project activities."

required to select activities according to prioritized projects listed in the three-year rolling Commune Investment Plan that was changed every year, which meant that the change was unavoidable.⁵

C. Provision of Inputs

4. The project was approved under a sector project modality for \$24.0 million and was to be financed by (i) ADB through a loan of \$10.1 million equivalent from Special Fund resources and a grant of \$9.9 million from the Asian Development Fund; (ii) the Government of Cambodia, through a contribution of \$3.00 million equivalent;⁶ and (iii) beneficiaries, through \$1.00 million equivalent in the form of in-kind contributions. The project was approved on 5 December 2007, and the loan and grant became effective on 5 November 2008, with project completion originally scheduled on 30 June 2015. The closing dates were extended for 6 months, from 30 June to 31 December 2015. The actual total project cost was \$21.8 million (excluding the government's waiver of taxes and duties, and the beneficiary contribution estimated at appraisal). The actual cost for the outputs financed by ADB decreased by \$150,000.0 as a result of exchange rate fluctuations.⁷ The project cost remained within the budget limits, the project completion report (PCR) indicated that reallocations by expenditure categories were needed, owing to (i) an over-commitment to consulting services, and (ii) an increase in equipment and vehicle costs.

5. Total project disbursements amounted to \$21.8 million equivalent which was 91% of the estimated total project cost. For the ADB loan and grant, the total combined disbursement was \$19.6 million equivalent (98.1% of the estimated \$20.0 million). The bulk of the disbursement was attributed to the procurement of civil works carried out under Output 1 (improving rural infrastructure), and to consulting services. Disbursement was very slow during the first 2 years of implementation and did not meet the disbursement targets. It accelerated at a later stage but was still below the desired level. The PCR indicated that fund flow issues continued throughout the project duration due to the limited financial management capacity of the executing agency. At appraisal, the consulting services inputs were estimated at 489 person-months (55 person-months for international specialists and 434 person-months for national specialists). By the end of the project, the inputs had increased to 755 person-months (112 person-months for international specialists and 643 person-months for national specialists). The PCR also indicated that the significant increase in the consultant inputs was due to the multiple responsibilities assigned to the project staff by the executing agency and because dependence on consultants was greater than expected. The consultants' role was expanded from capacity building to partial capacity substitution for the project.

6. The project was classified as category B for environment and involuntary resettlement. An initial environmental examination was conducted for the project as a whole and for a sample of subprojects.⁸ The assessment concluded that the project was not likely to cause significant adverse environmental impacts since investments were small in scale and mainly focused on the rehabilitation or upgrading of existing structures.⁹ A total of 10 resettlement plans were prepared,

⁵ ADB (Southeast Asia Department). 2012. Mid-Term Review Mission to Lao People's Democratic Republic: Tonle Sap Lowlands Rural Development Project. Back to Office-Report. 16 April (internal).

⁶ Mainly for incremental staff salaries, taxes, and duties.

⁷ The actual cost covered by the government was lower than estimated at appraisal, as the government waived taxes and duties, thereby reducing its contribution by \$0.86 million.

⁸ According to the Cambodia Resident Mission, in an email exchange with the team leader of this validation, environmental screening reports confirmed that "all subprojects were classified as category C for environment since individual subprojects involved only small-scale rehabilitation/intervention of existing roads and irrigation systems at a commune level."

⁹ Footnote 1, Supplementary Appendix I.

and full compensation was paid to 1,662 affected households. The project was not categorized for indigenous peoples. However, during preparation there were issues identified with respect to ethnic minorities (such as Vietnamese and Cham) as well as indigenous communities. No specific plans were developed for the IP communities but there were some references in the project administrative manual that established presence of IP as a positive criterion for selection of eligible sub-projects.¹⁰

7. The PCR indicated no project preparatory technical assistance was associated with the project. It acknowledged that ADB provided capacity building technical assistance in 2010–2011 financed by the Japan Fund for Poverty Reduction to support Output 3.¹¹ The German Agency for International Cooperation provided parallel funding for two international agribusiness experts and three local agriculture experts.¹² This validation did find a technical assistance (TA) project¹³ that was implemented from 2005 to 2007 and served as a basis for the design of the project. The total amount of the TA project was \$1 million and used 32 persons-month international and 37 persons-months of national consultant inputs.

D. Implementation Arrangements

8. In general, implementation arrangements for the project followed the design. The executing agency was the Ministry of Water Resources and Meteorology (MOWRAM), which was responsible for overall project management. The project had four implementing agencies for each output (footnote 3): provincial local administration units for Output 1a; MOWRAM for Outputs 1b and 3; the Ministry of Rural Development (MRD) for Output 1c; and the Ministry of Agriculture, Forestry and Fisheries (MAFF) for Output 2. A project steering committee at the national level and provincial project coordination committees, one at each of the three target provinces, were established to oversee and coordinate project implementation. MOWRAM established a project management office (PMO) at the national level led by a project director, with four deputy directors, designated as project managers (one each from MOWRAM, MRD, the Ministry of Interior, and MAFF, who were responsible for the management and supervision of the activities of their respective implementing agencies). The ability of the PMO to adequately deliver outputs was hampered until 2011. This was due to (i) the weak oversight of its procurement review committee; (ii) capacity constraints of the PMO, project implementation unit, and commune council staff; and (iii) insufficient communication and coordination with the project implementation units.

9. The project utilized (i) international and national consultants to assist the PMO with project management and implementation; (ii) international and national training consultants to prepare and assist in the operation of the capacity building component; (iii) national consultants to support the provincial agencies with community participation, provincial level planning, subproject identification, and the preparation of the environmental assessments and resettlement plans; and (iv) national engineering consultants to prepare detailed engineering designs and supervise construction works.¹⁴

¹⁰ ADB (Independent Evaluation Department). 2018. Project Safeguard Assessment: Tonle Sap Lowlands Rural Development Project in Cambodia. 16 May (internal).

¹¹ ADB. 2008. *Completion Report: Technical Assistance to Cambodia for Capacity Building for Tonle Sap Poverty Reduction Initiative*. Manila.

¹² Total cost was \$900,000; footnote 5 of the PCR.

¹³ ADB. 2007. *Tonle Sap Lowland Stabilization Project*. Consultant's report. Manila.

¹⁴ The cost of the consultants was mainly covered by the loan and grant, except for two technical assistance projects mentioned in the previous section.

10. The PCR indicated that the borrower and the executing agency generally complied with the loan covenants, with the exception of the covenant on audited financial statements submission, which was delayed in certain years. Overall compliance with the covenants improved alongside project implementation performance after the midterm review in 2012. The 52 covenants were fully complied with and 2 covenants were partially complied with. The ceiling of individual physical and social infrastructure subproject costs was increased from \$100,000 to \$200,000 during the loan review mission in January 2011. The covenants regarding the village markets and other commercial support infrastructure were changed to social infrastructure establishment or rehabilitation with the DMF change. The borrower and executing agency partially complied with the covenants regarding female participation of at least 30% in the farmer water user group (FWUG) management committee and rural road maintenance committee.

II. EVALUATION OF PERFORMANCE AND RATINGS

A. Relevance of Design and Formulation

11. The PCR rated the project highly relevant. The rating was based on the project's alignment with government plans for improving agriculture productivity and on-farm and off-farm livelihood opportunities. The project was aligned with main government plans and strategies both at appraisal and completion.¹⁵ The project was also consistent with ADB Cambodia country partnership strategies¹⁶ and other sector strategies,¹⁷ which placed a high priority on promoting inclusive growth through investments in rural infrastructure.

12. The PCR indicated that project formulation was coherent with the objective of increasing agriculture productivity through investments in physical and social infrastructure rehabilitation and the provision of technical support and access to credit, fostering community management. However, the PCR also questioned the overall adequacy of project design given the implementation issues encountered.¹⁸ The main reasons causing delays in implementation were the limited capacity of the executing agency in financial management and the lack of adequate provincial-level capacity to carry out procurement and supervision for the execution of subprojects. The PCR also documented revisions to the project's DMF pertaining to adjustments in performance targets and indicators at the output level.¹⁹ No assessment was presented in the PCR on whether or not the sample of subprojects designed before approval were appropriate to achieve the intended outcome and whether or not subsequent subprojects were realistic and locations appropriate. This validation holds the view that there seemed to be design deficiencies at appraisal.

¹⁵ Main government plans and strategies cited by the PCR are: Rectangular Strategy for Growth, Employment, Equity and Efficiency in Cambodia (2004–2008); National Strategic Development Plan (2006–2010); Strategy for Agriculture and Water 2006–2010; Strategic Framework for Decentralization and De-Concentration Reforms (2005); Main government plans and policies cited by the PCR are: Agricultural Sector Strategic Development Plan 2014–2018, National Strategic Development Plan 2014–2018, National Strategy for Food Security and Nutrition (2014–2018), and Rectangular Strategy Phase III, 2013.

¹⁶ ADB. 2009. *Country Partnership Strategy: Cambodia, 2005–2009*. Manila; ADB. 2014. *Country Partnership Strategy: Cambodia, 2014–2018*. Manila

¹⁷ The PCR cites the following documents: ADB. 2003 *Water Sector Roadmap: Kingdom of Cambodia*. Manila; ADB and Government of Cambodia. 2002. *Poverty Reduction Partnership Agreement*. Phnom Penh.

¹⁸ Footnote 4, paragraph 6.

¹⁹ Changes to the outputs related to “enhanced access to rural markets,” “establishment of viable rural markets in 10 communes,” “[operations and maintenance] organizations are functioning,” and “30% of course participants utilize microfinance services.”

13. While intended project's outcomes were aligned with government priorities and pertinent ADB's strategies, the project did present foreseeable deficiencies at design related to implementation arrangements and the representativeness of subprojects considered at appraisal. The complex design of the implementation arrangements and the anticipated low capacity at the province level resulted in implementation delays. Changes in project design occurred during implementation. Project interventions under access to rural market (one of the three subcomponents under Output 1) were changed from the establishment of rural markets to that of social infrastructure such as village roads, wells, latrines, and commune council buildings.²⁰ The changes in project design resulted in the addition of subprojects that had unclear contributions to the outcome (e.g., the repair of school classrooms and commune council buildings).²¹ Further, under irrigation canals (another subcomponent of Output 1), the construction of a main canal and water control structure was included in addition to the intended rehabilitation of secondary and tertiary canals.²² Innovative features were not confirmed. This validation rates the project relevant.

B. Effectiveness in Achieving Project Outcomes and Outputs

14. The PCR rated the project effective in achieving the outcome of rural households using improved infrastructure and services to increase economic activity. The DMF had the following five outcome indicators: (i) a 25% increase in annual cropping intensity; (ii) a 10% reduction in travel time from village to commune market; (iii) a 30% participation of women in FWUG and other production groups, (iv) at least 30% female composition of the decision-making committee members, and (v) establishment of new small business and/or specialized livelihoods. According to the PCR, the project achieved three of the five outcome indicators: annual cropping intensity was increased by 21%; at least 30% of the decision-making committee members were female (28% for road operation and maintenance (O&M) committees, and 17% for FWUGs); and 439 new small business and/or specialized livelihoods were established. This validation considers that the indicator of increased cropping intensity is important to achieve the project's outcome. The PCR used the cropping intensity data from MAFF that reportedly include all communes outside of the irrigation schemes of the project. Because of this, the achievement of cropping intensity cannot be verified.

15. At the output levels, a few indicators were revised in the April 2012 MTR.²³ Among the three outputs (social infrastructure, irrigation canals, and rural access roads) under improved rural infrastructure, social infrastructure was established but its target were not set. Of the 230.0

²⁰ The establishment of 10 rural markets and organizations for their operation and maintenance was changed to the rehabilitation and establishment of social infrastructure (school repairs, village ponds, etc). Also, the utilization of microfinance services through commercial banks or licensed microfinance institutions was changed to add the possibility of self-help groups.

²¹ This change seems to have diminished the linkage between outcome and outputs. This validation found that the criteria used to identify investments at the commune was not entirely aligned with the achievement of the outcomes of the project.

²² Initially, the output was to rehabilitate 100 kilometers (km) of secondary and 140 km of tertiary irrigation canals. However, the project constructed about 13 km of main canal, 15 km of dams (embankment), and 304 small and large water control structures, in addition to the rehabilitation of 37 km of secondary canals and 13 km of tertiary canals.

²³ The following changes were made to the DMF: (i) Output 1, sub-output 1a: (a) the design summary "access to rural markets is enhanced" was changed to "access to selected communes is enhanced", (b) the indicator "viable rural markets are established in 10 selected communes" was changed to "social infrastructure are established or rehabilitated in selected communes", and (c) the indicator "market O&M organizations are functioning" was changed to "at least three social infrastructure facilities are established and maintained in each selected commune;" and (ii) Output 2: the indicator "30% of vocational training course participants utilize microfinance services provided through commercial banks and licensed [microfinance institutions] for development of small enterprises" was updated to "30% of vocational training course participants utilize microfinance services provided through commercial banks, licensed [microfinance institutions], self-help groups, and saving groups for development of small enterprises."

kilometers (km) of rural access roads targeted for rehabilitation, 205.0 km were repaired. Achievement of the remaining target on irrigation cannot be verified. The actual rehabilitated canal length was 36.6 km of secondary canals (out of the targeted 100.0 km) and 12.9 km of tertiary canals from 140.0 km. The PCR claimed that irrigation areas were increased to 13,376.0 hectares (ha), larger than the target of 9,600.0 ha. However, the PCR did not explain adequately how they were increased given the reduced length of the rehabilitated irrigation canals.²⁴ Another subcomponent of irrigation canals, 30% female representation in decision making of FWUGs, was not achieved since females made up 17% of the groups.

16. The project complied with covenants regarding safeguards plans and monitoring, including environmental management and involuntary resettlement. The PCR indicated that most projects had to do with rehabilitation of existing infrastructure and that environmental checklists were prepared by the implementation authority and submitted for ADB review. However, there was no copy of the initial environmental examination available for this assessment.²⁵ In contrast, detailed information was presented on the implementation of land acquisition and resettlement policy indicated that the 1,662 affected households were compensated for their land losses, with compensation paid mostly prior to land acquisition. The compensation process was transparent, and the payments were made in public and in the presence of an independent monitoring agency.²⁶ Finally, the PCR assessed that project implementation resulted in a high level of success in achieving the Gender Action Plan targets. By project completion, 18 of the 19 activities (95%) were completed and 9 out of the 10 targets (90%) were achieved.²⁷ The DMF contained four gender-specific indicators: two outcome level indicators were achieved while one of the two output-level indicators was fully achieved.

17. This validation cannot verify the achievement of the project outcome. On safeguards, little information was presented on the management of possible project impacts on the environment. Thus, the project is assessed less than effective.

C. Efficiency of Resource Use

18. The PCR rated the project efficient. An estimate of the economic internal rate of return (EIRR) was obtained at project completion. The economic analysis at completion was not directly comparable to the analysis undertaken at project design. At design, the EIRR was calculated for several representative subprojects instead of the entire project and the EIRR for each of the subprojects ranged from 19.0% to 22.1%. The estimated project level EIRR at completion was 14.0%. This estimate had several limitations: (i) it was based on the benefits attributable to the subcomponent related to agricultural water management,²⁸ hence it provided a partial analysis of the project benefits; (ii) other quantifiable benefits had been left out of the calculation such as the

²⁴ This, together with reasons of changes, especially significant reduction of canals' length, should have been at least explained in the PCR. The resident mission reported that command area size is more important than canal length. However, canals' length was included as DMF indicators under the subcomponent of "irrigation canals established" of Output 1 (improved rural infrastructure).

²⁵ The resident mission explained that (i) a summary environmental assessment and an environmental assessment and review framework were prepared, (ii) commune councils for each subproject were responsible for monitoring the implementation of Environmental Management Plan and reporting to the executing agency, and (iii) quarterly progress reports included a review of compliance with loan covenants and status of environmental documents. The progress reports and screening reports in Khmer are available on request.

²⁶ Footnote 10.

²⁷ Footnote 4, Appendix 3.

²⁸ The economic analysis only quantifies the benefits associated with increased rice production on the rehabilitated irrigation areas. The PCR uses secondary data and assumes that all cultivated areas enjoy the same level of productivity gains.

introduction of new crop varieties and positive environmental externalities;²⁹ and (iii) the estimated EIRR was quite sensitive to assumptions on price and yield changes. In addition, changes in the project design led to cost ceilings for individual physical and social infrastructure subprojects to double.³⁰

19. This validation rates the project efficient. The estimated EIRR at completion was greater than 12%. Even though the project benefits were quite sensitive to price and yield changes, they represent a lower bound since other benefits of the project were not included. On the whole, the methodology used to calculate the EIRR was valid,³¹ although it had some limitations in the quantification of benefits. Process efficiency was mixed. No cost overruns were incurred; however, implementation issues delayed economic benefits.

D. Preliminary Assessment of Sustainability

20. The PCR rated the project as likely sustainable. Most of the arguments presented to support the rating were related to institutional and social sustainability. The project was implemented with the close participation of the supported communities, for example, in the rehabilitation of infrastructure. Capacity building was also provided to create further long-lasting behavior changes. The creation of agricultural cooperatives and FWUGs contributed to reinforcing the sustainability of project investments. The inclusion of rural infrastructure in inventories at the ministry level facilitated the monitoring of future repairs and maintenance. The willingness of the beneficiary farmers to pay the irrigation services fees is considered a positive contribution to maintaining irrigation infrastructure. The PCR did not calculate the project's financial internal rate of return nor weighted-average cost of capital at completion. Furthermore, no assessment of environmental sustainability was provided.

21. This validation considers the evidence presented in the PCR as a necessary, but not sufficient to guarantee sustainability. In institutional terms, FUWGs have been established but the PCR mission review found that only 1 of the 17 communes were collecting the irrigation services fees. This suggests that O&M may not be covered through beneficiary contributions, having to rely on transfers from the government. The O&M fund of the executing agency is limited, and in Cambodia, recurrent funding for smaller schemes is provided on an ad hoc basis.³² A similar issue occurs with rural road maintenance. Given that no further evidence is presented on how the material risks to infrastructure will be mitigated, this validation rates the project as less than likely to be sustainable.

III. OTHER PERFORMANCE ASSESSMENTS

A. Preliminary Assessment of Development Impact

22. The PCR did not explicitly rate the project's development impact. It stated that outcomes contributed to the achievement of poverty and social impacts. As reported by the end-of-project

²⁹ Derived from the reduction of the pressures to extract resources in the Tonle Sap buffer zone during the dry season.

³⁰ The ceiling of water management subprojects was increased from \$100,000 to \$200,000, and from \$20,000 to \$45,000 for social infrastructure subprojects after an agreement between the executing agency and ADB during the loan review mission in January 2011.

³¹ The PCR converted financial prices to economic prices to account for the real opportunity costs of resources.

³² The PCR acknowledges the formation of local O&M committees that rely on government transfers to fund their activities (para. 15). According to the Cambodia Resident Mission, (i) the government has allocated an annual budget for irrigation schemes O&M and FWUC strengthening since 2015 (\$7.5 million for 2015, \$10 million for 2016, \$12 million for 2017, and \$15 million for 2018); and (ii) the government has planned to spend \$25 million per year from 2019 to 2021.

survey and from the community interviews, the poverty rates in the project target communes dropped considerably during the implementation period, from an average of 46% to 25%. The PCR presented further evidence on the DMF's impact indicator of increases in agricultural production and economic activity. Rice yields increased by more than the 15% target established at project design. More than 2,000 farmers diversified agricultural production and started to grow vegetables, and new on-farm business groups (39) and small-scale businesses (397) were created. However, both the PCR and the Report and Recommendation of the President did not present any data on household income, making it difficult to assess the magnitude of the economic impact of increased agricultural production and off-farm activities.³³

23. The PCR presented information on environmental and gender impacts of the project. Community interviews indicated a 70% reduction in the number of people going into the Tonle Sap Biosphere Reserve buffer zone for livelihood activities (which had previously resulted in natural resource overexploitation) and increased awareness about illegal fishing and destruction of the forest. Also, the PCR indicates that the project contributed to reducing the gender gap in the sector. Women were given access to productive resources, extension services and skill building as well as decision making power in community organizations.³⁴

24. This validation rates the project's development impact as satisfactory based on the positive impacts on poverty, gender, and the environment presented in the PCR. Additional positive impacts of adaptation to climate change are to be expected since improved water management will increase resilience to both droughts and floods.

B. Performance of the Borrower and Executing Agency

25. The PCR assessed the performance of the borrower and the executing agencies satisfactory. It emphasized that the executing agency was required to implement the project using a complex organizational structure and its capacity to manage was overestimated at appraisal. Limited financial management capacity resulted in fund flow delays, affecting overall project achievements. The PCR reported that the procurement processes were not entirely transparent at the project's early implementation stages.³⁵ It also indicated that the performance of the executing agency greatly improved after the MTR, leading to the successful completion of project activities in the remaining implementation time.

26. This validation rates the performance of the borrower and executing agency satisfactory. As documented in the PCR, the lack of enthusiasm, experience,³⁶ and qualification on the part of the executing agency led to a delay in implementation by over a year. Procurement and reporting performance had some deficiencies.³⁷ Even though the project's MTR accelerated implementation, changes in design and subproject financing conditions had to be made to ensure physical and financial achievement at completion. Project closing occurred 6 months later than originally estimated.

³³ Given that the poverty rate decreased, household income supposedly increased. However, the magnitude of the change is not conclusive.

³⁴ Footnote 4, Appendix 3.

³⁵ Footnote 4, para. 32.

³⁶ The PCR states that "project implementation mainly depended on consultants, leading to expansion of their role from capacity building to partial capacity substitution for the project."

³⁷ Audited accounts and related financial statements were submitted late in certain years (Footnote 4, Appendix 6).

C. Performance of Asian Development Bank

27. The PCR assessed the performance of ADB satisfactory, presenting information on supervision and problem resolution activities during implementation, deficiencies during project design and contributions to implementation delays. ADB fielded 14 missions to support project implementation from January 2009 to December 2015. The delegation of project supervision to the Cambodia Resident Mission in March 2010 increased interaction with the executing and implementing agencies as well as the consultants providing support. As a result, issues with procurement and fund-flows were gradually resolved. ADB responded to the project's implementation problems by looking for solutions such as: (i) assigning staff with in-depth sector and country experience for project supervision, (ii) increasing the provision of consultant's inputs for project support, and (iii) timely revisions to the project's scope and extension of the project period.

28. ADB included appropriate safeguards expertise in missions but mostly on resettlement aspects. Available reports indicated that resettlement issues identified were all resolved. However, no equivalent reporting was available for environmental aspects (footnote 26).

29. This validation rates ADB performance as satisfactory, based on the evidence presented in the PCR and other project documents. Although ADB underestimated the complexity of the project execution arrangements given the low level of local capacity, it was later able to respond adequately to manage project implementation problems.

D. Others

30. The project financed consulting services to support the identification of commune investment plans and preparation of the design of subproject investments. The PCR indicated that the executing agency was delayed in recruiting the consulting team through a firm, which had to subsequently be replaced by another team of experts due to poor performance. According to the PCR, the performance of the consultants improved after the MTR, facilitating the implementation of the project. The PCR rated the performance of the consultants as satisfactory.

31. The PCR rated the performance of civil works contractors as satisfactory on the basis that no major issues were reported regarding the 286 civil works contracts. Many contractors performed well in terms of work quality and timely delivery, a few others struggled to deliver on time and had to redo work due to quality issues. The PCR also indicates that the PMO engaged REDECAM (an independent monitor) to observe the implementation of the short resettlement plans and its performance is considered satisfactory.

IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

A. Overall Assessment and Ratings

32. This validation rates the project less than successful but relevant. A complex execution structure combined with a lack of local capacity led to implementation delays. The project is assessed as less than effective since the outcome achievement cannot be verified. The project is rated efficient because project benefits are estimated to exceed its economic cost, which is evident in the project EIRR. There was no evidence at project completion that the O&M of rural infrastructure, mainly rural roads and irrigation schemes, would be covered by the users. Instead, the PCR documented that O&M costs would have to rely on ad hoc government transfers. This validation rates the project as less than likely to be sustainable.

Overall Ratings

Validation Criteria	PCR	IED Review	Reason for Disagreement and/or Comments
Relevance	Highly relevant	Relevant	Changes in design introduced investments (such as schools and village ponds) whose direct contribution to the intended outcomes was not clearly described. Innovative features were not observed.
Effectiveness	Effective	Less than effective	The main outcome of crop intensity increase cannot be verified.
Efficiency	Efficient	Efficient	
Sustainability	Likely sustainable	Less than likely sustainable	O&M expenditures not covered by users but rather rely on ad hoc government transfers
Overall assessment	Successful	Less than successful	
Preliminary assessment of impact	Not rated	Satisfactory	Evidence of decreased poverty rates as well as environmental and gender impacts
Borrower and executing agency	Satisfactory	Satisfactory	
Performance of ADB	Satisfactory	Satisfactory	
Quality of PCR		Satisfactory	Para. 41.

ADB = Asian Development Bank, IED = Independent Evaluation Department, O&M = operation and maintenance, PCR = project completion report.

Source: ADB Independent Evaluation Department

B. Lessons

33. The PCR provides several lessons learned from the experience with the project:
- (i) **Country level.** Existing financial and human resource capacity of province and commune agencies is limited to implement large projects.
 - (ii) **Sector level.** (a) Rural road improvement and the expansion of irrigation facilities helped the poor access markets, social, and commercial services; (b) Capacity building of agriculture cooperatives and other rural stakeholder groups is imperative to enable poor farmers diversify their livelihood and increase their profits; and, (c) Empowering communities to carry out supervision and implementation of social and physical infrastructure contributes to its long-term sustainability.
 - (iii) **Project level.** (a) Inadequate assessment of financial and human resource capacity of executing agencies can lead to implementation delays, (b) Poorly designed consultant services and delayed recruitment can result in inadequate support for project activities, (c) Gender mainstreaming is possible across all project interventions and can be monitored through requiring gender-disaggregated data in project activities.
34. This validation agrees with the lessons provided in the PCR and identifies the following additional lessons:
- (i) **Sector level.** The sustainability of rural infrastructure interventions, mainly rural roads and irrigation schemes relies heavily on securing funds for their proper O&M. Existing reliance on ad hoc government transfers to cover O&M expenses should

evolve into user-paid fees to guarantee the proper functioning of the infrastructure during its expected lifetime.

- (ii) **Project level.** Sector projects of a multisectoral nature face the risk of having implementation problems and achieving lower than expected development outcomes. Additional work at project design needs to identify and establish clear rules about the types of investments that are eligible for financing, ensuring that these contribute to the project's stated outcomes. At implementation, a close communication of the rules for investment is critical to avoid delays stemming from extensive revisions to proposed investment plans.
- (iii) **Design and monitoring framework level.** For greater effectiveness of the monitoring and evaluation framework of the project, the overall logic and results chains as well as indicators need to be firmly established and tested before project effectiveness. Three main aspects can be improved: (a) project attribution needs to be addressed in the methodologies used for collecting indicator data, (b) measuring the degree of infrastructure use by beneficiaries provides more accurate information of the project's results than focusing on physical progress in construction, and (c) the development results of capacity building activities are better assessed through measurement of the degree of behavior change of beneficiaries.

C. Recommendations for Follow-Up

35. Most of the general recommendations proposed in the PCR were more of lessons rather than actions for follow-up. Additional preparatory work is needed in project contexts where multisectoral work and low executing capacity exist. This aspect is crucial in planning realistic project schedules and avoiding implementation delays.

36. The PCR lists four follow-up actions for the sector ministries (MOWRAM, MRD, and MAFF) and subnational authorities: (i) monitoring future repairs and maintenance of rural roads; (ii) strengthening community groups such as agricultural cooperatives, savings groups, and on- and off-farm business groups; (iii) promoting the adoption of improved agricultural techniques in areas where water infrastructure is developed; and (iv) strengthening FWUGs and ensuring adequate water resource management.

37. This validation finds the PCR's recommended follow-up actions appropriate, although too general in some cases. Additional clarifications are suggested: (i) Mechanisms to raise revenues for O&M of rural infrastructure must be established. The effectiveness of utilizing user fees or commune taxes to increase revenues should be assessed; and (ii) FWUGs need to be further developed, particularly with respect to their capacity to raise revenues for O&M expenses and their mechanisms to enforce water rights and uses.

V. OTHER CONSIDERATIONS AND FOLLOW-UP

A. Monitoring and Reporting

38. The PCR presented data collected through the project end survey, the monitoring and evaluation framework, and the completion report mission. While much information was presented on the project's physical progress and outputs, data on outcome and impact indicators had methodological weaknesses. The PCR made no assessment on these nor the adequacy of the project's DMF to robustly assess project achievements.

39. This validation finds that the DMF had severe limitations for monitoring project achievements. The casual chain that went from project outputs to impacts presented gaps in indicators measuring outcomes that were supposedly a result of project investments. For example, the results from school-building or rural sanitation were not monitored by the DMF.³⁸ The definition of several indicators and its methodology for computation was not clear. The scope of the indicator was not well defined: a baseline was not provided, and a valid control group was not established. This applies to indicators such as agricultural production increase or annual cropping intensity. Before and after data is presented for rice production, with no defensible argument for the attribution of project results. The project's impact on household income was not directly measured. Instead, a change in the percentage of people on the poverty line was presented. This indicator does not properly inform on the magnitude of changes to household incomes in the area.

40. In general, the DMF used mostly indicators related to physical progress of civil works and participation on capacity building trainings. These do not represent per se the actual project achievements at the sector level. Indicators such as infrastructure use, water availability or behavior changes as a result of training³⁹ are more appropriate. Similar problems arise with indicators related to the establishment of O&M associations for rural roads and irrigation schemes. The creation of these institutions per se does not guarantee the actual implementation of their functions.

B. Comments on Project Completion Report Quality

41. The PCR covered most of the requirements necessary under the PCR guidelines. A comprehensive amount of information was collected; however, this information was scattered in different sections of the document, reducing the clarity of presentation. The PCR made little mention of safeguards. Some aspects that can be improved are: (i) further discussion and update on environmental management; (ii) providing a rating for the development impacts of the project; (iii) an assessment on the adequacy of the proposed DMF at project design; (iv) a review and assessment of the technical assistance; and (v) providing additional justification for the ratings on the basis of a sector project financing modality.⁴⁰ In addition, the lessons and recommendations provided could have been more complete in their reasoning. The arguments presented to assess two of the core performance criteria needed to be more convincing. Overall, this validation considers the quality of the PCR satisfactory.

C. Data Sources for Validation

42. Data sources for this validation were the PCR, the Report and Recommendation of the President, TA documents, and back-to-office reports and aide memoire relating to loan review missions and the MTR mission. The Cambodia Country Partnership Strategies for 2005–2009 and 2014–2018 were also reviewed. Internal IED safeguard assessment was also available as reference for this validation.

³⁸ Data on the incidence of water-borne diseases could have been presented.

³⁹ For instance, adoption of new agricultural practices.

⁴⁰ For example, the adequacy of representative subprojects identified at project design should have been discussed. Similarly, the EIRR could have been recalculated for subprojects at design.

D. Recommendation for Independent Evaluation Department Follow-Up

43. This validation recommends the elaboration of a project performance evaluation report to observe project impacts and whether these are sustainable. The project performance evaluation Report should focus on assessing changes in poverty rates, household incomes, agricultural productivity, and environmental and gender aspects attributable to project outputs. An assessment on the use of rural infrastructure, the availability of funds for its O&M, and the functioning of FWUGs should also be included.