

**Validation Report**  
March 2021

# Cambodia: Flood Damage Emergency Reconstruction Project and Additional Financing

Reference Number: PVR-755  
Project Number: 46009-001  
Loan Numbers: 2852 and 3125  
Grant Number: 0285



*Raising development impact through evaluation*

## ABBREVIATIONS

ADB	– Asian Development Bank
AWS	– automatic weather station
DDIS	– detailed design, implementation, and supervision
DMF	– design and monitoring framework
EIRR	– economic internal rate of return
FWUC	– farmer water user community
GAP	– gender action plan
ha	– hectare
km	– kilometer
MEF	– Ministry of Economy and Finance
MOWRAM	– Ministry of Water Resource and Meteorology
O&M	– operation and maintenance
PCMU	– project coordination management unit
PIU	– project implementation unit
PCR	– project completion report
TA	– technical assistance

## NOTE

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

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## PROJECT BASIC DATA

Project number	46009-001	PCR circulation date	6 Oct 2020	
Loan/Grant numbers	2852, 3125, <sup>a</sup> 0285	PCR validation date	Mar 2021	
Project name	Flood Damage Emergency Reconstruction Project and Additional Financing			
Sector and subsector	Agriculture, natural resources, and rural development	Irrigation Rural water policy, institutional and capacity development		
Strategic agenda	Environmentally sustainable growth Inclusive economic growth			
Safeguard categories	Environment		B	
	Involuntary resettlement		B	
	Indigenous peoples		C	
Country	Cambodia		Approved (\$ million)	Actual (\$ million)
ADB financing (\$ million)	ADF: 130.00	Total project costs	157.86	142.60
	OCR: 0.00	Loans	130.00	119.31
		2852	55.00	51.64
		3125	75.00	67.67
		Borrower	15.93	11.61
		Beneficiaries	0.00	0.00
	Others	0.00	0.00	
Cofinanciers	Government of Australia	Total cofinancing G0285 (SF)	11.93 5.25 6.68	11.68
Approval Date L2852 L3125 G0285 (SF for G0285)	27 Mar 2012 11 Apr 2014 27 Mar 2012 11 Apr 2014	Effectiveness date L2852 L3125 G0285 (SF for G0285)	3 Jul 2012 22 Jul 2014 3 Jul 2012 22 Jul 2014	14 May 2012 30 May 2014 14 May 2012 30 May 2014
Signing Date L2852 L3125 G0285 (SF for G0285)	4 Apr 2012 23 Apr 2014 4 Apr 2012 23 Apr 2014	Loan closing date L2852 L3125 G0285 Financial closing date L2852 L3125 G0285	30 Sep 2015 30 Sep 2017 30 Sep 2015	30 Sep 2015 30 Jun 2018 30 Jun 2018  10 Mar 2016 21 Feb 2019 21 Feb 2019
Project Officers	N. Ouk P. Long	Location CARM CARM	From 14 May 2012 14 Mar 2012	To 21 Feb 2019 21 Feb 2019
IED review Director Team Leader	N. Subramaniam, IESP S. Takahashi, Evaluation Specialist, IESP <sup>b</sup>			

ADB = Asian Development Bank, ADF = Asian Development Fund, CARM = Cambodia Resident Mission, IED = Independent Evaluation Department, IESP = Sector and Project Division, OCR = ordinary capital resources, PCR = project completion report, SF = supplementary financing.

<sup>a</sup> Additional financing.

<sup>b</sup> Team members: H. Hettige (Quality Reviewer), F. De Guzman (Senior Evaluation Officer), E. Lopez-Dee and G. Morgan (Consultants).

## I. PROJECT DESCRIPTION

### A. Rationale

1. In 2011 and 2013, Cambodia suffered from extensive floods causing widespread damages to property and public infrastructure, including roads and irrigation systems, apart from the loss of human lives. The damages were estimated at \$376 million in 2011 and \$356 million in 2013. The destruction brought about by the flooding severely affected economic activities.

2. In March 2012, Asian Development Bank (ADB) approved a combined loan and grant to finance the implementation of this project –Flood Damage Emergency Reconstruction Project, to quickly restore key economic activities in provinces seriously impacted by floods in 2011.<sup>1</sup> The project aimed to restore and rehabilitate critical and social infrastructure assets, such as national and provincial roads, rural roads, and irrigation schemes, to their original standards. It targeted six severely flood-affected provinces: Banteay Meanchey, Battambang, Kampong Cham, Kampong Thom, Prey Veng, and Siem Reap. During the initial phase of the project's implementation, the country was hit again by more intense flash floods in September and October 2013, which inundated 20 of its 24 provinces. Following a request from the Government of Cambodia, additional financing was approved for the same interventions in five out of the six provinces covered by the project, along with the province of Oddar Meanchey.<sup>2</sup>

### B. Expected Impacts, Outcome, and Outputs

3. With the additional financing (para. 2), a revised design and monitoring framework (DMF) was adopted which specified the expected project impact as accelerated economic and social recovery from the floods in the project provinces. Its revised targeted outcome was the reconstruction of critical infrastructure to restore livelihoods and access and protection against future flooding. The project had four components: (i) rehabilitating and reconstructing damaged national and provincial roads, (ii) reconstructing damaged rural roads, (iii) rehabilitating irrigation facilities and improving flood management, (iv) efficiently manage and monitor the project.<sup>3</sup> The impact, outcome, and output indicators in the revised DMF were substantively similar to those of the project except for rightfully treating improved agricultural productivity as an impact indicator instead of an outcome indicator. The changes were mainly due to new timelines and cumulative outputs of the additional financing.

### C. Provision of Inputs

4. Two loans from ADB's special resources fund, each paired with an ADB-administered grant from the Government of Australia, were extended to the Government of Cambodia. The ADB Board approved the first loan (\$55 million) and grant (\$5.3 million) for the project which

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<sup>1</sup> ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Grant to the Kingdom of Cambodia: Flood Damage Emergency Reconstruction Project*. Manila.

<sup>2</sup> ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Loan for Additional Financing and Administration of Grant for Additional Financing to the Kingdom of Cambodia: Flood Damage Emergency Reconstruction Project*. Manila

<sup>3</sup> The 2012 and 2014 RRP's of ADB proposed the restoration of flood-damaged infrastructure into three stages. Stage 1 concerned the immediate repair to reestablish use of the infrastructure and restore minimum functioning levels at government's cost to reestablish use of infrastructure and restore minimum functioning levels. Stage 2 pertained to the fast-tracking of repairs to secure undamaged works and avoid more extensive damage during the rains. Stage 3 was geared to continue the remaining flood damage restoration to complete the remaining damage repairs within the following two dry season construction periods. Stage 2 and 3 subprojects were funded by the project.

became effective in May 2012, 2 months ahead of schedule. The loan was closed in September 2015 as planned. ADB approved the additional financing for the project comprising a \$75 million loan and a grant of \$7.6 million in April 2014, which became effective in May 2014. The project was closed in June 2018 after a 9-month extension to be able to utilize savings for national and provincial roads upgrading and the rehabilitation of essential portions of a few irrigation schemes.

5. The original total project cost was estimated at \$157.9 million, comprising two ADB loans and a grant from the Government of Australia. The government was to contribute \$15.9 million. The actual project cost was \$142.6 million or 9.7% lower than the estimate. The project completion report (PCR) noted that the difference could be attributed to small loan cancellations and the reduced ADB loan due to special drawing rights depreciation against the US dollar.<sup>4</sup> The government contribution was \$11.6 million.

6. After loan effectiveness, three consulting firms which had worked on ADB-funded projects before were contracted for 756 person-months of consulting services for detailed design, implementation, and supervision (DDIS). Each firm was paired with a specific project implementing agency.<sup>5</sup> These firms were immediately deployed to urgently support design and pre-construction works and supervise construction. For overall coordination and management, 156 person-months of individual consulting services (two international and four national consultants) were procured to support the Ministry of Economy and Finance (MEF). Consultant support was extended with the additional financing to support the project coordination and management unit (PCMU). At completion, \$12.94 million was spent on consultant support against the budgeted amount of \$12.89 million. There were no major issues in recruiting DDIS and individual consultants. The PCR assessed the performance of the firms and individual consultants satisfactory.

7. The project was classified as “some gender element” requiring a Gender Action Plan (GAP) and the appointment of gender focal points within three agencies to implement and monitor the GAP for three respective outputs. On safeguards aspects, the project was category B for environment. It developed an Environmental Assessment Regulatory Framework, which provided guidance to prepare the initial environmental examinations and environmental management plans required in subsequent subprojects. The project was category B for involuntary resettlement. A Resettlement Policy Framework was formulated to address land acquisition needs of the subprojects. The project was category C for indigenous peoples as indigenous communities did not reside in the subproject areas. A grievance redress mechanism was developed for each subproject and was effectively used.

#### **D. Implementation Arrangements**

8. The executing agency for the project was the MEF. It was to provide overall management and coordination through a project management coordination committee comprising the MEF and three specialized implementing agencies. Likewise, project implementation units (PIUs) were established to implement the project, i.e., the Ministry of Public Works and Transport (MPWT) for national and provincial roads, the Ministry of Rural Development for rural roads, and the Ministry of Water Resource and Meteorology (MOWRAM)

<sup>4</sup> ADB. 2020. *Completion Report: Cambodia: Flood Damage Emergency Reconstruction Project and Additional Financing*. Manila.

<sup>5</sup> These firms were supporting the implementation of Loan 2406-CAM: Road Asset Management Project; Loan 2035-CAM: Northwest Irrigation Project; and Loan 2670-CAM: Rural Roads Improvement Project.

for irrigation and flood management. As the MEF took charge of component 4, a PCMU was established within the MEF to monitor and coordinate project implementation. The implementation arrangements were appropriate and remained unchanged during implementation.

9. Prior to approval, ADB provided two small-scale development technical assistance (TA), each amounting to \$225,000 million to facilitate loan and grant document preparations and start-up activities.<sup>6</sup> Given the urgency of the interventions required, the TAs facilitated timely project design and emergency infrastructure reconstruction.<sup>7</sup>

10. The emergency nature of the project carried risks in procurement and financial management systems. The implementation arrangements mitigated such risks through the support in strengthening the executing and implementing agencies' capacities for procurement and financial management and monitoring and enforcing procurement procedures and contracts. The project procured 44 (33 civil works and 11 goods contracts) and 42 contracts (39 civil works, 1 goods and 2 equipment contracts), which were in line with ADB's procurement guidelines and anti-corruption policy, ADB's Disaster Emergency Assistance Policy, and the government's procurement rules.<sup>8</sup>

11. There were 63 loan covenants (36 for the project and 27 for additional financing), of which 60 were complied with. Of the three covenants partially complied with, two pertained to the government's provision of annual operation and maintenance (O&M) funds. The PCR indicated the government's commitment to include ADB-financed subprojects in the O&M inventory list. The other referred to the inclusion of an independent auditor's opinion on the use of loan proceeds in the annual audited financial statements. The government complied with this covenant on its final audited project financial statements.

## II. EVALUATION OF PERFORMANCE AND RATINGS

### A. Relevance of Design and Formulation

12. The PCR assessed the project highly relevant on the grounds that the project substantively responded to the pressing needs in a timely manner and restored critical public and social infrastructure in the targeted areas. The project was in line with the disaster management strategy of Cambodia's National Committee for Disaster Management. The project's targeted outcome remained relevant throughout the implementation and in step with the Rectangular Strategy for Growth, Employment, Equity and Efficiency (Phase III, 2013–2018),<sup>9</sup> which reaffirmed the government's commitment to sustainable development and poverty reduction. The project was directly aligned with ADB's Disaster Emergency Assistance Policy,<sup>10</sup> which supports emergency projects to mitigate immediate losses to priority assets,

<sup>6</sup> ADB. 2012. *Technical Assistance to the Kingdom of Cambodia for Advance Actions for the Flood Damage Emergency Reconstruction Project*. Manila; and ADB. 2014. *Technical Assistance to the Kingdom of Cambodia for Advance Actions for the Flood Damage Emergency Reconstruction Project – Additional Financing*. Manila. Each TA provided 4.5 person-months of an individual international consultant and 20 person-months of individual national consultants.

<sup>7</sup> Royal Government of Cambodia's requests for assistance were dated 2 November 2011 and 21 October 2013.

<sup>8</sup> ADB. Procurement Guidelines 2007 (as amended) and ADB. Anticorruption Policy (1998 as amended to date).

<sup>9</sup> Royal Government of Cambodia. 2013. *Rectangular Strategy for Growth, Employment, Equity and Efficiency Phase III of the Royal Government of Cambodia of the Fifth Legislature of the National Assembly*. Phnom Penh.

<sup>10</sup> Approved in 2015, this policy emphasizes not only responding after the disaster strikes, but also supporting activities that anticipate and mitigate the likely impact of disasters that might occur.

capacity, and productivity. Guided by the damage and loss assessments carried out immediately by the government and development partners, the project reconstructed a prioritized flood-damaged national, provincial rural roads and irrigation infrastructure that could be more resilient to natural hazards. The country's vulnerability to natural disasters was highlighted in the country poverty analysis, as elaborated in the ADB's country partnership strategy (CPS) 2011–2013.<sup>11</sup>

13. The project focused on the most severely flood-affected areas and involved project beneficiaries, including women. This project design had a sound results chain with clear linkages between outcome, outputs, and inputs. The DMF indicators were appropriate in measuring performance and had specific baselines and targets at all levels. Also, the unanticipated small loan reallocations and slight changes in scope were managed promptly to help generate better results.

14. The PCR indicated that the project design included the installation of hydromet and automatic weather stations (AWS) under the additional financing in 2013. These were to be used for future flood warning equipment and such activities were applied to subsequent ADB projects.<sup>12</sup> The project's relevance was reinforced when the government requested additional urgent assistance to support relief, rehabilitation, and reconstruction of infrastructure damaged by the 2013 floods.

15. Nonetheless, this validation notes a few design issues. First, it is not clear whether adequate need assessment of the subcomponent was conducted. The needs assessment report in 2014 did not touch adequately on the need for installing hydromet stations (LD13, AF RRP). The PCR also did not provide such information.

16. Second, project outputs, including the hydrometeorological stations, naturally require institutional commitment and O&M plans with strong capacities of implementing agencies at national, provincial, and local levels. The PCR did not indicate that such institutional capacity and commitments are warranted, and how prepared the concerned agencies were, in terms of operating these facilities. In addition, the PCR did not state whether the installation of these facilities was backed-up by corresponding training activities. This is an important aspect of the design, given the subcomponent activity was the first pilot experience for the implementing agency (MOWRAM).

17. Under the main purpose of the emergency assistance and its additional financing, a considerable part of the loan was designed to finance the rehabilitation and repair of damaged infrastructure. This project modality is appropriate. Also, the project had a sound results chain. However, given the design issues, this validation assesses the project relevant.

## **B. Effectiveness in Achieving Project Outcomes and Outputs**

18. The PCR rated the project highly effective. The DMF identified two indicators for the outcome, three each for the three civil works components, and four for the project management component. All the targets were achieved and some exceeded. For the first indicator of the outcome, 100% of subprojects were reconstructed (against the 90% projected) with better pavements including double bituminous surface treatment, road roughness was reduced, and

<sup>11</sup> ADB. 2011. *Country Partnership Strategy: Cambodia, 2011–2013*. Manila.

<sup>12</sup> ADB Southeast Asia Department. 2021. Interdepartmental Review Comments on the validation of PCR of Cambodia: Flood Damage Emergency Reconstruction Project and Additional Financing. 20 January (internal).

travel time returned and better by 2018. For the remaining outcome indicators, travel times were 0.6 times of pre-flood levels and the productivity increased by 7.5%, both by 2015, while the envisaged average travel times on project roads and agriculture productivity returned to pre-flood levels.

19. The PCR indicated that under output 1, all three output indicators were achieved: 167.5 kilometers (km) of flood-damaged national and provincial roads, 13 bridges for improved cross drainage, and 357 culverts were reconstructed (target: 189 km of roads and eight bridges),<sup>13</sup> and about 33% of unskilled labor hired through component 1 were women (target: 30%). Under output 2, flood-damaged rural roads reconstructed and upgraded reached 721 km of concrete and laterite roads, surpassing the target of 707 km. These included the unplanned bridges and 183 culverts designed to improve cross drainage systems and reduce flood risks. Average decrease of roughness of rural roads recorded at completion was at 7 from 14 (as targeted). Women comprised 31% of the unskilled labor employed (target: 25%–30%). Under output 3 (para. 3), one target was exceeded, and two targets were achieved. All 35 targeted flood-damaged irrigation systems were rehabilitated, bringing a larger irrigation area of 69,157 hectares (ha) (43,560 ha for wet season cropping and 25,597 ha for dry season cropping), or about 111% of the target. Also, the 10 hydrological stations and 8 AWSs were installed as planned. The PCR estimated that 93,740 farmers directly benefited from the rehabilitation works with over 50% of the beneficiaries being women. Under output 4, project management and monitoring were conducted as planned within budget. For monitoring purposes, all PIUs collected and reported sex-disaggregated data. All PIU staff participated in training on gender mainstreaming in infrastructure projects.

20. The monitoring reports show that all civil works were completed, some of which underwent variation orders. These generated the desired effects for the flood-affected population. Rehabilitated national/provincial and rural roads restored connectivity between farms and markets and promoted access to schools, health centers and other government services at reduced travel time and cost. Average yield of all irrigation schemes increased from 3.2 tons/ha in 2011 to 3.6 tons/ha in 2018. A total of 4,116 farmers, including 42% of them being women, joined O&M training of rehabilitated irrigation schemes. However, it is not clear if the improved agricultural productivity was directly due to the irrigation under the project,<sup>14</sup> compared with reduced travel time and vehicle operating costs (VOC) which could be directly attributed to improved road conditions. The PCR stated that not all project provinces reported increases in the volume of produced paddy.

21. The GAP of the project helped achieve the employment targets for women in all civil works and generate some indirect benefits for women, elderly, and children in terms of enhancing access to public services, additional income from small businesses operated by women, and improved agricultural productivity. No issues in the implementation of safeguard plans were reported. The PCR indicated that there were no environmental issues or issues of noncompliance. The negative environmental impacts generated from civil works implementation were short-term and manageable, and were properly mitigated. In the absence of the need for involuntary resettlement, all subprojects ended up being classified category C instead of category B. Given the achievements including some that exceeded targets, this validation assesses the project highly effective.

<sup>13</sup> According to the PCR, the project justifiably went for a slightly shorter road with the more expensive double bituminous surface treatment on longer sections rather than laterite pavement for better quality, longer life, and greater resistance to flooding.

<sup>14</sup> Other sources of growth in yields could be the use of better-quality seeds, increased volume of fertilizer, and pesticide applications.

### **C. Efficiency of Resource Use**

22. The PCR rated the project highly efficient. At appraisal, economic analysis was not conducted to estimate economic internal rates of return (EIRRs) of this emergency assistance project. Notwithstanding this, the PCR carried out an economic analysis of all subprojects under the project and its additional financing. The overall EIRRs at completion were 35.9% for the national/provincial road restoration subprojects, 27.2% for rural roads restoration subprojects, and 26.1% for irrigation, flood control and flood management subprojects. Their respective net present values (NPVs) at a discount rate of 12% were calculated at \$107 million, \$2.6 million and \$12.2 million. The overall combined EIRR and NPV reached 32.9% and \$122 million, respectively. However, this validation observes several limitations in the EIRRs recalculation.

23. First, the benefit streams identified were savings in VOC and travel time from national/provincial and rural roads subprojects and increased agricultural crop production from the improved irrigation systems. However, the PCR was silent on how these benefits from all subprojects originally priced in their financial terms were translated into their economic values. What also needs to be explained are the alternating positive and negative values in the benefit streams of the rural road subprojects. Second, the economic cost streams included financial capital/construction costs revalued by a standard conversion factor (SCF) of 0.92,<sup>15</sup> incremental economic maintenance costs provided by MPWT, and the \$10 per hectare O&M cost for irrigation, flood control and management infrastructure provided by the farmer water use communities (FWUCs). The SCF was arbitrarily chosen to convert the total financial prices of capital/construction costs into their economic terms and ignored the fact that such costs have traded components (e.g., equipment, fuel) whose financial prices were already deemed equal to their economic prices. Third, all civil works components targeted employing women for 25%–30% for their unskilled labor requirements. This could imply that significant levels of unemployment or underemployment among women were in the subproject areas. As such, an appropriate shadow wage rate for unskilled labor should have been used. In addition, sensitivity analysis was not conducted to test the robustness of these estimates. Given these methodological limitations, the re-evaluation was not very sound.

24. There were process inefficiencies during project implementation. The project had good start-up in 2012. However, the project experienced delays in disbursement during second quarter (Q2) and Q3 of 2013. The delayed disbursement was mainly due to the need of rebidding large civil works contracts in late 2012–2013. Inappropriate qualification criteria designed by the executing agency resulted in no bidder at a point in time. This caused delays in contract awards and subsequent implementation progress.

25. The PCR emphasized the high EIRR. However, an emergency assistance project does not require thorough EIRR and thus, EIRR is not the only basis for assessment. In view of the delay in disbursement, a high process efficiency could not be justified. The project is assessed efficient.

### **D. Preliminary Assessment of Sustainability**

26. The PCR rated the project likely sustainable. PCR indicated that despite the O&M budget being allocated, about 12% of laterite rural road sections and 20% of irrigation schemes began to show signs of deterioration. This validation recognizes that much of the longer-term viability and environmental sustainability of the project admittedly depends on the ability of the FWUCs to step

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<sup>15</sup> The PCR says this is consistent with previous economic evaluation of road projects in Cambodia.

up and raise enough irrigation service fees (ISFs) as new farming techniques and practices are required and promoted.<sup>16</sup> The subpar performance of many FWUCs to generate O&M funds from within their membership potentially limits sustainability. For all completed infrastructure works, a situation where O&M funds are suboptimally provided compromises the sustainability of the outcome. Notwithstanding, this validation places weight on the main purpose of the emergency assistance project that is the immediate and rapid restoration of damaged structures and interrupted activities. On the whole, the project is assessed likely sustainable.

### **III. OTHER PERFORMANCE ASSESSMENTS**

#### **A. Preliminary Assessment of Development Impact**

27. The PCR rated the impact highly satisfactory. The project and its additional financing had significant impacts on the socioeconomic conditions of the target beneficiaries. Average traffic levels on project roads were 1.5 times and 1.8 times of pre-flood levels by 2018 and 2020, respectively. The post-completion survey results reported increased cropping intensities and higher paddy yields, thus causing paddy supply volume to increase and enhancing food security in flood affected areas. The percentage of paddy farmers reporting two cropping seasons/year rose from 24.3% to 35.1% while overall paddy yields increased by 12.5% (from 2011 to 2018). Dry season paddy yields rose to 3.72 tons/ha from 3.08 tons/ha while wet season paddy yields improved to 1.96 tons/ha at completion from 1.57 tons/ha. Meeting these performance targets showed enhanced living conditions of the beneficiaries, as reflected in restored household income, eased transport of agricultural goods and inputs, reduced travel time and transport cost. Other positive externalities reported were easier access to social and health services and schools. The expected project outputs conformed with ADB's results framework on facilitating trade and movement of goods and services through shorter travel times and lesser transport costs, more effective irrigation systems and improved water resource generation and management. However, due to the concerns on sustainability, this validation assesses the project impact satisfactory and not highly satisfactory.

#### **B. Performance of the Borrower and Executing Agency**

28. The PCR rated the performance of borrower, executing agency, and implementing agencies highly satisfactory. It noted the implementing agencies' commitment to complete the project primarily by providing on-time counterpart funds, deploying and training seconded technical staff and contractors, complying with procurement procedures, maintaining and effectively managing the imprest accounts for the project, and providing timely and adequate financial reporting. The borrower directed the project through a high-level interdepartmental PCMU. The PCR also acknowledged the establishment of a performance monitoring system which enabled the collection of the required gender-disaggregated data and the conduct of benefit monitoring and evaluation. However, these accomplishments could not be regarded as extraordinary in nature. The tasks or activities were routine and were part of the implementing agencies' respective mandates. This validation assesses the performance of the borrower, the executing and implementing agencies satisfactory.

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<sup>16</sup> PCR, para. 37: "Maintenance requirements have been assisted through subsequent ADB and donor assistance, as well as the government's annual O&M budget to address the sustainability issues. There remains uncertainty, however, concerning sustainable funding levels for MOWRAM irrigation schemes."

### C. Performance of the Asian Development Bank and Co-financier

29. The PCR rated the performance of ADB satisfactory. ADB was prompt in developing the needed emergency response interventions after receiving the government's request for assistance. It carried out 10 review missions jointly with representatives from its co-financier, a final review mission, and a project completion review mission with an aggregate level of effort equivalent to 222 person-days. These missions were undertaken on a regular basis so that project progress could be tracked and reviewed closely. The PCR indicated that ADB closely coordinated with MEF and the implementing agencies for the timely fielding of review missions, timely issuance of no-objection letters to bidding documents, approval of contract awards, variations, and schedules, and fund reallocations. ADB, guided by the results of these review missions, swiftly supported advance actions for stage 2 civil works, implemented time-bound procedures by which procurement processes and overall project implementation could be fast-tracked. It was responsive to government requests for timely approvals on the reallocation of loan proceeds and loan closing date extension to complete much needed upgrading civil works of the project. This validation assesses the performance of ADB satisfactory.

## IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

### A. Overall Assessment and Ratings

30. The PCR rated the project highly successful. The table below shows the comparison of rating components given by the PCR and this validation. Overall, this validation assesses the project successful.

**Overall Ratings**

<b>Validation Criteria</b>	<b>PCR</b>	<b>IED Review</b>	<b>Reason for Disagreement and/or Comments</b>
Relevance	Highly relevant	Relevant	Design issues.
Effectiveness	Highly effective	Highly effective	
Efficiency	Highly efficient	Efficient	Methodology limitations, delays in disbursement.
Sustainability	Likely sustainable	Likely sustainable	
<b>Overall Assessment</b>	<b>Highly successful</b>	<b>Successful</b>	
Preliminary Assessment of Impact	Highly satisfactory	Satisfactory	Favorable impact thus far achieved could be compromised by O&M funding uncertainties.
Borrower and executing agency	Highly satisfactory	Satisfactory	The tasks implemented by agencies were part of their respective mandates, not additional ones.
Performance of ADB	Satisfactory	Satisfactory	
Quality of PCR		Satisfactory	Para. 36

ADB = Asian Development Bank, EIRR = economic internal rate return, FWUC = farmer water user community, IED = Independent Evaluation Department, ISF = irrigation service fee, MOWRAM = Ministry of Water Resources and Meteorology, O&M = operation and maintenance, PCR = project completion report.

Source: ADB (IED).

## **B. Lessons**

31. The PCR identified seven lessons: First, consultation with local authorities and communities at the subproject preparation stage is very useful, given their stock knowledge of the conditions in their areas. Second, a loan agreement to undertake any emergency rehabilitation project needs to have a sustainability provision. Third, a climate-resilient infrastructure is needed with design standards and materials specification for subprojects in flood-prone areas to adapt to water flow during flooding period. Fourth, building adequate cross drainage at appropriate water outlets reduces the impact of floodwaters on road subprojects. It is crucial to secure O&M budget for rural roads. Fifth, data generated by MOWRAM's hydromet and AWSs need to be easily accessible for climate change monitoring. Sixth, future road and irrigation subprojects in areas that experience frequent and deep flooding need to be accorded low priority. Seventh, O&M manuals for effective maintenance of irrigation systems need to be disseminated to provincial offices of MOWRAM and FWUCs with continued capacity building program for FWUCs as part of O&M planning.

32. This validation offers two additional lessons. First, determining the appropriate flexibility, in project design and institutional arrangements, facilitates smooth implementation of an emergency assistance project. For example, ascertaining the extent of flexibility on procurement procedures, including the use of consultants and financing guidelines for government agencies, are vital considerations in a post-disaster reconstruction project. This is important especially when multiple government ministries and implementing agencies are involved in the implementation of key infrastructure components.

33. Second, leveraging the borrower and executing agencies' capacities is critical for an effective response to post-emergency and disaster situation. Post-disaster recovery requires strong institutions developed through staff trainings on managerial, technical, and administrative aspects. Enhanced capacity of agencies is crucial to better manage financing and to maintain project outputs. Thus, strengthening their capacities on the ground needs to be built early on to help enhance their responsiveness during post-disaster recovery periods.

## **C. Recommendations for Follow-Up**

34. The PCR enumerated six recommendations, which are more of lessons.<sup>17</sup> For instance, the recommendation that loan and grant covenants should include sustainability aspects appeared more of a lesson and no follow-up action is needed to sustain the project's gains and deepen its impact. This validation notes that such sustainability concerns had already been subsumed in the covenants when the borrower was tasked to provide adequate budgetary and other resources for the O&M of facilities financed by the project (Loan Agreement, Schedule 5, para. 18) and to comply with the risk assessment and risk mitigation plan (Loan Agreement, Schedule 5, para. 15). The PCR listed a single recommendation for follow-up action that this validation supports. Also, the validation recommends other follow-up actions, particularly on the need to ensure the availability of funds for the sustained O&M of the completed subprojects, conditions for the continuing transfer of irrigation schemes to the FWUCs in light of their attempt to generate adequate ISF for O&M, and conditions for improved women's participation in the FWUCs to further mainstream gender issues in infrastructure construction and O&M activities.

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<sup>17</sup> Footnote 4, para. 47–50.

## **V. OTHER CONSIDERATIONS AND FOLLOW-UP**

### **A. Monitoring and Reporting**

35. The PCMU established the project performance monitoring and evaluation system. It functioned as planned, using the targets, indicators, assumptions and risks identified in the DMF. Monitoring and reporting covered, among other things, compliance with loan, environmental and resettlement provisions, procurement information, and financial management arrangements. Quarterly and annual progress reports were thorough and submitted on time. From the 2012 in-depth post-flood household assessments that measured food security, nutrition, health and livelihood indicators among a representative sample of flood-affected households as baseline, the PCMU collected and reported sex-disaggregated data as directed. A post-completion survey enabled the PCMU to monitor changes that could have been brought about by the restoration of flood-damaged roads and irrigation systems.

### **B. Comments on Project Completion Report Quality**

36. The PCR provided candid presentations and detailed analyses of the various implementation issues and the intended results, particularly on project effectiveness. It drew much from the results of the end-line survey; thus allowing it to provide conclusions on the project's sustainability and impact. The lessons related to participatory infrastructure planning and development, subproject selection and prioritization, project management and gender issues were logically drawn up from the findings of the report. The economic reevaluation was helpful, but the assumptions were wanting in clarity (Appendix 9). Also, the assessment of sustainability was not well supported by evidence-based information. Overall, this validation assesses the quality of the PCR satisfactory.

### **C. Data Sources for Validation**

37. This validation used the following data sources: the Report and Recommendation of the President, PCRs of ADB and the government, review mission reports, country policies and strategies, CPS, and the project's safeguard assessments.

### **D. Recommendation for Independent Evaluation Department Follow-Up**

38. This validation recommends a project performance evaluation in 2024. By this time, more socio-economic data could be available for a more thorough assessment of the project's sustainability, including its outcomes and flood protection. The scope of the proposed project performance evaluation could include an assessment on the status of roads and bridges, and sustained usability of hydromet and AWSs, and possible improvements on ISF collection.