

Project Administration Manual

INTERNAL

Project Number: 55197-001
Loan Numbers: XXXX, XXXX,
Grant Number: XXXX
TA Number: XXXX
October 2024

Kingdom of Cambodia: Integrated Water Resources
Management Project

ABBREVIATIONS

ADB	–	Asian Development Bank
AHS	–	automatic hydrological stations
AIIB	–	Asian Infrastructure Investment Bank
AWD	–	alternative wetting and drying
AWS	–	automatic weather stations
COVID-19	–	coronavirus disease
CPP	–	community participation plan
DIMDM	–	Department of Internal Monitoring and Data Management
DRP	–	detailed resettlement plan
EHS	–	environment, health and safety
EMA	–	external monitoring agency
EMP	–	environmental management plan
FM	–	financial management
FWUC	–	farmer water user community
GAP	–	gender action plan
GDR	–	General Department of Resettlement
GFP	–	gender focal point
GMAG	–	gender mainstreaming action group
GMSP	–	gender mainstreaming strategic plan
GRM	–	grievance redress mechanism
ha	–	hectare
IEE	–	initial environment examination
IP	–	indigenous people
IR	–	involuntary resettlement
IS	–	irrigation scheme
ITP	–	independent third party
IWRM	–	integrated water resources management
LAR	–	land acquisition and involuntary resettlement
MOWRAM	–	Ministry of Water Resources and Meteorology
NDC	–	nationally determined contribution
O&M	–	operation and maintenance
PDWRAM	–	Provincial Department of Water Resources and Meteorology
PMIC	–	project management and implementation consultant
PMU	–	project management unit
PPMS	–	project performance monitoring system
QPR	–	quarterly progress report
RBC	–	river basin committee
RBMP	–	river basin management plan
RF	–	resettlement framework
TA	–	technical assistance
TOR	–	terms of reference
TSL	–	Tonle Sap Lake
VLD	–	voluntary land donation
WBWS	–	willing buyer / willing seller
WRM	–	water resources management

CONTENTS

	Page
I. PROJECT DESCRIPTION	1
A. Rationale	1
B. Project Description	1
II. IMPLEMENTATION PLANS	6
A. Project Readiness Activities	6
B. Overall Project Implementation Plan	7
III. PROJECT MANAGEMENT ARRANGEMENTS	9
A. Project Implementation Organizations: Roles and Responsibilities	9
B. Key Persons Involved in Implementation	13
C. Project Organization Structure	14
IV. COSTS AND FINANCING	16
A. Cost Estimates Preparation and Revisions	17
B. Key Assumptions	17
C. Allocation and Withdrawal of Loan and Grant Proceeds	17
D. Contract and Disbursement S-Curve	18
E. Fund Flow Diagram	21
V. FINANCIAL MANAGEMENT	21
A. Financial Management Assessment	21
B. Disbursement	23
C. Accounting	25
D. Auditing and Public Disclosure	25
VI. PROCUREMENT	26
A. Applicable Procurement Policy	26
B. Procurement Strategy Summary	26
C. Project Procurement Risk Classification	27
D. Project Implementation Arrangements	27
E. Procurement Plan	28
VII. SAFEGUARDS	29
A. Environment	29
B. Involuntary Resettlement	29
C. Indigenous Peoples	33
VIII. GENDER EQUALITY AND SOCIAL DIMENSIONS	33
IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION	39
A. Monitoring	39
B. Evaluation	41
C. Reporting	41
D. Stakeholder Communication Strategy	41
X. ANTICORRUPTION POLICY	47
XI. ACCOUNTABILITY MECHANISM	47
XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL	48

APPENDIXES

1.	Design and Monitoring Framework	49
2.	Detailed Cost Estimates by Expenditure Category	53
3.	Detailed Cost Estimate by Financier	54
4.	Detailed Cost Estimate by Outputs	55
5.	Detailed Cost Estimate by Year	56
6.	Procurement Plan	57
7.	Terms of Reference	63
8.	Principles Requirements, Guidelines and Procedures on Voluntary Land Donation for Tertiary Canals Construction	78

Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and following the policies and procedures of the government and the Asian Development Bank (ADB). The PAM should reference all available templates and instructions either by linking to relevant URLs or by directly incorporating them in the PAM.

The purposes of the PAM are to (i) share the project status with ADB's and the government's project teams, (ii) identify the contact persons to facilitate communication and coordination between ADB and the government, and (iii) facilitate preparation of the project completion report. The PAM will be useful for new project members to understand the project status easily and communicate effectively with other members.

The Ministry of Water Resources and Meteorology (executing agency) and Battambang and Pursat provincial offices (implementing agencies) are wholly responsible for implementing ADB-financed projects, as agreed jointly between the borrower and ADB, and following the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation, including monitoring compliance by Ministry of Water Resources and Meteorology and Battambang and Pursat provincial offices of their obligations and responsibilities for project implementation following ADB policies and procedures and the loan and grant agreements.

At loan and grant negotiations, the borrower and ADB shall agree to the PAM and ensure consistency with the loan and grant agreements. Such agreement shall be reflected in the minutes of the loan and grant negotiations. In case of any discrepancy or contradiction between the PAM and the loan and grant agreements, the provisions of the loan and grant agreements shall prevail.

After ADB Board approval of the project's report and recommendation of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the project administration instructions) and upon such approval, they will be subsequently incorporated in the PAM.

I. PROJECT DESCRIPTION

A. Rationale

1. The project will strengthen climate and disaster resilience of livelihoods in the target river basin groups through climate-adaptive interventions under integrated water resources management (IWRM) principle. The interventions aim at: (i) strengthening planning, coordination, and climate change adaptation capacities of water resources management (WRM); (ii) increase in water supply capacity; and (iii) reduction in flood risks during wet season in Pursat and Sangker river basins in Pursat and Battambang provinces experiencing dwindling available water resources during dry season and increased flood disaster events, and vulnerable to the impacts of climate change.¹ The project's direct beneficiaries comprise approximately 72,230 people suffering from climate-induced drought risks and 54,700 people suffering from climate-induced flood risks. The project will stabilize food prices in Cambodia and support food security by increasing crop yields and reducing the crop damage through WRM interventions to increase the resilience to shocks resulting from climate change and disasters triggered by natural hazards and pandemics.

B. Project Description

2. The project will be aligned with the following impact: Cambodia's WRM made climate-adaptive and sustainable to support social and economic growth and protect ecosystem.² The project will have the following outcome: livelihoods in the target river basin groups made climate and disaster resilient through climate-adaptive IWRM.

3. The project will focus on the river basin groups covering rivers Moun Russey, Pursat, Sanker, and Svay Don Keo located in Pursat Province and Battambang Province in the southwest of the Tonle Sap Lake (TSL).³ These river basins were assessed as highly vulnerable to limited available water due to climate change impacts.⁴ In the target basin groups, expected changes to precipitation and temperature patterns will result in higher temperature and evapotranspiration and more rainless days in dry season, which will increase water demands in various sectors in dry season. Substantial increases in wet season rainfalls are also expected, increasing the risk of both riverine and lowland flash flooding events. The potential for increased peak water levels at the TSL further exacerbates this risk.

4. **Output 1: Planning, coordination, and climate change adaptation capacities of water resources management strengthened.** The project will help provinces (i) strengthen capacities of river basin committees (RBCs) for their efficient and effective WRM planning and coordination, and ensuring that their WRM planning will be climate change adaptive; (ii) develop climate-adaptive river basin management plans (RBMPs); (iii) develop climate-adaptive reservoir operation plans to optimize the benefits from water storage and release, and (iv) update river flow

¹ Asian Development Bank (ADB) provided transaction technical assistance for preparing the Integrated Water Resources Management. ADB. 2022. [Technical Assistance for Southeast Asia Agriculture, Natural Resources and Rural Development Facility](#).

² Government of Cambodia, MOWRAM. 2019. *Water Resources Management and Sustainable Irrigation Road Map and Investment Program 2019–2033*.

³ Beneficiaries will be in Bakan, Phnom Kravanh, and Veal Veng districts in Pursat Province, and in Rukhak Kiri and other districts to be identified during project preparation in Battambang Province.

⁴ ADB. 2021. [ADB Briefs No. 171 Surface Water Resources Assessment of the Tonle Sap and Mekong Delta River Basin Groups: Improving Climate Resilience, Productivity, and Sustainability](#).

management plans with water allocation rules.^{5,6} These plans will be updated or developed in consultation with key water user stakeholders. The project will help the National River Basin Management Committee provide RBCs with necessary support, particularly on the climate change adaptation aspects.⁷ The project will also (i) upgrade existing and install additional hydrometeorological monitoring stations with remote monitoring and data transmission systems; and (ii) develop and operate drought and flood forecasting and warning systems. Output 1 will also provide training to RBCs to increase their climate-adaptive WRM capacities and enable them to fulfill their function in their duties. The project will assist MOWRAM and two provinces in developing sustainable WRM operation and management strategies to ensure the long-term operation and maintenance (O&M) of the developed/upgraded WRM plans and infrastructure under outputs 2 and 3.

5. **Strengthening RBCs.** The RBC in Pursat River basin was established with the secretariat of its Provincial Water Resources and Meteorological Department (PDWRAM) under the project supported by the Japan International Cooperation Agency (JICA).⁸ Similarly, the RBC in Sangker River basin was established with the secretariat of its PDWRAM under the project supported by the Agence Française de Développement (AFD).⁹ The project will ensure that the RBCs and PDWRAMs will be gender responsive with female members in each, and strengthen their planning, coordination, climate adaptation capacities for efficient, effective, climate-adaptive, and sustainable WRM following the IWRM principle. The project will provide them with training programs, including on-the-job trainings, seminars, and workshops to enable them to obtain necessary knowledges and skills on the river basin planning, and operating and updating RBMP, climate adaptation measures and its incorporation in RBMP, and coordination with stakeholders.

6. **Development of RBMPs.** The target river basins were recently assessed as highly vulnerable to climate change impacts.¹⁰ Expected changes to precipitation and temperature patterns will result in more frequent short dry periods, which will increase water demands in various sectors in dry season. Substantial increases in wet season rainfalls are also expected, increasing the risk of both riverine and lowland flash flooding events. The potential for increased peak water levels at the TSL further exacerbates this risk. A few large-scale WRM infrastructure have been developed across the Sangker River in the last decade, such as the Sek Sork dam, Kanghot regulator in Battambang Province. A few large-scale WRM infrastructure are planned to be operated across the Pursat River in five years, such as the Pursat Dam 1. The project will help the two provinces, RBCs, and PDWRAMs develop RBMPs with the extension to the Moung Russey and Svay Don Keo rivers and incorporate the operation of those WRM infrastructures and projected climate-change impacts and risks in the RBMPs through providing consulting services.

7. **Development of climate-adaptive reservoir operation plans and updating river flow management plans.** In Pursat River, the Pursat dam 3 and Pursat dam 5 have been operating

⁵ The sub-decree of river basin management was issued by MOWRAM in 2015 to provide the basis for RBCs and operationalize the Law on Water Resources Management which set a framework of IWRM and river basin planning.

⁶ The development of the RBC and river flow management plan with water allocation covering river basins in Battambang Province was supported under a project financed by the Agence Française de Développement and the ones covering river basins in Pursat Province was supported under a project financed by the Japan International Cooperation Agency.

⁷ The National River Basin Management Committee was established in 2015, chaired by MOWRAM minister, with members from the ministries of Planning; Agriculture, Forestry and Fisheries; Environment; and Mines and Energy.

⁸ Japan International Cooperation Agency (JICA). River Basin Water Resources Utilization Project. The project was completed in 2019.

⁹ The project will be completed in June 2024.

¹⁰ ADB. 2021. [*ADB Briefs No. 171 Surface Water Resources Assessment of the Tonle Sap and Mekong Delta River Basin Groups: Improving Climate Resilience, Productivity, and Sustainability.*](#)

since 2016 for irrigation, and some large-scale barrages/headworks have been updated in the last decade, such as the Damnak Ampil headwork, Damnak Cheukrom headwork, Charek headwork for irrigation. In the next five years, the Pursat dam 1 will operate from 2026 for hydropower generation and flood mitigation and the Kbal Hong barrage will be remodeled under the project. In Sangker River, the Sek Sork dam has been operating since 2019 for irrigation and flood mitigation, and some large-scale barrages/headworks have been operating including Kanghot barrage for irrigation. Those WRM infrastructure built/upgraded in each river have been operating in an isolated manner with less coordination, and the dams operated have not fully performed their original functions. The project will help the two provinces, RBCs, and PDWRAMs develop climate adaptive reservoir operation plans to optimize the benefits from water storage and release. The project will also help them update river flow management plans with water allocation rules following the principle of the eco-friendly IWRM principle through providing consulting services. River flow management plans with water allocation plans have been developed under the projects supported by JICA and AFD (footnote 5). Those plans and rules will be developed or updated in consultation with stakeholders and be reflected in the RBMPs to be updated under the project.

8. Development and operation of drought and flood forecasting and warning systems.

The project will help the two provinces, RBCs, and PDWRAMs develop drought and forecasting and warning systems through providing consulting services, software, and necessary equipment. The systems will be incorporated in the RBMPs to be updated.

9. Upgrading hydrological monitoring stations. The project will replace monitoring equipment at two existing hydrological stations with establishment of flow-volume rating curves and install two hydrological stations with establishment of flow-volume rating curves (one in each river) with remote monitoring and data transmission systems. Ten manual rainfall gauges and six automated rainfall gauges will also be installed. The monitored data will be transmitted within the target provinces and to the National Water Resources Management Data Center in MOWRAM.

10. Development of sustainable WRM operation and management strategies.

Challenges still remain regarding the sustainability of WRM infrastructure mainly due to the limited provisions and budgets for O&M, weak WRM operation capacity, and limited coordination among the concerned ministries concerned. The project will help assist MOWRAM, and the two provinces in developing the strategies to ensure sustainable WRM operation and management strategies operations of the plans to be developed under the output 1 and to ensure the sustainable O&M of the WRM infrastructures to be developed or upgraded under the outputs 2 and 3. The required costs for the routine O&M requirements and periodic repairs of the WRM infrastructure, and for the continued operation and necessary updates of the plans to incorporate any new WRM developments with possible supports from consultants will be estimated and reflected in the strategies with necessary O&M and operation arrangements. The MEF will require releasing allocates the O&M funds to the O&M fund being managed by MOWRAM based on the estimated costs so that MOWRAM will transfer release the required amounts to the two provinces following sustainable WRM operation and management strategies to be approved. The strategies will be developed at least two years prior to the project completion date so that the strategies can be fully set up and implemented from at least one year prior to the project completion going beyond the project completion and financial closing.

11. Output 2: Water supply capacity increased. The project will modernize two irrigation systems and efficiently provide reliable irrigation water increasing resilience to climate change risks for 17,020 ha command areas in Battambang Province and 11,646 ha command areas in Pursat Province. This will enable farmers to crop (i) rice in 32,338 ha during wet season and rice

and other crops in 7,192 ha during dry season in Battambang Province; and (ii) rice in 22,128 ha during wet season, and rice and other crops in 3,890 ha during dry season in Pursat Province, with expected increase in the crop yields. The modernizations will include main, secondary, and tertiary canals, with flood discharge drainage structures, gates and other regulated structures, including farm turnouts. Pilot nature-based solutions will be applied for canal bank protection from erosions caused by heavy rains. An existing barrage in the irrigation system in Pursat Province will also be remodeled for stable water intake. The project will train farmers in the target irrigation systems to (i) form 4 new farmer water user communities (FWUCs) and strengthen 3 existing FWUCs for efficient water use and sustainable O&M of the tertiary canals, (ii) crop non-paddy rice in 4,800 ha and manage their farming, and (iii) demonstrate the alternate wetting and drying method (AWD) to grow paddy rice in 2,350 ha to reduce the methane emission and increase crop yield.¹¹ The project will also install or remodel 13 fish passages in existing and new river crossing structures for fish friendly river management. The project will help reduce the climate-induced drought risks for the population of 37,170 in Battambang Province and 35,060 in Pursat Province. An existing barrage in the irrigation system in Pursat Province will also be remodeled for stable water intake.

12. Detailed works volumes and specifications will be reviewed and confirmed during the detailed engineering designs (DED). The first expected works is the remodeling of the Kbal Hong barrage in Pursat Province and its civil works is expected to commence from January 2026 with 3 years construction period. All civil works will be completed by the Q2 2029 to ensure sufficient time for the training to the FWUCs prior to the project completion.

13. The project will provide consultants to train farmers in the target irrigation systems to form four new FWUCs with strong women participation in Kbal Hong irrigation system and strengthen three existing FWUCs with strong women participation in Kanghot irrigation system for efficient water usage and sustainable O&M of the tertiary canals. The training will be carried out in line with the FWUC operation manual in MOWRAM and will include, but not limited to the following categories: (i) irrigation water scheduling in each crop growing stage in each crop type; (ii) gate operation at turnouts along tertiary canal and at intake points across the secondary canal; (iii) methods for consultation with FWUC members, determination of irrigation service fees, and irrigation service fees collection; (iv) arrangement of O&M works; and (v) organization of FWUC and its accounting system.

14. The project will also provide consulting services to train farmers to grow non-paddy rice (e.g. mung bean, sweet corn) with the target cropping areas of 3,400 ha in Kanghot irrigation system and 1,400 ha in Kbal Hong irrigation system and manage their farming system.

15. The project includes a technical assistance (TA) financed by the Japan Fund for Prosperous and Resilient Asia and the Pacific (JFPR) and will provide consulting services to strengthen farmers' knowledge of climate mitigative advanced water management technology (i.e. alternative wetting and drying method [AWD]), and demonstrate the AWD to grow paddy rice in more than 2,350 ha under one FWUC coverage area to be selected in Kanghot irrigation system and another FWUC coverage to be selected in Kbal Hong irrigation system. The details are provided in the Technical Assistance Report (Annex 7 of the RRP).

¹¹ The AWD will be implemented under the Attached Technical Assistance. The total emission of methane from rice field in Cambodia is estimated at approximately 0.376 million ton. The alternate wetting and drying method has been recommended by the International Rice Research Institute.

16. The project will also install or upgrade four fish passages in Battambang and eight fish passages in Pursat in existing river crossing structures and install one fish passage in the Kbal Hong barrage to be remodeled for fish friendly river management.

17. **Output 3: Flood risks during wet season reduced.** The project will (i) integrate the increase of flood protection capacity into the climate-adaptive reservoir operation plans to be developed under the output 1 to adapt to the climate-induced flood risks;¹² (ii) modernize old river channels in Battambang and Pursat provinces to divert the flood flow from the Sangker River in Battambang Province and Pursat River in Pursat Province with nature-based solutions for river bank protection from erosions caused by heavy rains; and (iii) develop flood risk maps and operate gender-responsive community flood preparedness plans. The project will help reduce the climate-induced flood risks for the population of 39,400 in Battambang Province and 15,300 in Pursat Province.

18. **Ou Sralau Subproject in Battambang.** Using the surveyed river sections, the capacity of the Sangker River channel through Battambang town is estimated as 800-1,000m³/s dependent on the critical level chosen. The mechanism for most areas that flood in Battambang is generally not overbank flow as the banks are relatively high but lower lying areas flood from an inability to drain local rainfall. The subproject will divert flood water of 100 m³/s to Ou Sralau old river channel from Sangker River during the peak flood occurred in the wet season, to avoid the flooding to the Battambang town. The subproject will dredge the channel, improve the spill capacity at the intake of the Ou Sralau old river channel just upstream of the urban part of Battambang town.

19. As a non-physical measure, the project will upgrade the operating rules for Sek Sork dam and flood attenuation in the reservoir is expected in all but the most severe events. The maximum release should be tuned to the capacity of the channel at Battambang allowing for additional inflows from downstream tributaries. This would entail completing the survey of the reservoir, proposing new operating rules, implementing and building capacity in PDWRAM.

20. **Svay Ath Drainage Canal Subproject in Pursat.** Using the surveyed river sections, the capacity of the Pursat River channel through Pursat town estimated as 700-800m³/s dependent on the critical level chosen. The mechanism for most areas that flood in Pursat has both overbank flow and flooding of low-lying areas away from the river. The subproject will construct a new offtake and rehabilitate old channel of around 37km with widening of the canal on the left bank of the Pursat River to divert flood water of 00-300m³/s to the channel from the Pursat River during the peak flood occurred in the wet season.

21. As a non-physical measure, the operating rules for Pursat dam 1 (which is planned operation from 2026) during flood are also proposed for agreement with the Ministry of Mine and Energy and the dam developer such that flood attenuation in the reservoir can be expected in all but the most severe events. This will entail working closely with the parties concerned as the construction continues.

22. The project will also carry out community disaster risk mapping and planning at communities where there is a remaining high residual risk of flood damages and develop flood risk preparedness plans, forecasting and warning (already included in Output 1).

¹² This activity will be implemented with the development of the climate-adaptive reservoir operation plans under the output 1 as an integral manner.

23. The design and monitoring framework is in Appendix 1. It presents the impact, outcome and outputs of the project.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Table 1: Project Readiness Activities

Indicative Activities	2024				2025	Responsible Agency
	Q1	Q2	Q3	Q4	Q1	
Submission of EOI for DED for Kbal Hong barrage	Done					Firms
Submission of Proposal and Bid Evaluation for DED for Kbal Hong barrage	Done					PMU / Firms
Advance Contracting Actions of DED ^a		Apr → Sep				
Start of Detailed Engineering Design (team 1)			Sep			ADB/ AIIB/ MOWRAM / PMU
Recruitment of DED consultant (team 2) for other works ^b			Jul → Jan		Jan	AIIB / MOWRAM
Procurement consultant with use of retroactive financing to support MOWRAM's recruitment of the PMIC and bidding Kbal Hong barrage			Jul → Jan		Jan	MOWRAM
Financial management consultant with use of retroactive financing to support MOWRAM complete the following actions before approval: <ul style="list-style-type: none"> • ensure timely project's budget preparation, submission and monitoring of the annual budget provisions • train the assigned project accounting staff at PMU and PDWRAM • develop project's chart of accounts following MEF's requirements to align with PAM cost categories and set up Sage50 accordingly • set up internal controls and processes, and • prepare templates for monthly, quarterly and annual reporting/reconciliation of project activities following MEF and ADB requirements 			Sep → Dec			MOWRAM
Establish project implementation arrangements		Apr → Jan			Jan	MOWRAM, GDТА / PMU / PDWRAMs
ADB Loan Negotiations				Oct		ADB, Government.
AIIB Loan Negotiations				Oct		AIIB, Government
Obtain ADB Board Approval				Dec		ADB, Government
Obtain AIIB Board Approval				Dec		AIIB, Government
ADB Loan Signing				Dec		ADB, Government.
AIIB Loan Signing				Dec		AIIB, Government
Government legal option provided					Jan	MOWRAM, MEF
Government budget inclusion					Jan	MOWRAM, MEF
Declare ADB Loan Effectiveness					Jan	ADB
Declare AIIB Loan Effectiveness					Jan	AIIB

ADB = Asian Development Bank, AIIB = Asian Infrastructure Investment Bank, DED = detailed engineering design, EOI = expression of interest, GDТА = Department of Technical Affairs, MEF = Ministry of Economy and Finance, MOWRAM = Ministry of Water Resources and Meteorology, PAM = project administration manual, PDWRAM = provincial Department of Water Resources and Meteorology, PMIC = project management and implementation consultant, PMU = Project Management Unit, Q = quarter.

^a The cost for the DED (team 1) will be financed by Asian Infrastructure Investment Bank under its Project Preparation Special Fund and implemented by the Ministry of Water Resources and Meteorology.

^b The cost for the DED (team 2) will be financed by Asian Infrastructure Investment Bank under its Project Preparation Special Fund (additional fund) and implemented by the Ministry of Water Resources and Meteorology

Source: Asian Development Bank.

Activities	2024		2025				2026				2027				2028				2029				2030	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
3.2 Construct Sangker SraLAu offtake in Battambang																								
3.3 Develop flood risk maps																								
3.4 Develop community flood preparedness plans																								
B. Project Management Activities^a																								
Mobilize project management and implementation support consultant																								
Review and update the social and environment safeguard documents																								
Implement the gender action plan																								
Inception (I), annual (A) review, midterm (M) review, and final (F) review missions		I				A				M				A				A				F		
Periodic progress reports																								
Annual audited project financial statements																								
Project completion report																								

AWD = alternative wetting and drying, DMF = design and monitoring framework, FWUC = farmers water user community, Q = quarter, RBC = river basin committee, WRM = water resources management.

^a Two detailed engineering consultant teams are being recruited with the target contract and fielding in July 2024 (team 1) and January 2025 (team 2) with financing from AIIB's project preparation special funds, to be administered by AIIB.

Source: Asian Development Bank.

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations: Roles and Responsibilities

Table 3: Project Management Roles and Responsibilities

Project Implementation Organization	Management Roles and Responsibilities
Project Steering Committee	<p>Chaired by the Minister of MOWRAM and vice-chaired by Ministry of Economy and Finance, with representatives from members of the National River Basin Management Committee (ministries of Planning; Agriculture, Forestry and Fisheries; Environment; and Mines and Energy), and Battambang and Pursat Governors. The PSC works throughout the duration of the project and meets at least semi-annually during year 1 and annually thereafter. The PSC will:</p> <ul style="list-style-type: none"> • Ensure interagency cooperation at target river basin level; • Review and advise on policy issues including the issues on the river basin management and implementation constraints; • Ensure integration with other donors and government related development activities; • Monitor project implementation progress; and • Provide overall guidance on project implementation.
Ministry of Economy and Finance (MEF)	<ul style="list-style-type: none"> • Establish three advance accounts, one for each funding source, at the National Bank of Cambodia for disbursement of eligible expenditures under loans and grants. MEF will oversee the management and utilization of the advance accounts. • Approve annual workplans and budgets • Allocate budget, and release counterpart funds including the funds for the O&M of the assets to be invested in a timely manner. • Fulfill government fiduciary and financial management oversight for fund flows. • With the assistance of the Financial Management Specialist from PMIC, timely review of statement of expenditure s, endorsement of WAs to ADB and timely release of advance funds. • Recruit the auditing firm acceptable to ADB to audit the annual project financial statements; • Responsible for timely submission to ADB of the audited project financial statements in accordance with ADB requirements and monitor to ensure satisfactory resolution of management letter issues, if any; • Communicate with ADB for any amendments in the allocation of the loans and grant amount; • Issues on land acquisition and resettlement will be the responsibility of the Inter-Ministerial Resettlement Committee and the GDR. • Recruit the independent external monitoring agency for the implementation of DRPs prepared and implemented by GDR.
Ministry of Water Resources and Meteorology (MOWRAM)—executing agency	<ul style="list-style-type: none"> • Exercise overall supervision and guidance of project implementation. • Ensure that the project is managed and administered by designated officers and staff of the executing agency; generate and submit required project reports to concerned parties. • Ensure compliance on the implementation of community participation framework and community participation plan, as required • Delegate sufficient powers to the project management unit established in MOWRAM to ensure that it is able to operate its affairs with minimum disruption and interference. • Ensure that the targeting criteria and implementation arrangements of the project activities are strictly followed. • Ensure compliance with covenants and other obligations in the loan and grant agreements. • Oversee the implementation of, and compliance with, the IEE and EMPs, as well as project compliance with the resettlement framework, resettlement plans for involuntary land acquisition and resettlement, and GAP.

Project Implementation Organization	Management Roles and Responsibilities
	<ul style="list-style-type: none"> • Assist and advise the implementing agencies on project implementation. • Request the internal audit department to include the project's activities in the internal audit department's annual scope of work.
Project management unit, MOWRAM	<ul style="list-style-type: none"> • Prepare the annual work plan and budgets, quarterly physical progress reports in accordance with the agreements, financial statements, and other tasks set forth in the loan and grant agreements. • Initiate and coordinate effective communication among all project stakeholders. • Coordinate with MAFF on agriculture support activities. • Coordinate with MOE on environmental safeguards. • Procure civil works and goods. • Supervise execution of works. • Make payments to contractors. • Recruit and supervise consultants (e.g. PMIC). • Operate separate advance accounts for the projects and maintain accurate records of both financial and physical progress against project budget. • Ensure timely submission of the annual audited project financial statements to ADB and MEF and satisfactorily resolve auditor's findings and recommendations, if any, in management letter. • Conduct regular reviews of the internal control procedures and systems of the project for further strengthening, as necessary. • Maintain sound financial management systems, including qualified staffing, accounting software, internal controls, accounting and financial reporting policies and processes, etc. acceptable to ADB and the MEF, under the overall guidance of MEF. Prepares the WAs timely and accurately following ADB Loan Disbursement Handbook for eligible project activities. • Timely prepare at least two sustainable WRM operation and management strategies for the provinces with support from PMIC consultants. Commence the arrangements set out in these strategies with the two provinces. • Submit to ADB QPRs , semi-annually PPMS and safeguard reports. • Set out the demarcation of the land requirement along the final alignment within one month after completion of the DEDs of subprojects jointly with GDR. • Provide GDR with the proposed construction schedule, identifying the schedule for completion of land acquisition and resettlement. • Recruit and mobilize VLD risk assessment and CPF development consultant for VLD transaction upon DED completion. • Prepare and submit to GDR and ADB-AIIB the CPF and CPP for each subproject/ contract package with support from DED consultant teams, upon the DED completions;. • Prepare and submit to ADB-AIIB due diligence reports for sections that has no IR impacts, based on the approved DED, prior to starts of civil work activities for review and clearance. • Support IRC – GDR for the preparation of detailed resettlement plans based on final and approved DED. • Oversight and support DED teams for the preparation and implementation of CPP based on final and approved DED. • Recruit and mobilize the independent third party for VLD transaction validation and monitoring. • Ensure and responsible for the compliance with social and environmental safeguards as per the ADB SPS (2009), including intensive coordination with GDR in updating the resettlement plan and CAPs, if required, etc. • Implement the GAP and ensure compliance with the requirements for women's participation in all project activities. • Submit semiannual environmental and social safeguard monitoring reports for ADB – AIIB review and disclosure. • Establish and manage project specific and VLD GRM implementation.
Battambang and Pursat provinces (governor's	Output 1 Governor's office, with supports from the PMIC, PMU and PDWRAM, will:

Project Implementation Organization	Management Roles and Responsibilities
<p>offices)—implementing agencies</p> <p>Provincial Departments of Water Resources and Meteorology (PDWRAM)</p>	<ul style="list-style-type: none"> • Strengthen RBCs with possible shuffling committee members. • Update river basin management plans for them to be more effective and climate-adaptive • Develop river flow management plans with water allocation rules in consultation with key water user stakeholders. • Maintain sound financial management arrangements to ensure adequate planning, timely disbursement, consistent reporting to the PMU and compliance with ADB requirements and MEF regulations • Allocate and release sufficient O&M funds for sustainable operation of the above and for PDWRAM's proper O&M of assets to be invested for outputs 2 and 3. • Ensure the commencement of activities and arrangements set out in the WRM O&M strategy (as approved) <p>Outputs 2 and 3 PDWRAM will:</p> <ul style="list-style-type: none"> • Under the supervision of PMU and the support from PMIC, supervise all activities and provide support in project implementation. • Assist PMU in disseminating information and posting of safeguards documents in accessible public places. • Coordinate with MEF-GDR to prepare and implement the resettlement plan. • Coordinate with DED2 in the preparation of CPP. • Maintain sound financial management arrangements to ensure adequate planning, timely disbursement, consistent reporting to the PMU and compliance with ADB requirements and MEF regulations • Operate and maintain assets to be developed or updated, except for the assets under the responsibility of FWUCs. • Ensure the commencement of activities and arrangements set out in the WRM O&M strategy (as approved) in the two years prior to completion of the project.
<p>Inter-Ministerial Resettlement Committee (IRC)</p>	<ul style="list-style-type: none"> • Provide effective oversight and ensure that land acquisition and resettlement comply with the laws and implementing rules and regulations. • Ensure effective coordination between the line ministries, provincial and local authorities, and GDR-MEF in carrying out the resettlement plan. • Provide overall guidance on implementing rules and regulations for land acquisition and resettlement. • Initiate establishment of the provincial grievance redress committee. • Approve draft and final resettlement plan and CAPs, as necessary.
<p>General Department of Resettlement (GDR)</p>	<ul style="list-style-type: none"> • Coordinate and collaborate with MOWRAM, PMU, and other agencies involved in resettlement plan activities for the project. • Review and endorse the draft basic resettlement plan prepared at the feasibility study stage to ADB for review. • Review and endorse all issues related to land acquisition and resettlement or involuntary resettlement safeguards in aide memoires, memoranda of understanding, and minutes of meetings or discussions prepared during project implementation. • Review, prepare and finalize DRPs for each subproject component/contract work package based on the final DED and submit to ADB-AIIB for review and approval • Prepare and submit to ADB the negotiated settlement (NS) implementation plan for review and approval prior to its implementation. • Conduct consultations with affected households and local authorities during preparation of the final resettlement plan. • Finalize the detailed resettlement plan based on the DMS. • Implement all land acquisition and resettlement activities in compliance with the final and approved detailed resettlement plan. • Ensure proper functioning of the GRM. • Supervise, monitor, and report on resettlement plan implementation. • Conduct awareness workshops for MOWRAM and provincial and local authorities on the implementing rules and regulations pertinent to the resettlement plan. • Serve as a focal knowledge center for land acquisition and resettlement.

Project Implementation Organization	Management Roles and Responsibilities
	<ul style="list-style-type: none"> • Support IRC and PMU for the recruitment of EMA to monitor social safeguard implementation and activities. • Submit the EMA report to ADB and AIIB for review and disclosure. • Prepare and implement any corrective action (CAP) related to the social safeguard issues as identified by EMA report and/or ADB-AIIB missions • Submit the independent third monitoring party report for NS transaction for ADB review and disclosure. • Submit semiannual social safeguard monitoring report for the implementation of DRP including the preparation and implementation of corrective action plan related to land acquisition and resettlement as required.
Asian Development Bank (ADB)	<ul style="list-style-type: none"> • Provide financing for the project cost through the loan and grant. • Review WAs for AIIB and send advice to AIIB for disbursement of AIIB's portion of expenditures. • Monitor the progress of project implementation on a regular basis. • Monitor project arrangements, disbursement, procurement, consultant selection, and reporting. • Review compliance with project financing covenants. • Monitor compliance with safeguards procedures. • Undertake six-monthly review missions, including midterm review. • Provide oversight of activities defined in the procurement plan to ensure compliance with ADB procedures.
Asian Infrastructure Investment Bank (AIIB)	<ul style="list-style-type: none"> • Join ADB in conducting periodic reviews, including mid-term and completion review missions to assess the project implementation progress. • Ensure AIIB's fund flows to the project activities are achieved in a timely and efficient manner and in compliance with the cofinancing agreement between ADB and AIIB. Ensure DED teams compliance with RF and CPF during the preparation of safeguard document (CPP), as required upon the completion of DED and DRP preparation • Administer the two DED consulting services (covering DEDs, support the developments of resettlement plans, bidding preparations), to be financed by AIIB's project preparation special fund grant.

ADB = Asian Development Bank; AIIB = Asian Infrastructure Investment Bank; CAP = corrective action plan; CPF = community participation framework; CPP = community participation plan; DDR = due diligence report; DED = detailed engineering design; DMS = detailed measurement survey; DRP = detailed resettlement plan; EMA = external monitoring agency; EMP = environmental management plan; FWUC = farmer water user community; GAP = gender action plan; GDR = General Department of Resettlement; GRM = grievance redress mechanism; IEE = initial environmental examination; IRC = Inter-Ministerial Resettlement Committee; MAFF = Ministry of Agriculture, Forestry, and Fisheries; MEF = Ministry of Economy and Finance; MOE = Ministry of Environment; MOWRAM = Ministry of Water Resources and Meteorology; NS = negotiated settlement; O&M = operation and maintenance; PDWRAM = provincial Department of Water Resources and Meteorology; PMIC = project management and implementation consultant; PMU = project management unit; PPMS = project performance monitoring system; PSC = project steering committee; QPR = quarterly progress report; RBC = river basin committee; RF = resettlement framework; SPS = Safeguard Policy Statement; VLD = voluntary land donation; WA = withdrawal application, WRM = water resources management.

Source: ADB.

B. Key Persons Involved in Implementation

Executing Agency Ministry of Water Resources and Meteorology (MOWRAM)	H.E. Chann Sinath Secretary of State, MOWRAM Project Director Telephone No.: (855) 12 528777 Email address: channsinath78@gmail.com Office address: 346 Presh Monivong Blvd., Khan Chamkamorn, Phnom Penh, Cambodia
Project Management Office, MOWRAM	To be Confirmed
Implementing Agencies	H.E. Sok Lou, Governor, Battambang Province Long Phalkun, Director, PDWRAM, Battambang Province H.E. Khoy Rida, Governor, Pursat Province Keo Vei, Director, PDWRAM, Pursat Province
Asian Development Bank	
Project Team Leader	Ryutaro Takaku-Bessho Principal Water Resources Specialist; Agriculture, Food, Nature, and rural Development Sector Office (SG-AFNR); Sector Group (SG) Telephone No.: (632) 8632-4444 Email address: rtakaku@adb.org
Co-Team Leader	Piseth Long Senior Project Officer, SG-AFNR, SG Telephone No.: (855) 215805/215806 Email address: plong@adb.org
Project Analyst	Marishka Etrata Project Analyst, SG-AFNR, SG Telephone No.: (632) 8632-4444 Email address: metrata@adb.org
Procurement	Chitoshi Izumi Senior Procurement Specialist; Procurement Division 2; Procurement, Portfolio, and Financial Management Department Telephone No.: (632) 8632-4444 Email address: cizumi@adb.org
Environment Safeguards	Xin Ren Senior Safeguards Specialist (Environment), Office of Safeguards Telephone No.: (632) 8632-4444 Email address: xren@adb.org
Social Safeguards	Indah Setyawati Senior Safeguards Specialist (Resettlement), Office of Safeguards Telephone No.: (632) 8632-4444 Email address: isetyawati@adb.org
Gender	Chieko Yokota Gender Specialist, Gender Equality Division, Climate Change and Sustainable Development Department Telephone No.: (632) 8632-4444 Email address: cyokota@adb.org

Financial Management

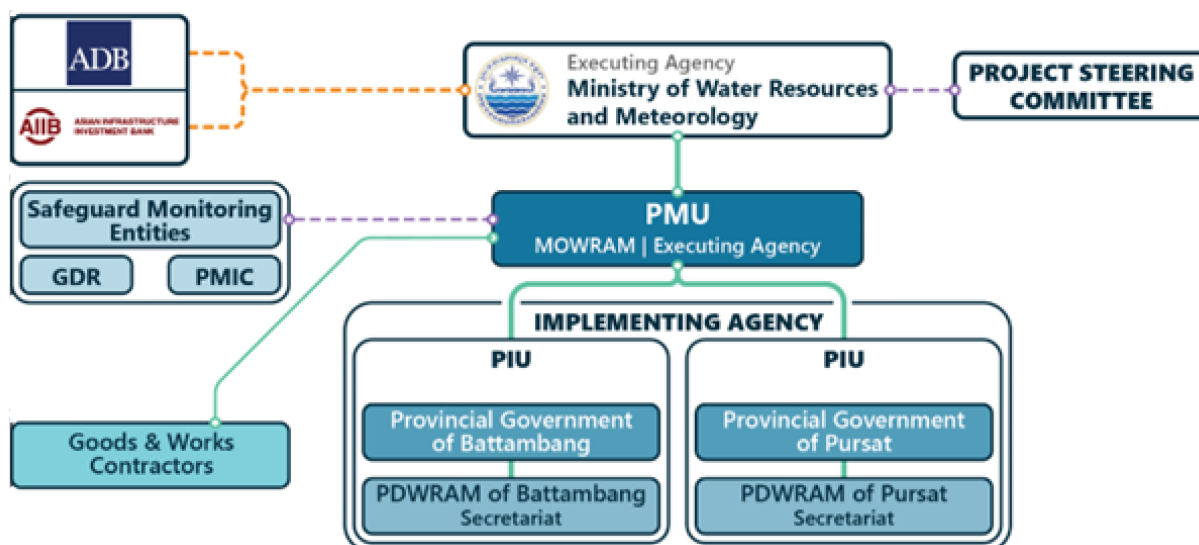
Trang Thi Quynh Le
 Financial Management Specialist; Public Financial Management Division 2;
 Procurement, Portfolio, and Financial Management Department
 Telephone No.: (632) 8632-4444
 Email address: lttrang@adb.org

Asian Infrastructure Investment Bank

Bo Zhang
 Investment Operations Officer
 AIIB Regional Hub in Abu Dhabi, UAE
 Email address bo.zhang@aiib.org

C. Project Organization Structure

Figure 1: Overall Organizational Structure



Legend:

○—○ Financing Agreement

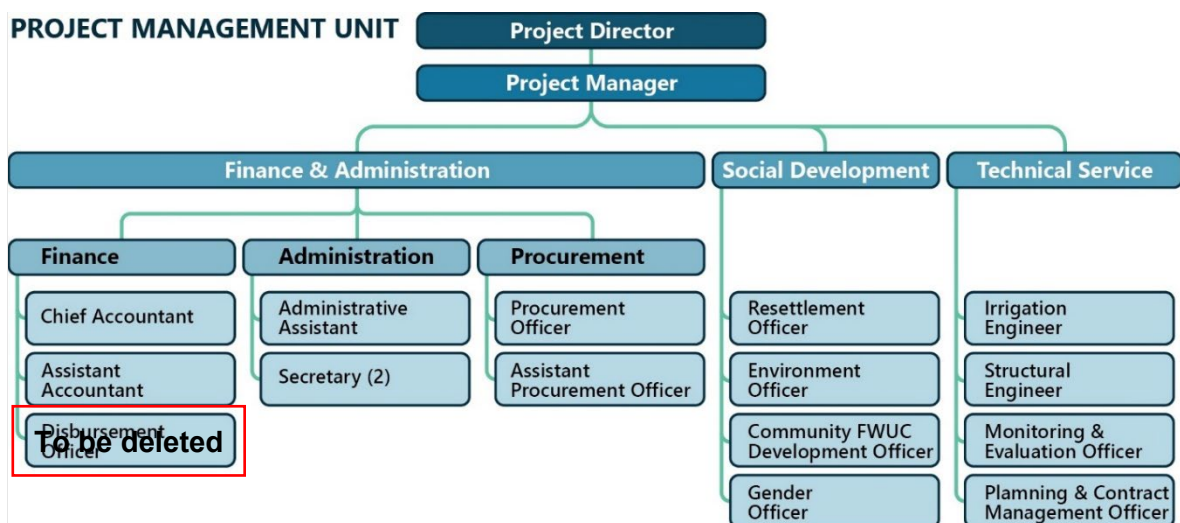
○—○ Support / Advisory Function

○—○ Line of Authority

ADB = Asian Development Bank, AIIB = Asian Infrastructure Investment Bank, GDR = General Department of Resettlement in Ministry of Finance PDWRAM = Provincial Department of Water Resources and Meteorology, PIU = project implementation unit, PMIC = project management and implementation consultant, PMU = project management unit.

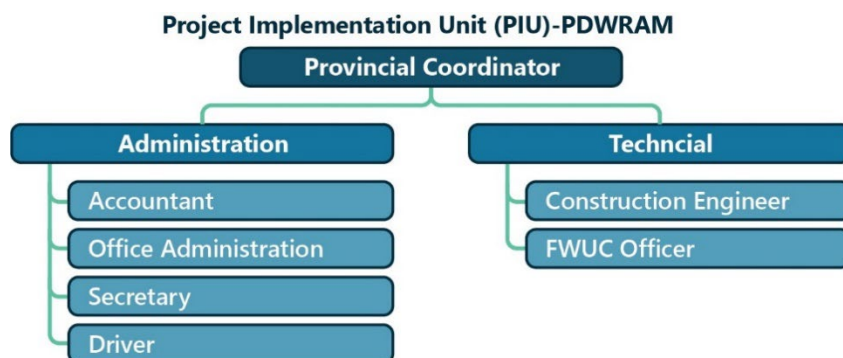
Source: Asian Development Bank.

Figure 2: Detailed Organizational Structure



Source: Asian Development Bank.

Figure 3: Detailed Organizational Structure



FWUC = Farmer Water Users Community; PDWRAM = provincial Department of Water Resources and Meteorology

Note: In addition, hydrometeorology staff are provided in each PIU.

Source: Asian Development Bank.

IV. COSTS AND FINANCING

24. The summary cost estimate for the project is presented in Table 4.

Table 4: Summary Cost Estimates (\$ million)

Item	Amount ^{a,b}
A. Base Cost^c	
Output 1: Planning, coordination, and climate change adaptation capacities of water resources management strengthened	2.66
Output 2: Water supply capacity increased	131.10
Output 3: Flood risks during wet season reduced	20.55
Subtotal (A)	154.31
B. Contingencies^d	24.20
C. Financial Charges During Implementation^e	19.67
Total (A+B+C)	198.18

^a Includes taxes and duties of \$13.24 million to be financed by ADB and AIIB. Such amount does not represent an excessive share of the project cost. The government will not finance taxes and duties.

^b Excludes an attached TA of \$1.5 million from the Japan Fund for Prosperous and Resilient Asia and the Pacific (JFPR) and government in-kind contribution in the form of counterpart staff, office space, office supplies, and other in-kind contributions. The TA is fully administered by ADB.

^c In 2nd quarter 2024 prices as of 4 June 2024.

^d Includes physical and price contingencies.

^e Includes interest and commitment, and other charges on all financing resources.

Source: ADB.

25. Cost estimates were prepared jointly by ADB and the government using the 2024 second-quarter prices. Cost estimates will be revised during the mid-term review mission estimated in the third year of the project life and whenever there are changes relating to the financing policy. Costs were allocated for the three outputs and assigned expenditure accounts to be used to summarize overall project costs. Each activity was assigned a financier and an appropriate disbursement and procurement method.

26. The project financing plan is presented in Table 5.

Table 5: Summary Financing Plan

Source	Amount ^{a,b} (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	83.69	42.2
Special Funds resources (ADF 13 Thematic Pool)	4.30	2.2
Asian Infrastructure Investment Bank (concessional special fund window loan) ^c	80.00	40.4
Government	30.19	15.2
Total	198.18	100.0

ADF = Asian Development Fund.

^a Excludes AIIB's additional PPSF of \$3,549,675, which will not be administered by ADB.

^b Excludes the attached TA of \$1.5 million from the Japan Fund for Prosperous and Resilient Asia and the Pacific (JFPR) and government in-kind contribution in the form of counterpart staff, office space, office supplies, and other in-kind contributions. The TA is fully administered by ADB.

^c Partially administered by ADB and includes administration fees and other charges as may be deducted pursuant to the cofinancing agreement.

Source: Asian Development Bank estimates.

A. Cost Estimates Preparation and Revisions

27. The source data for cost estimates varied depending on the cost item. Costs relating to structural works were prepared by transaction technical assistance consultants. Costs associated with international consultants adopted prices that would be sufficient to engage them from any ADB member country and other countries and included provision for per diems and international travel. Inputs were estimated based on the extent of work required as considered appropriate for the terms of reference (TOR). National consultants were budgeted at the equivalent of \$2,500 per person-month plus a provision for local travel (air and road) and consultant per diem for the time away from the home office. Estimated project management costs were allocated in each of the three outputs proportionally.

B. Key Assumptions

28. The following key assumptions underpin the cost estimates and financing plan:
- (i) Exchange rate: Riel 4,048 = US \$1.00 (as of 4 June 2024).
 - (ii) Price contingencies based on expected cumulative inflation during implementation are in Table 6.
 - (iii) Physical contingencies were calculated at 5% for civil works and 10% for the other expenditure categories (goods, consulting services and project management).

Table 6: Escalation Rates for Price Contingency Calculation

Item	2024	2025	2026	2027	2028	2029	2030	Average
Foreign rate of price inflation	1.80%	1.80%	1.84%	1.88%	1.92%	1.96%	2.0%	1.9%
Domestic rate of price inflation	2.0%	2.0%	3.0%	3.0%	3.0%	3.0%	3.0%	2.7%

Source: Asian Development Bank.

C. Allocation and Withdrawal of Loan and Grant Proceeds

Table 7: Allocation and Withdrawal of ADB Loan Proceeds^a

Expenditure Category	Loan Proceeds	Percentage and Basis for Withdrawal from the Loan Account
Works	68,532,000	51.41% percent of total expenditure claimed
Goods	550,000	50.00% percent of total expenditure claimed
Consulting services	3,141,000	50.00% percent of total expenditure claimed
PMU operation and maintenance	203,000	50.00% percent of total expenditure claimed
Unallocated	11,264,000	
Total	83,690,000	

ADB = Asian Development Bank.

^a Subject to the condition for withdrawal described in paragraph 6 of Schedule 3 of the Loan Agreement (Annex 1 of the Report and Recommendation of the President to the Board of Directors).

Table 8: Allocation and Withdrawal of ADF Grant Proceeds ^a

Expenditure Category	Grant Proceeds	Percentage and Basis for Withdrawal from the Grant Account
Consulting services (Capacity development)	3,460,000	89.66% percent of total expenditure claimed
Land acquisition arrangement for tertiary canals	150,000	50.00% percent of total expenditure claimed
Unallocated	690,000	
Total	4,300,000	

ADF = Asian Development Fund.

^a Subject to the condition for withdrawal described in paragraph 6 of the Schedule of the Grant Agreement (Annex 2 of the Report and Recommendation of the President to the Board of Director).

Table 9: Allocation and Withdrawal of AIIB Loan Proceeds

Item	Loan Proceeds	Percentage and Basis for Withdrawal from the Loan Account
Works	64,769,000	48.59% percent of total expenditure claimed
Goods	550,000	50.00% percent of total expenditure claimed
Consulting services	3,141,000	50.00% percent of total expenditure claimed
Consulting services (Capacity development)	399,000	10.34% percent of total expenditure claimed
PMU operation and maintenance	203,000	50.00% percent of total expenditure claimed
Land acquisition arrangement for tertiary canals	147,000	50.00% percent of total expenditure claimed
Unallocated	10,791,000	
Total	80,000,000	

AIIB = Asian Infrastructure Investment Bank.

D. Contract and Disbursement S-Curve

Table 10: Ordinary Capital Resources (Concessional Loan) Contract Awards and Disbursement (\$ million)

Year	Projections for Contract Awards					Projections for Disbursements				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2024				0.00	0.00				0.00	0.00
2025	3.36	0.06	0.68	0.00	4.10	0.41	0.82	1.24	1.65	4.12
2026	0.00	13.03	8.75	31.57	53.34	1.07	2.14	3.21	4.28	10.69
2027	15.09	0.00	0.00	0.00	15.09	2.78	5.56	8.34	11.12	27.80
2028	0.00	6.85	4.32	0.00	11.16	2.97	5.94	8.91	11.88	29.70
2029	0.00	0.00	0.00	0.00	0.00	0.81	1.61	2.42	3.23	8.06
2030	0.00	0.00	0.00	0.00	0.00	0.33	0.66	1.00	1.33	3.32
Total					83.69					83.69

Figure 4: S-Curve Projection for Contract Awards and Disbursement – Ordinary Capital Resources (Concessional Loan)

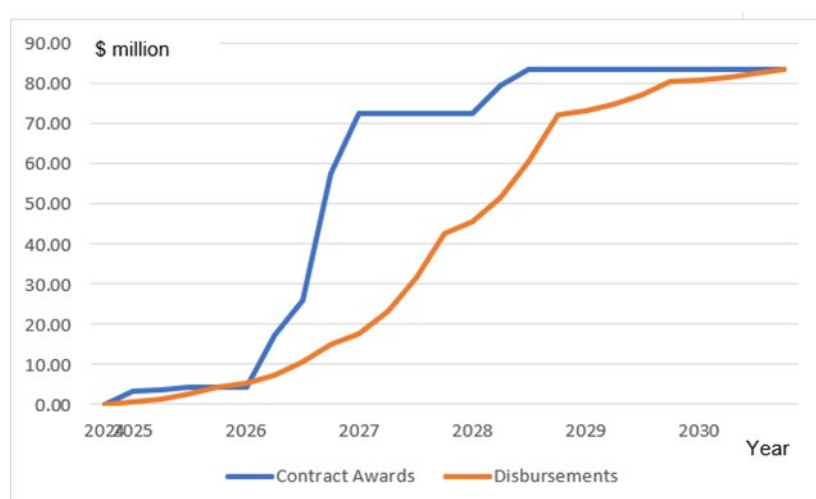


Table 11: Asian Development Fund Contract Awards and Disbursement (\$ million)

Projections for Contract Awards						Projections for Disbursements					
Year	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	
2024				0.00	0.00				0.00	0.00	
2025	0.00	0.00	2.47	0.32	2.78	0.02	0.04	0.06	0.08	0.21	
2026	0.00	0.00	0.00	0.00	0.00	0.05	0.11	0.16	0.22	0.55	
2027	1.52	0.00	0.00	0.00	1.52	0.14	0.29	0.43	0.57	1.43	
2028	0.00	0.00	0.00	0.00	0.00	0.19	0.39	0.58	0.77	1.93	
2029	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.06	0.07	0.18	
2030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total					4.30					4.30	

Figure 5: S-Curve Projection for Contract Awards and Disbursement – Asian Development Fund

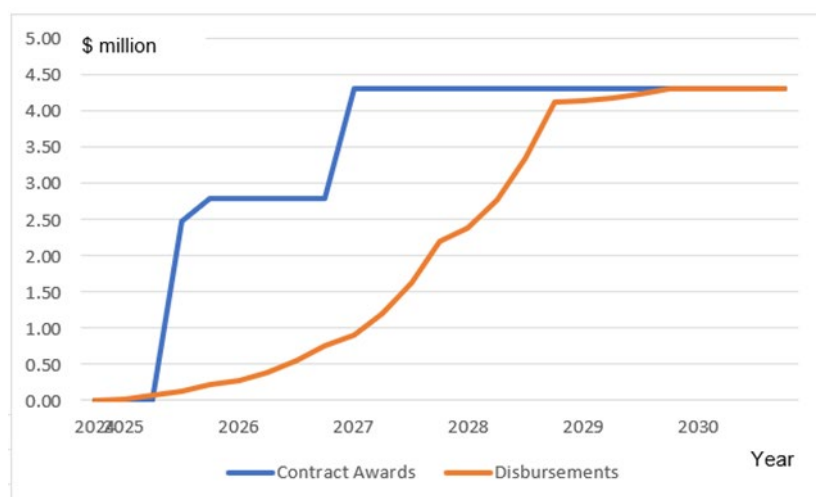
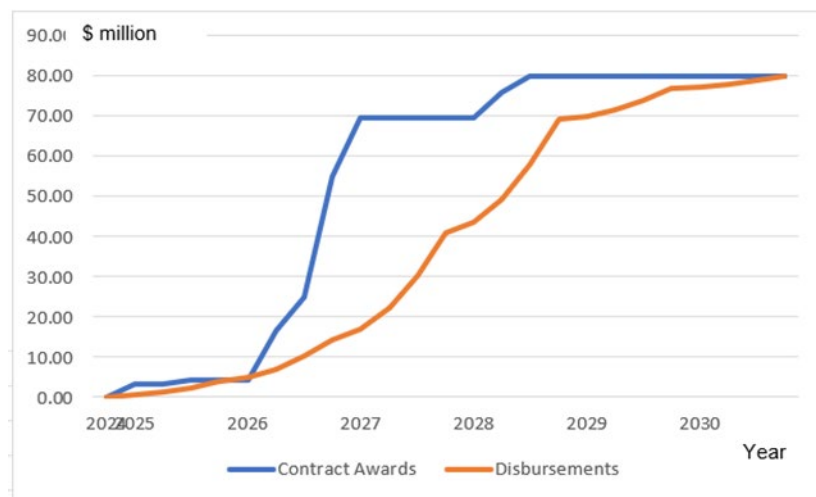


Table 12: Asian Infrastructure Investment Bank Loan Contract Awards and Disbursement (\$ million)

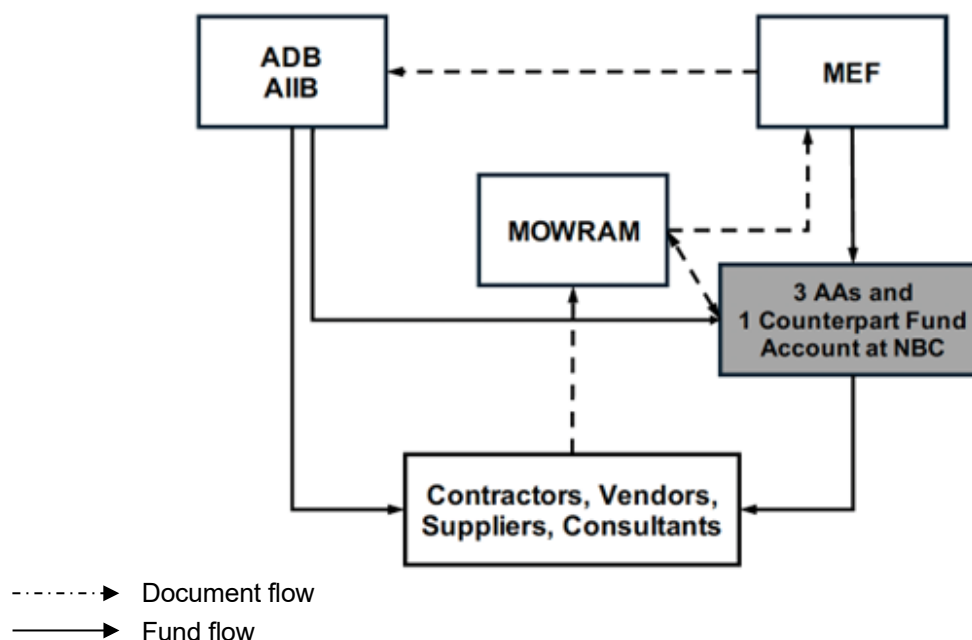
Projections for Contract Awards						Projections for Disbursements					
Year	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	
2024				0.00	0.00				0.00	0.00	
2025	3.20	0.06	0.80	0.02	4.08	0.39	0.79	1.18	1.58	3.94	
2026	0.00	12.41	8.33	30.07	50.82	1.02	2.04	3.07	4.09	10.22	
2027	14.47	0.00	0.00	0.00	14.47	2.66	5.31	7.97	10.63	26.57	
2028	0.00	6.52	4.11	0.00	10.63	2.84	5.68	8.52	11.36	28.39	
2029	0.00	0.00	0.00	0.00	0.00	0.77	1.54	2.31	3.08	7.71	
2030	0.00	0.00	0.00	0.00	0.00	0.32	0.63	0.95	1.27	3.17	
Total					80.00					80.00	

Figure 6: S-Curve Projection for Contract Awards and Disbursement – Asian Infrastructure Investment Bank Loan



E. Fund Flow Diagram

Figure 7: Fund Flow Diagram



AA = advance account, ADB = Asian Development Bank, AIIB= Asian Infrastructure Investment Bank, MEF= Ministry of Economy and Finance, MOWAM= Ministry of Water Resources Management and Meteorology, NBC=National Bank of Cambodia.

Source: Asian Development Bank.

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

29. The financial management (FM) assessment was conducted in April-May 2023 and updated in February 2024 following ADB's guidance and assessed the FM systems and capacity of the executing and implementing agencies. The assessment covered fund flow, staffing, accounting policies and procedures, financial reporting and monitoring, internal and external auditing arrangements and financial information systems, and evaluated the sufficiency of the FM arrangements for implementing the project. Based on the assessment, the key FM risks identified include: (i) potential delays in fund allocation and replenishments, (ii) limited FM and disbursement capacity within MOWRAM and provincial implementing agencies with heavy reliance on FM consultant, (iii) limited scope and involvement of MOWRAM's internal audit department in externally funded projects. The overall pre-mitigation FM risk of the project is **Moderate**. The MEF and executing agency are experienced in the administration of advance account and statement of expenditures (SOE) procedures and have the capacity to administer these procedures for the project. The borrower, executing and implementing agencies have agreed to take some advance actions to ensure the project's FM readiness (Table 1). They also agreed to implement an action plan (Table 13) during implementation to mitigate the project FM risks. The implementation progress of the mitigation measures will be reported by MOWRAM in

the quarterly progress reports (QPRs) and FM arrangements and risks will be reviewed by ADB at least once a year and updated, as necessary.

Table 13: Financial Management Action Plan

Area	Risk Description	Risk Rating	Mitigating Action	Responsibility	Time Frame
MOWRAM PMU					
Planning and budgeting	Delays in allocation and disbursement of project funding for activities	Substantial	Timely submission to MEF and monitoring of the annual budget provisions for MOWRAM	MOWRAM (PMU)	By end of each September for the following year
Staffing	Lack of PDWRAMs accounting staff to support the project Assigned accounting staff may lack experience with FM and disbursement of ADB projects	Substantial	See Table 1 in PAM for readiness actions	MOWRAM (PMU)	Prior to approval
Accounting policies and procedures	Lack of detailed project management information in the accounting software, causing incomplete or inaccurate monitoring of funds and outputs	Moderate	See Table 1 for readiness actions	MOWRAM (PMU)	Prior to approval
Reporting and monitoring	Delayed or inaccurate financial reporting and monitoring	Moderate	See Table 1 for readiness actions	MOWRAM (PMU) and FM consultant	Prior to approval
Internal control	Internal control issues identified during annual audits as management letter findings are not timely addressed	Moderate	National FM consultant recommends measures to adequately address internal control issues and findings in writing to PMU. FM consultant to provide additional training or handholding to accounting staff and other relevant project staff, as necessary, to strengthen internal controls based on findings and recommendations	MOWRAM (PMU) and FM consultant	Within one month of each annual audit submission to ADB
				MOWRAM (PMU) and FM consultant	Within one month of each annual audit submission to ADB
Internal audit	Limited or no internal audit involvement in the project	Moderate	Project Director to request IAD to include the project's activities in the IAD's annual scope of work. Accounting staff and IAD staff to attend training on FM and disbursement by ADB Findings of IAD related to project activities are reported in each Q4 QPRs.	MOWRAM (PMU and IAD)	Upon loan and grant effectiveness date.
				ADB, MOWRAM (PMU)	During inception mission
				MOWRAM (PMU and IAD)	In each Q4 QPRs to be sent to ADB
External audit	Project audit reports are not timely and/or not acceptable to ADB	Low	MEF to include the project in annual independent audit list. No action needed at project level.		

Area	Risk Description	Risk Rating	Mitigating Action	Responsibility	Time Frame
Information systems	Project's accounting software is insufficient to handle the accounting and financial reporting function	Moderate	See Table 1 for readiness actions	MOWRAM (PMU)	Prior to approval
PDWRAMs in Battambang and Pursat provinces					
Staffing	Lack of PDWRAMs accounting staff to support the project	Substantial	See Table 1 for readiness actions	PDWRAMs	Prior to approval
Reporting and monitoring	Inconsistent or delayed reporting of financial activities to MOWRAM for consolidation and monitoring	Moderate	See Table 1 for readiness actions	MOWRAM (PMU), PDWRAMs and FM consultant	Prior to approval
Overall pre-mitigation project FM risk		Moderate			

ADB = Asian Development Bank, FM = financial management, IAD = Internal Audit Department, MEF = Ministry of Economy and Finance, MOWRAM = Ministry of Water Resources and Meteorology, PDWRAM = provincial Department of Water Resources and Meteorology, PAM = project administration manual, PMU = project management unit, Q = quarter, QPR = quarterly progress report.

Source: Financial Management Assessment.

B. Disbursement

1. Disbursement Arrangements for ADB and ADB-Administered Cofinancier Funds

30. Disbursement of the ADB loan and grant proceeds, including ADB-administered cofinancier funds, will follow ADB's *Loan Disbursement Handbook* (2022, as amended from time to time) and detailed arrangements agreed between the government and ADB.¹³

31. A large proportion of the payments will be arranged through direct payments made by ADB, through the implementation of large contracts. The project management unit (PMU) will be established in MOWRAM. The PMU will be responsible for: (i) preparing disbursement projections; (ii) requesting budgetary allocations for counterpart funds; (iii) collecting and retaining supporting documents; and (iv) preparing and sending withdrawal applications to ADB.

32. No withdrawals shall be made from the loan account with ADB until the Asian Infrastructure Investment Bank (AIIB) Loan Agreement has been executed between the Kingdom of Cambodia and AIIB, and all conditions precedent to its effectiveness (other than, if applicable, a condition requiring the effectiveness of the loan agreement with ADB) shall have been fulfilled, and the project steering committee has been established in accordance with the requirements set out in this PAM.

33. **Advance account.** MEF will establish and maintain three advance accounts, one for each funding source (ADB OCR, ADB ADF and AIIB loan), which will be delegated to and administered by MOWRAM. The currency of all advance accounts is USD. The advance accounts shall be used exclusively for ADB's and AIIB's shares of eligible project expenditures. MOWRAM, who administers the advance accounts, is accountable and responsible for the proper use of funds in the advance accounts. Advance accounts will be replenished through WAs submitted to ADB.

¹³ The handbook is available at ADB. [Loan Disbursement Handbook 2022](#).

34. The total outstanding advance to each of the three advance accounts should not exceed the estimate of ADB's and AIIB's shares of expenditures to be paid through the respective advance accounts for the forthcoming six months. MOWRAM may request for initial and additional advances to the advance accounts based on an Estimate of Expenditure Sheet¹⁴ setting out the estimated expenditures to be financed through the respective accounts for the forthcoming six months. Supporting documents should be submitted to ADB or retained by MOWRAM following ADB's *Loan Disbursement Handbook* (2022, as amended from time to time) when liquidating or replenishing the three advance accounts.

35. **Statement of expenditure (SOE) procedure.**¹⁵ The SOE procedure may be used for reimbursement of eligible expenditures or liquidation of advances to the advance accounts following ADB's *Loan Disbursement Handbook* (2022, as amended from time to time), with no ceiling for individual payments. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.

36. Before submitting the first WA, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the WAs on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per WA is stipulated in ADB's *Loan Disbursement Handbook* (2022, as amended from time to time). Individual payments below such amount should be paid (i) by the executing agency (MOWRAM) and subsequently claimed to ADB through reimbursement, or (ii) through the advance account procedure, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements. The use of ADB's Client Portal for Disbursements system is encouraged for submitting WAs to ADB.¹⁶

37. For AIIB funds claimed under the reimbursement, advance account, and direct payment procedures, the borrower should submit one original of the WA and copies of supporting documents to ADB, and concurrently one identical copy of such WA and copies of supporting documents to AIIB. ADB will review each WA and advise AIIB to make the necessary payment, if any. AIIB shall process the disbursement after receipt of the advice from ADB. If disbursement is not made by AIIB, it will promptly inform ADB and the Borrower in writing of its decision and the basis of such decision. ADB shall not be held liable for any decision made by AIIB with respect to payments requested in WAs or any delay in disbursement outside of ADB's control.

2. Disbursement Arrangements for Counterpart Fund

38. Counterpart funds in cash will follow the standard Royal Government of Cambodia system for cash contributions to development projects – there will be a separate budget line for Integrated Water Resources Management Project within the annual MOWRAM budget, and funds will be drawn down as required through the making of payments directly to the beneficiaries for the purpose of the project. Arrangements for counterpart funds need to be incorporated into the

¹⁴ The Estimate of Expenditure sheet is in Appendix 8A of ADB's *Loan Disbursement Handbook* (2022, as amended from time to time) and is available for download from ADB. [Loan and Grant Financial Information Services](#).

¹⁵ SOE forms are available in Appendixes 6A and 6B of ADB's *Loan Disbursement Handbook* and are available for download from ADB. [Loan and Grant Financial Information Services](#).

¹⁶ The Client Portal for Disbursements facilitates online submission of WA to ADB, resulting in faster disbursement. The forms to be completed by the Borrower are available online. [Guide to the Client Portal for Disbursement](#).

annual workplan and budget cycle for the executing agency and the provincial implementing agencies.

C. Accounting

39. The executing agency (MOWRAM) and the implementing agencies (Battambang and Pursat provinces) will maintain, or cause to be maintained, separate accounts, books and records for all project expenditures following the Cambodian Public Sector Accounting Standards for cash-based accounting. MOWRAM will also prepare annual project financial statements following cash-basis Cambodian Public Sector Accounting Standards in line with relevant government regulations and ADB requirements. Project financial reporting and bank accounts will be maintained in USD.

D. Auditing and Public Disclosure

40. The executing agency will cause the project's financial statements to be annually audited following the Cambodian International Standards on Auditing (CISAs) by an independent auditor acceptable to ADB following the audit terms of reference to be agreed between ADB and MEF. The annual audited project financial statements, together with the auditor's opinions, will be submitted in English to ADB within 6 months from the end of each fiscal year by the executing agency.

41. The audit report for the project financial statements will include (i) an auditor's opinions on whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, following the applicable financial reporting standards; and whether the proceeds of the loans and grant were used only for the purpose(s) of the project; and (ii) a management letter.

42. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

43. The government, executing agency, and provincial implementing agencies have been made aware of ADB's approach to delayed submission and the requirements for satisfactory and acceptable quality of the audited project financial statements.¹⁷ ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower) or additional support to be provided to the auditor, if the audits are not conducted in a manner satisfactory to ADB or are substantially delayed. ADB reserves the right to verify the project's financial accounts.

¹⁷ ADB's approach and procedures regarding delayed submission of audited project financial statements:

- (i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- (ii) When audited project financial statements are not received within 6 months after the due date, ADB will: (a) withhold processing of requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters; (b) withhold the extension of the loan closing date; and (c) defer negotiation or Board presentation of new loan proposals. ADB will inform the executing agency of ADB's actions and advise that the loan may be suspended if the audited project financial statements are not received within the next 6 months.
- (iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend or cancel the loan.

44. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's *Access to Information Policy*.¹⁸ After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions on use of funds will not be disclosed.¹⁹

VI. PROCUREMENT

A. Applicable Procurement Policy

45. Procurement of goods, works, consulting services, and nonconsulting services will follow the ADB *Procurement Policy* (2017, as amended from time to time) and the *Procurement Regulations for ADB Borrowers* (2017, as amended from time to time) and in compliance with ADB *Safeguards Policy Statement* (2009).

46. Procurement packages will be jointly co-financed with AIIB – ADB will be the lead financier and its procurement policy will apply to all procurement under this project. As the AIIB cofinancing will be partially administered by ADB, universal procurement will apply based on the blanket waiver agreement.²⁰ The bidding documents issued under the project will reflect that ADB and AIIB will cofinance the contracts under joint cofinancing and include the AIIB's Covenant of Integrity to be completed by bidders. All procurement notices, such as advance procurement notices, consulting services recruitment notice, invitations to bid, shortlisting and contract award notifications, will also reflect that ADB and AIIB will cofinance the contracts under joint cofinancing. These notices will be provided to AIIB for publication on its website. ADB and AIIB will inform each other of any procurement-related complaints received by them in connection with the contracts financed under the project. ADB will provide AIIB with the names of applicants or bidders for cofinanced contracts, and AIIB shall notify ADB, within 5 days, whether AIIB can finance those entities. If no response is received within 5 days, ADB may deem that such entities are eligible. If any entity is not eligible, ADB and AIIB will agree on a remedial action.

B. Procurement Strategy Summary

47. A strategic procurement planning exercise was carried out to ensure that fit-for-purpose procurement approaches are developed to achieve value for money and the project's development objectives. All procurement will be undertaken by the PMU on behalf of MOWRAM. The Pursat and Battambang IAs will not undertake any procurement. Main procurement activities include for **Output 1**: one consulting services contract for Support to the River Basin Management Committees and flood forecasting system (\$1,562,000) and one goods contract for supply, installation, commissioning and maintenance of automatic weather stations (AWS) and automatic hydrological stations (AHS) equipment for hydrometeorological stations in Sangker and Pursat river basins (\$700,000); for **Output 2**: one works contract internationally advertised (\$23 million) for construction of a new regulator (barrage), and 15 contracts nationally advertised for modernization and renovation of main, secondary and tertiary irrigation canals and associated works, and the new construction of fishways (\$101,540,000), having values from \$1 million to \$15 million. The geographic location of the contracts are 7 contracts for the Pursat regulator and Kbal

¹⁸ ADB. 2018. [Access to Information Policy](#). Manila.

¹⁹ Such information falls under the Access to Information Policy's exceptions to disclosure, footnote 6, para. 16.

²⁰ ADB. 2013. *Policy Paper: Blanket Waiver of Member Country Procurement Eligibility Restrictions in Cases of Cofinancing for Operations Financed from Asian Development Fund Resources*.

Hong irrigation system (\$78 million) in Pursat province, 8 contracts for the Kanghot irrigation system (\$38 million) in Battambang province, and 1 contract for fishways (\$8 million) in both provinces; for **Output 3**: 1 contract (\$15 million) for flood prevention works located in Pursat and Battambang provinces. Packaging approach is based on (i) geographic location, (ii) works priority and scheduled readiness of designs and land availability, (iii) aggregation into packages by either nature of the work and/or by zone, and (iv) sizing taking account of market assessment and lessons learnt from previous projects in the irrigation sub- sector.

48. Value for money is achieved by a conventional approach to procurement through use of open competitive bidding with package size and scope tailored to market capacity in order to attract a reasonable number of responsive bids and to achieve competitive bid prices. Open competitive bidding using single stage one envelope bidding procedures will be applied for all civil works and goods packages to enhance efficiency and transparency. Two consulting firms, to be financed from AIIB's project preparation special fund grant and administered by AIIB will support MOWRAM to undertake detailed design, to provide support for project and interface management in a professional manner.

C. Project Procurement Risk Classification

49. The procurement risk is assessed as substantial reflecting the ADB's assessed risk rating of the country and sector having weak oversight and integrity systems, absence of an e-procurement system to enhance transparency, governance arrangements with excessive concentration of powers, and risk of delay due to land acquisition. Recognition is made of the extensive experience of the executing agency of donor financed projects, and recent project completion reports showing a pattern of improved timeliness in projects and successful use of advanced contracting. Risk mitigation measures include the use of appropriate packaging and qualification criteria under open competitive bidding to encourage price competition in bidding, and the engagement of a consulting firm to support the PMU for project implementation.

D. Project Implementation Arrangements

50. **Procurement methods.** The procurement of works will be open competitive bidding with both international and national advertising. The procurement of goods will use open competitive bidding with international and national advertising, and request for quotations. The recruitment of consulting services will use open competitive bidding with international advertising using quality and cost-based selection, consultant qualification selection, and individual consultant selection.

51. **Open competitive bidding with national advertisement.** For contracts with estimated values below the thresholds shown in Royal Government of Cambodia's *Standard Operating Procedures (SOP) on Procurement for All Externally Financed Projects/Programs in Cambodia* (SOP 2019), the relevant template bidding documents and procedures of SOP 2019 will be applied. For works contracts over \$3 million but not exceeding \$10 million, national competitive bidding with national advertising using ADB's small works template bidding document will be applied. Within this range of contract values, contracts have generally been awarded to local firms and with few awards to foreign bidders, hence national advertising is sufficient. Before the start of any procurement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with the ADB *Procurement Policy* (2017, as amended from time to time) and record if any procurement arrangements mandated by those public procurement laws will not be applicable to procurement undertaken on the project.

52. **Advance contracting.** Advance contracting will be used for: (i) recruitment of project management and implementation consultants (PMIC), using quality- and cost-based selection (QCBS); (ii) recruitment of individual start-up procurement, financial management, and environment safeguards consultants using individual consultant selection (ICS); (iii) procurement of office equipment, office furniture, computers, motorcycles, and vehicles through request for quotations and OCB for national and international advertisement, respectively. The steps to be concluded in advance will include pre-qualification and short-listing, tendering, and bid and proposal evaluation. The issuance of invitations to bid (for goods, works, and nonconsulting services) or requests for proposals (for consulting and non-consulting services) under advance contracting will be subject to ADB approval. The borrower and MOWRAM have been advised that approval of advance contracting does not commit ADB and AIIB to finance the project.

53. **Retroactive financing.** Eligible expenditures up to 20% of amounts in each of the three ADB administered financing sources (i.e. ADB loan, ADF grant, and AIIB loan) incurred prior to the loan and grant effectiveness dates, but not earlier than 3 months before loan signing may be financed by respective loan and grant. Nevertheless, retroactive financing is intended to be used for recruitment of the PMIC in order to ensure project readiness and accelerate the implementation schedule.

54. **Post-review sampling approach.** Prior review will be applied as a minimum for the first contract for all nationally advertised works, goods and consulting services and for all internationally advertised works, goods and consulting services. Subsequent contracts would be reviewed by post review. The post review (sampling) will be conducted during each loan review mission and may also be additionally conducted by request. Contracts for post review (sampling) will be selected through stratified random sampling.

55. **Contract management.** All ADB-financed goods and works contracts are envisaged to be conventional and managed with a transactional approach. The implementation arrangement on contract management will be contract administration by a project management and implementation support firm, with oversight and support by the PMU. A contract management plan will be prepared as required in *Procurement Regulations for ADB Borrowers* (2017, as amended from time to time). At the beginning of each civil works contract execution, an effective contract management plan will be developed to ensure that the contracts are successfully implemented and that the deliverables are met as agreed in the contract.

E. Procurement Plan

56. An 18-month procurement plan indicating procurement packages and review procedures for goods, works, consulting services, and nonconsulting services is included in Appendix 7.

57. The outline terms of reference of consulting services for the project management and implementation consultant is included in Appendix 8.

VII. SAFEGUARDS

A. Environment

58. The environment classification is confirmed as category B. An initial environmental examination (IEE) and accompanying environmental management plan (EMP) was produced for the entire project. Negative impacts mainly come from construction phase which is short term and localized with standard measures to control as specified in the EMP.

59. The executing agency through the implementing agency shall ensure that: The project is implemented in accordance with the country's laws and regulations related to environment, health and safety (EHS) as well as ADB's SPS, most reflected in the EMP. The EMPs shall be included in the bidding and contracts requiring contractors to comply with all applicable provisions and requirements. Adequate budget and staff resources are allocated for the EMP implementation.

60. In order to ensure compliance with both ADB and domestic requirements on EHS in a cost-effective manner given the limited capacity and resources prevailing in developing countries, the arrangement for supervision, monitoring of the EMP implementation consists of the following:

- (i) During construction:
 - a. The (supervision) Engineer and its resident engineers will carry out routine on-site check and submit to the PIU at least monthly reports which should cover contractors' implementation of the EMP;
 - b. On top of the above, the PMU/PIUs supported by their environmental staff and consultants will carry out on-site supervision and inspection on random basis, and record the findings and corrective actions if any in writing;
 - c. Quantitative monitoring if any as specified in the EMP will be undertaken in the way described in the EMP, with external monitoring entity engaged by the PMU/PIUs if needed. The monitor will submit to the testing results, explanation if they comply with applicable standards or not, and analyze the reason for any non-compliance;
 - d. Based on the work of a-c, the PMU supported by its consultants and PIUs can readily compile semi-annual environmental report to ADB and the government.
- (ii) During operation phase:
 - a. The operators or host of facilities/subprojects are responsible to follow the operation phase measures of their respective EMP, including training and reporting;
 - b. Arrange and/or conduct quantitative monitoring as specified in the EMP. The monitors will submit to the testing results, explanation if they comply with applicable standards or not, and analyze the reason for any non-compliance;
 - c. The PMU and PIUs are responsible for supervising the EMP implementation to ensure compliance with applicable EHS requirements, and reporting to the ADB.

B. Involuntary Resettlement

61. The project is classified as category A for involuntary resettlement (IR) impacts. The project output 1 is not anticipated to trigger involuntary resettlement impacts because there is no physical or economic displacement whereas outputs 2 and 3 are expected to cause IR impacts. The subprojects identified in the preparatory stage under output 2 are: (i) Kanghot Irrigation

Scheme (IS) in Battambang; (ii) Kbal Hong IS in Pursat; and (iii) Kbal Hong barrage and intake structures. The Kbal Hong barrage and intake structures have a defined footprint and corridor of impact and therefore a basic resettlement plan (BRP) has been prepared for the impacts. There will be 24 affected households/ 169 affected persons will need to be physically relocated. The irrigation canal alignments for both IS subprojects are not identified and defined at the project preparation phase. For this component, random sample areas for new irrigation canal alignments in both irrigation systems were identified to tentatively determine the scale of land acquisition and resettlement impacts of the component. The preliminary estimated result of involuntary resettlement impacts from sample areas of Kbal Hong IS and Kanghot IS subprojects are included in the consolidated BRP. Tentative estimates (by extrapolation from the sample areas) of affected households of Kbal Hong and Kanghot Irrigation system who will experience major impacts is estimated at 1,084 AHs, to be confirmed the detailed engineering design (DED) phase.

62. For subprojects that the IR impacts are undefined/unknown at this stage, the required mitigation actions are covered under the prepared resettlement framework (RF). The RF has been prepared to guide the final screening and categorization of the subprojects regarding IR impact, IR impact assessment, preparation, and implementation of detailed resettlement plans (DRP) and due diligence reports (DDRs) and monitoring of DRP implementation. The RF requires impacts relating to involuntary land acquisition and resettlement for subprojects/ civil work package to be identified and defined at the DED phase after loan approval. For subprojects developed during project implementation, measures must be undertaken to avoid and minimize resettlement impacts.

63. The General Department of Resettlement (GDR), as the lead agency directly responsible for land acquisition and involuntary resettlement (LAR), is experienced in implementing involuntary land acquisition resettlement activities consistent with the ADB's SPS 2009, Safeguard Requirements 2: Involuntary Resettlement. All matters/issues pertaining to LAR activities under the project will be addressed by GDR. GDR will finalize the BRP based on the preliminary design for Kbal Hong Barrage and Intake Structures Subproject and selected sample areas of the Kbal Hong and Kanghot Irrigation Systems Subprojects. At the preparation and completion of DED phase, the GDR, with support from the PMIC and DED2 consultant teams, if required, will prepare separate DRPs based on the number civil works packages or combined civil works package under a subproject or one DRP per subproject to be determined at DED stage in consultation with GDR. The Replacement Cost Survey will be undertaken by an independent firm qualified and experienced in asset valuations to determine the market rates of affected assets. The DRPs will be approved by the Inter-ministerial Resettlement Committee and cleared by ADB and disclosed on its website before contract award. No land acquisitions, site clearing, or physical and economic displacement will occur until the compensation at full replacement cost and other entitlements due to the affected persons (AP) are paid to them, in accordance with the DRP, and a comprehensive income and livelihood rehabilitation program, supported by an adequate budget, is in place to help displaced persons improve, or at least restore, their incomes and livelihoods (as required). However, civil works may proceed in sections or at sites where there are no IR impacts upon the submission and clearance of due diligence or a site report (DDR) to ADB-AIIB by the EA. The DDR should confirm the absence of IR impacts in such section. PMU-PMIC will prepare such a report based on the final and approved DED of the respected section.

64. If there are any changes, updated DRPs with corrective action plans will be prepared by GDR. These updated DRPs will be reviewed by ADB prior to the award of civil works and implemented prior to the commencement of the civil works. Implementation of the updated DRPs shall be monitored internally by the Department of Internal Monitoring and Data Management (DIMDM) of GDR.

65. If there are any changes that may trigger additional land requirement in the areas where DDRs are prepared and approved by ADB, updated DDRs (with corrective action if required) will be prepared by PMU. These updated DDRs will be reviewed by ADB prior to the award of civil works and implemented prior to the commencement of the civil works. Implementation of the updated DDRs shall be monitored internally by the PMU and reported in the project's monitoring report.

66. The cost for all land acquisition, compensation and resettlement assistance under the subprojects will be financed from the national budget and no financing will be required from the ADB loan and grant. The government shall provide counterpart funds for land acquisition and compensation activities, specified in the agreed and approved DRPs, and will meet any unforeseen obligations that not stipulated in the DRPs budget estimate to satisfy resettlement objectives.

67. Acquisition of land through willing buyer/willing seller (WBWS) can take place where land markets are functioning, the transaction takes place with the seller's consent, and the seller receives a price consistent with prevailing market prices. This will not be applied to subprojects where there are multiple APs, or where there are no options to change the siting of infrastructure in the absence of agreements. The WBWS cases (where expropriation will not be used and is not an option) are not subject to ADB SPS 2009 requirements. For such cases, ADB will have access to all the documentation for on-site verification at GDR and prepare a note to file. If agreement between the willing buyer and willing seller cannot be reached, alternate site will be selected. GDR will demonstrate to ADB the options to change siting in the absence of agreement, if WBWS method is applied for acquiring land and assets for the Project.

68. Where the process of negotiated settlement (NS) is applied in lieu of compulsory land acquisition (where failure of negotiation would result in expropriation), ADB SPS 2009 requirements (paragraph 25, Appendix 2) will be followed and described in the BRPs/DRPs. Any land acquisition through negotiated settlement will be based on meaningful consultation with affected persons, including those without legal title to assets. A negotiated settlement will offer an adequate and fair price for land and/or other assets. GDR will ensure that any negotiations with displaced persons openly address the risks of asymmetry of information and bargaining power of the parties involved in such transactions. For this purpose, GDR will engage an independent external party to document the negotiation and settlement processes. GDR will agree with ADB and AIIB on consultation processes, policies, and laws that are applicable to such transactions/negotiated land acquisition; third-party validation; mechanisms for calculating the replacement costs of land and other assets affected; and record-keeping requirements. The negotiated settlement plan and TOR of independent third party to record and document the negotiations process will be developed and prepared by GDR at the starts of DED preparation and share with ADB for review and endorsement prior to its implementation. The consultant recruitment needs to be completed prior to any land acquisition processes commencing.

69. GDR will provide a site handover letter to the IA, copying ADB upon completing payment of compensation and other entitlements due to APs. The letter shall have an attachment of a map/location coordinates showing the location, the number of displaced persons compensated and assisted and the status of income restoration program, if any. The letter will serve as a basis for ADB's no objection to commencement of works.

70. The proposed Project includes significant IR impacts and has been classified Category A. For LAR, the GDR will recruit a qualified and experienced independent external expert or non-

governmental organization before the start of DMS to verify the internal monitoring information and carry out the external monitoring of resettlement activities under the DRPs and will provide advice on involuntary safeguards compliance issues and propose corrective actions. The external expert be a qualified consulting firm/non-government organization or independent consultant with recognized experience on external monitoring of involuntary resettlement in Cambodia. GDR has the terms of reference for the independent external experts that have been agreed with ADB and is used to recruit them in the past for development partners and ADB financed projects. The independent external expert will verify the data and information of the internal monitoring carried out by the GDR and will prepare semi-annual external monitoring reports. External monitoring indicators are included in Annex 4 of the RF. The GDR will forward a copy external monitoring report to the ADB and AIIB for uploading on their websites. The EMA report will be submitted to GDR for its review prior to submitting to ADB and AIIB for review and disclosure. The terms of reference (TOR) of the EMA will be developed and prepared by GDR at the start of DED preparation and to be submitted to ADB – AIIB for review and endorsement before recruitment. The consultant recruitment needs to be completed prior to any land acquisition processes commencing.

71. GDR will be responsible for the preparation and implementation of any required Corrective Action Plan of land acquisition and resettlement issues based on the findings and recommendations included in the EMA reports. The required cost and budget will also be allocated according to the needs.

72. The PMU has the overall responsibility for the Project, including safeguards compliance. The PMU will coordinate with GDR to ensure compliance with involuntary resettlement safeguard requirements, in line with the “Land Acquisition and Involuntary Resettlement Standard Operating Procedures for Externally Financed Projects” (LAR SOP) and ADB SPS in the DRPs are met. The PMU will have full-time social safeguards staff who will support compliance of the project implementation with ADB safeguard requirements, including meaningful consultation. The PMIC will support the PMU to ensure that appropriate safeguards procedures are followed and that the implementation schedules are kept on track. Qualified safeguard experts will be included in the PMIC to support the monitoring and implementation of safeguard requirements of the project. The TOR of PMIC social safeguard experts is included in the Appendix 7 of this document.

73. GDR will be responsible for establishing the grievance redress mechanism (GRM) for LAR, as described in the DRPs and will be made fully functional prior to detailed measurement survey. GDR will provide training to the GRC members on the GRM process and procedures as outlined in Appendix 8 of the SOP. The GRM will ensure grievances of APs are resolved in a timely manner and trigger remedial action. The GRM comprises a set of clear procedures to receive, record, and address concerns of complaints raised about safeguard issues at village, commune, district, and provincial level. PMU will be responsible for establishing the project's overall GRM starting from the commune levels.

74. Effective monitoring and public consultation with all stakeholders and APs at all stages of project implementation will be ensured. In compliance with ADB's information disclosure and consultation requirements, the safeguard documents required as per the loan and grant agreement will be posted on ADB's website and disclosed to affected persons and communities in local language. Stakeholder consultations will continue through formal and informal meetings and focus group discussions.

75. The voluntary land donation (VLD) will only be considered when offered by the willing and eligible donor for the construction and rehabilitation of the tertiary canals. The general principles,

arrangement, and criteria for the VLD including the arrangement for the detailed risk assessment is included in the RF prepared for the project. Community participation plan (CPP) will be required to be prepared when there are significant number of proposed VLD transactions to be implemented in the subproject. The benchmark number of potential affected landowners to donate their land will be determined and agreed by ADB-AIIB upon DED completion for each subproject or contract package. Preparing the CPP will be guided by the Community Participation Framework (CPF) prepared by CPF consultant based on the scale of VLD potential and risk assessment. This will be done upon the completion of DED after the project approval. Standalone CPP document will be prepared by DED2 team and MOWRAM with support from project implementation consultant. An independent third party (ITP) will be required to validate the process, eligibility and implementation of any VLD transaction. The TOR of ITP will be developed and prepared by MOWRAM/PMU at the start of DED preparation and shared with ADB for review and endorsement prior to its recruitment. Each CPP must be reviewed and endorsed by ADB-AIIB before implementation. Each CPP must be reviewed and endorsed by ADB-AIIB before implementation. The ITP consultant recruitment must be completed before the starts of VLD preparation and implementation at the beginning of DED stage. Guidelines of the VLD eligibility and procedures to be followed by the consultant for the preparation and implementation of CPF/CPP are in Appendix VIII of this PAM.

C. Indigenous Peoples

76. The project is classified as category C for indigenous peoples (IP) in accordance with ADB SPS 2009 based on IP impact screening and socio-economic surveys conducted during the project preparation. IP screening activities will be done upon final design completion during the project implementation stage to be reconfirmed.

77. As agreed by ADB and MOWRAM, the BRP will be updated and finalized from time to time during project implementation, upon availability of the DED, and to reflect adaptive management of project changes and unforeseen circumstances or in response to project performance, ensuring that the standards of the original plan, and frameworks are not lowered.

78. **Prohibited investment activities.** ADB funds may not be applied to the activities on the ADB Prohibited Investment Activities List in Appendix 5 of the ADB SPS 2009. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the ADB Prohibited Investment Activities List to subprojects financed by ADB.

VIII. GENDER EQUALITY AND SOCIAL DIMENSIONS

79. A comprehensive social, gender, and poverty assessment was conducted during project preparation. Findings informed the development of Gender Assessment and Action Plan and the gender action plan (GAP) in order to ensure women's participation and benefits. The project targets the villages in Pursat and Battambang provinces, aiming to increase household incomes by promoting women's economic empowerment through project construction employment and climate adaptive skills trainings and address gender inequality for those who face challenges in accessing water resources and limited participation in decision-making in RBCs and FWUCs. Furthermore, the project will address gender inequality for those who are affected by climate change vulnerability such as flood and drought. Affirmative actions, training, and improved infrastructure are needed to support women's involvement and reduce vulnerabilities. The project will directly benefit women who constitute more than 50% of the target population.

80. Under Output 1, the project will: a) engage women in community consultations and planning meetings during the RBC strengthening process, including the development of gender-responsive and climate-adaptive river basin management plans, along with WRM performance monitoring and assessment systems. Additionally, there will be the implementation of drought and flood forecasting and warning systems, which incorporate gender-responsive flood risk maps. The aim of these initiatives is to increase women's participation in public activities, with a minimum target of 30% female involvement. This commitment aligns with the objectives outlined in MOWRAM's *National Gender Mainstreaming Strategic Plan (GMSP) in the Water Sector* (2007-2010), which has been implemented and subsequently updated (2019-2023); b) narrow gender gaps and promote women's involvement in leadership and decision-making positions, with the RBC membership including a minimum of 10% women. This aligns with the objectives outlined in the MOWRAM's National GMSP in the Water Sector, as well as the TOR for the establishment of RBC; c) provide capacity buildings, including planning and monitoring activities such as gender-responsive and climate-adaptive river basin management, climate-adaptive multiple reservoirs integrated operation, and gender-responsive river flow management, that will empower women to take on leadership roles in the RBC and FWUC. Furthermore, 50% of women within the RBC members will undergo training in O&M to eliminate the gender gap typically associated with these responsibilities and skills being attributed to men; and d) support the updating of MOWRAM's Gender Mainstreaming Strategy and Action Plan in Water Resources Sector (GMSAP). MOWRAM has adopted gender mainstreaming policies and planning, but women's representation is still relatively low, particularly at decision making levels. The GAP includes measures and targets to increase women's representation at higher levels of decision making, capacity development of national sub national female staff in gender responsive IWRM, climate change adaptation and other technical areas. The GAP aims to assist in the updating of the MOWRAM GMSAP (2024-28) by supporting gender mainstreaming action group (GMAG) and national level gender focal point (GFP) mobility to provinces to impart training to GFFs and other staff in gender responsive planning and techniques as well consultative measures to update the GMSP.

81. Under output 2, the project will: a) improve women's access to and control over water resources (efforts and resources spent to secure irrigated water reduced allowing women and girls have more time to engage in private, public and leisure and income-generating activities); b) 25% employment of women in unskilled jobs with equal and decent wage, benefits, and enabling environment for protection at work; c) ensure the participatory management of IWRM from both women and men in the community by establishing a certain number of FWUCs, including the 25% of female management committee members and 30% of female members, for the 30,520 ha common areas; d) enhance capacity for women's leadership, voice and decision within the FWUC; and e) improve the economic empowerment of female farmers, who are among the total beneficiaries, through training and site demonstrations on profitable farming systems and climate mitigative agricultural practices such as the alternate wetting and drying method. These efforts will cover a certain area of the total ha paddy rice command area.

82. Under Output 3, the project will: a) reduce the negative impacts on both women and men, thus, improving mitigation measures such as flood dike strengthening, the construction of ring levees to protect communities, and drainage improvements and b) engage women in participatory flood risk maps and gender-responsive community flood preparedness planning, implementation, and monitoring.

83. Key GAP indicators are reflected in the Design Monitoring Framework (DMF). MOWRAM will track key gender disaggregated data in its database and will be responsible for monitoring the GAP through the GFP in the PMU and gender specialists in the PMIC team.

Table 14: Gender Action Plan

Gender Objectives	Performance Indicators (activities and targets)	Responsibility	Timelines
Output 1: Planning, coordination, and climate change adaptation capacities of water resources management strengthened.			
1.1 Increase the participation of women in the planning, design and implementation of RBC establishment process, development of gender-responsive and climate-adaptive river basin management plans, along with WRM performance monitoring and assessment systems, drought and flood forecasting and warning systems to improve responsiveness to the needs of these vulnerable groups.	1.1.1 At least two community consultations conducted in the target provinces to establish RBC, gender-responsive and climate-adaptive river basin management plans, along with WRM performance monitoring and assessment systems, drought and flood forecasting and warning systems. (Baseline 2023: 0)	MOWRAM PMU, and two provinces with PDWRAM PIUs	Q4/2024-Q1/2027
	1.1.2 At least 30% of women participants of community consultations and planning meetings for RBC establishment process, development of gender-responsive and climate-adaptive river basin management plans, along with WRM performance monitoring and assessment systems, drought and flood forecasting and warning systems are women, including older women. (Baseline 2023: 0)	MOWRAM PMU, and two provinces with PDWRAM PIUs	Q4/2024-Q1/2027
	1.1.3 Two climate-adaptive and gender-responsive river basin management plans developed and implemented with WRM performance monitoring and assessment systems (2023 baseline: 0) (OP 2.5; OP 3.2.4) DMF 1b	MOWRAM PMU, and two provinces with PDWRAM PIUs	Q4/2024-Q1/2027
	1.1.4 Two gender-responsive river flow management plans ^a with water allocation rules updated and implemented (2023 baseline: two plans but not gender-responsive) (OP 2.5; OP 3.2.4) DMF 1d	MOWRAM PMU, and two provinces with PDWRAM PIUs	Q4/2024-Q1/2027
	1.1.5 Two drought and flood forecasting and warning systems with gender-responsive flood risk maps ^b , including vulnerable groups mapping developed and fully functional (2023 baseline: 0) (OP 2.5; OP 3.2.1; OP 5.3.1) DMF 1f	MOWRAM PMU, and two provinces with PDWRAM PIUs	Q4/2024-Q1/2027
	1.1.6 At least 30% of female beneficiaries participate in the implementation of drought and flood forecasting and warning systems, which incorporate gender-responsive flood risk maps and include vulnerable groups mapping and reduced their vulnerabilities to climate change impacts.	MOWRAM PMU, and two provinces with PDWRAM PIUs	Q4/2024-Q1/2027
	1.1.7 Two sustainable and gender responsive WRM operation and management strategies approved at least two years prior to project	MOWRAM PMU, and P two provinces with PDWRAM PIUs	Q4/2024-Q1/2027

Gender Objectives	Performance Indicators (activities and targets)	Responsibility	Timelines
	completion and all arrangements set out in those strategies commenced in the two years prior to project completion (2023 baseline: 0) (OP 3.3.5) DMF1g		
1.2. To promote women's involvement in leadership and decision-making positions including RBC membership.	1.2.1 Two RBCs strengthened and fully functional, with 10 female members (2023 baseline: 0) (OP 2.3; OP 6.1.1) DMF 1a	Two provinces with PDWRAM PIUs	Q4/2024-Q1/2027
1.3. To enhance PDWRAM capacity in gender-responsive and climate-adaptive planning, monitoring and operations and maintenance for river basin management, multiple reservoirs integrated operation, and river flow management.	1.3.1. At least 50% of the female PDWRAM Officials are trained on planning and monitoring activities as well as O&M.	Two provinces with PDWRAM PIUs	Q4/2024-Q1/2027
	1.3.2. At least 50% of the female RBC members are trained on planning and monitoring activities as well as O&M.	Two provinces with PDWRAM PIUs	Q4/2024-Q1/2027
Output 2: Water supply capacity increased.			
2.1 Improve women's access to and control over water resources (efforts and resources spent to secure irrigated water reduced allowing women and girls have more time to engage in private, public and leisure and income-generating activities).	2.1.1 Female farmers ^c occupy 30% of command areas and benefit from the extended irrigation system.	MOWRAM PMU, PDWRAM PIUs and PICs	Q4/2024-Q4/2029
	2.1.2 At least the 10% of female farmers who occupy 30% of command areas confirmed time spent to access to irrigated water is reduced by new extended irrigation system.	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q4/2029
	2.1.3 Subsidization of ISF scheme developed under FWUC regulation for female headed household and vulnerable groups in the common areas.	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q4/2029
2.2 Employment of women in unskilled jobs with equal and decent wage, benefits, and enabling environment for protection at work.	2.2.1 25% of unskilled labor in upgrading and construction of irrigation and flood protection infrastructure are women (2022 baseline: NA) (OP 2.3) DMF 2d	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q1/2027
	2.2.2 Women and men who participate in the unskilled labor in upgrading and construction of irrigation and flood protection infrastructure received equal wage.	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q1/2027
	2.2.3 All contracts for civil works will guarantee: (i) equal pay for women and men in similar positions; (ii) enforcement of zero-tolerance work site policies regarding sexual harassment; (iii) separate sanitation facilities for women and men; iv) provision of worker safety training, equipment and clothing for women and men.	MOWRAM PMU, PDWRAM PIUs and PICs	Q4/2024-Q1/2027
2.3 Ensure the participatory irrigation management from both women and men in the community by establishing a certain number of FWUCs, including the 25% of female in	2.3.1 Three FWUCs in Battambang irrigation system strengthened and 4 new FWUCs in Pursat irrigation system established and functioned (with at least 25% of women in management and 30% of members are women) and fully	MOWRAM PMU, PDWRAM PIUs and PICs	Q4/2024-Q4/2029

Gender Objectives	Performance Indicators (activities and targets)	Responsibility	Timelines
management committee members and 30% of female members, for the 30,520 ha command areas.	functional (2023 baseline: 0) (OP 2.3; OP 5.3.2) DMF 2e		
	2.3.2 FWUC management committee meetings organized in the places where are suitable for women.	MOWRAM PMU, PDWRAM PIUs and PICs	Q4/2024-Q4/2029
2.4 Enhance capacity for women's leadership, voice and decision within the FWUC.	2.4.1. At least 40% of female members of FWUC management committee are trained on accounting, communication, facilitation/coordination, planning development, monitoring, O&M, gender-responsive and climate-adaptive river basin management, climate-adaptive multiple reservoirs integrated operation, and gender-responsive river flow management.	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q1/2027
	2.4.2 Conduct awareness raising on Sexual Exploitation, Abuse and Harrassment aspects to female and male members of FWUC.	GMAG of MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q1/2027
	2.4.3 Conduct awareness raising on engagement men as allies to improve women's performance in leadership and management of FWUC.	GMAG of MOWRAM, PMU, and PDWRAM PIUs	Q4/2024-Q1/2027
2.5 Improve the economic empowerment of female farmers, who are among the total beneficiaries, through training for growing non-paddy rice and site demonstrations on climate mitigative agricultural practices such as the alternate wetting and drying method. These efforts will cover a certain area of the total ha paddy rice command area.	2.5.1. 20% of farmers (10% of- female farmers) trained on growing non-paddy rice (2023 baseline: 0) (OP 2.5; OP 3.1.2)- DMF 2f	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q1/2027
	2.5.2 At least 10% of trained female farmers conducted the site demonstration on climate mitigative agricultural practices.	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q1/2027
	2.5.3 At least 50% of 10% trained female farmers reported increase non-paddy rice production.	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q4/2029
Output 3: Flood risks during wet season reduced.			
3.1 Reduce the negative impacts on both women and men, thus, improving mitigation measures such as modernizing old river channels for flood diversions to protect communities.			
	3.1.1 Develop IEC materials for flood risks awareness raising. ^d	MOWRAM PMU, PDWRAM PIUs and PICs	Q4/2024-Q4/2027
	3.1.2 At least eight awareness raising on flood risks conducted with 800 population (30% women).	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q4/2029
	3.1.3 Sex-disaggregated data collection for flood risk reduction in Battambang and Pursat provinces.	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q4/2029
	3.1.4 Eight Case studies on flood risk reduction developed at the end of the project.	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q4/2029

Gender Objectives	Performance Indicators (activities and targets)	Responsibility	Timelines
3.2 Engage women in participatory flood risk mappings and gender-responsive community flood preparedness planning, implementation, and monitoring.	3.2.1 At least 30% of women ^[d] will be invited to community flood preparedness planning, implementation, and monitoring.	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q4/2027
	3.2.2 Flood risk maps and gender-responsive community flood preparedness plans developed and operated in target river basin groups and functional (2023 baseline: 0) (OP 2.5; OP 3.2.1) DMF 3d	MOWRAM PMU, and PDWRAM PIUs	Q4/2024-Q4/2027

DMF = design and monitoring framework, FWUC = farmer water user community, ha = hectare, IEC= information, education, communication, ISF = irrigation service fee, MOWRAM = Ministry of Water Resources and Meteorology, NA = not applicable, O&M = operation and maintenance, OP = operational priority, PDWRAM = provincial department of water resources and meteorology, PIU= project implementation unit, PMU = project management unit, RBC = river basin committee, WRM = water resources management.

^a Ensure that the rules guarantee the water allocation provided to female farmers and female headed households.

^b Ensure that the map clearly demonstrate the most density of the affected female farmers, female headed households and vulnerable groups.

^c Both Female Headed Households and Female Farmers who own the farmland in the common areas.

^d The IEC materials include flyers, posters and booklets on the flood risk information. The design of IEC will be gender sensitive. Number of the IEC materials will be determined during the implementation.

^e Total household is 30,739, with population of 134,229 in which 67,982 persons are female, equivalent to 50.65% of the population associated with the systems.

Source: Asian Development Bank.

84. GAP Implementation Arrangements. MOWRAM and its provincial offices (PDWRAMs), are crucial in implementing, monitoring, and evaluating gender equality actions outlined in the GAP. PDWRAMs collaborate with commune councils, the Children and Women Committee in Commune, and FWUC at the community level. A PMIC will be hired to coordinate project implementation, supported by a consultant team including national and international gender specialists. They will provide training, monitor progress, and evaluate effectiveness. The project will include training activities to empower women, with dedicated budget resources. Gender-related indicators will be included in the project's performance monitoring system, and regular updates on GAP implementation will be provided to ADB. Leadership training for female FWUC members and women's active participation in impact assessments are planned. Training workshops will equip women and girls with knowledge and skills for IWRM, FWUC operation and management, and local-level river basin planning. A separate National Gender Expert will be recruited for specific GAP indicators 1.4.1, 1.4.2, and 1.4.3. The budget for GAP implementation will be developed to ensure effective achievement.

85. GAP Negative Impact and Risks. The overall goal of the project is to reduce the gender gap, but there are potential risks related to gender and other factors during implementation. While involving women in consultations and meetings is a positive step, it may not automatically empower them due to the prevailing male dominance in Cambodian society. Resistance from family members or men could lead to increased domestic violence. Including women in mixed-gender consultations may be seen as tokenism rather than genuine efforts for gender equality. To address these risks, separate consultations or meetings will be conducted for men and women to ensure meaningful participation. Women's availability for daytime meetings may be limited due to family responsibilities, so suitable times will be determined through consultation. Project staff will communicate the project's intention to promote gender inclusivity during consultations, meetings, and through communication materials to help both men and women understand the importance of women's involvement. Emphasizing this point is crucial, especially since men often spend more time away from home due to work on family farms or other occupations.

86. **GAP Monitoring and Reporting.** The project's progress will be monitored and reported regularly, following the Project's Monitoring and Reporting Framework. MOWRAM, PDWRAMs, PMIC, and other partners will document monthly and quarterly progress, using it as a guide for subsequent actions. Shortcomings from the previous quarter will be addressed in the following quarter. The GAP appoints national and provincial gender focal points, supported by international and national gender specialists from the PMIC, to implement GAP activities. Reporting will cover each GAP activity and encountered challenges, informing future steps. The PMIC's gender specialists will prepare the quarterly GAP progress report, assessing project performance against GAP indicators.

87. **Stakeholder Participation.** The core of the project consists of gender equal and socially inclusive farmer participation. Provisions on participation have been sufficiently covered in the FWUC formation and strengthening, IWRM strengthening, flood risk prevention and protection planning, gender action plan, and other project documents which ensure the project information is shared with the beneficiary communities and other stakeholders. Participation of beneficiary communities and stakeholders in project activities is encouraged and facilitated. An easily accessible and effective grievance redress mechanism is to be set up in consultation with the communities. FWUCs established/ capacitated under the project will facilitate active participation of farmers in project activities. A separate participation plan, therefore, is not required.

88. **Engagement of Civil Society Organizations (CSOs).** During project implementation, the engagement of the CSOs is required for: (i) information generation and sharing (medium); (ii) consultation (medium); (iii) partnership (low). The collaboration with CSOs is not anticipated (not applicable).

89. The project will inform and share the planned efficient water use and sustainable O&M of the tertiary canals in command areas of modernized irrigation systems be carried out under the output 2 with FWUCs. The role of FWUCs will be clarified through consultations when FWUCs are strengthened or newly formed. Further, FWUCs will be consulted when specific demonstration areas for AWDs are selected. FWUCs will also be engaged in knowledge sharing and training and consultation to ensure that they are regularly kept informed about the significance of the project, progress and other issues and concerns for water resources planning and usage.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

A. Monitoring

90. **Project performance.** A preliminary project performance monitoring system (PPMS) will be developed based on the key indicators and targets outlined in the project DMF. It shall be established after the implementing agency has developed comprehensive PPMS procedures and plans in accordance with ADB's *Project Performance Monitoring System Handbook* within 6 months of loan effectiveness with the support of PMIC. The PPMS procedures, performance indicators, and their targets will be reviewed and approved by ADB. Benchmark review mainly focusing on secondary data will be conducted. With the help of PMIC, the implementing agency will then undertake quantitative and qualitative project performance monitoring for each project component every 6 months to evaluate the delivery of planned facilities and the project benefits have been accrued.

91. **Compliance.** A number of assurances have been given by the government to ensure smooth implementation of the project. Those are subject to the Loan covenants (Loan Agreement, Schedule 5). ADB will monitor compliance with those covenants during project implementation through regular review missions, QPRs submitted by PMU, and review of project accounts and procurement procedures.

92. **Environmental Safeguards Monitoring** is specified in the environment section.

93. **Resettlement and Indigenous Peoples.** The monitoring of the implementation of the DRPs will be done by the Department of Internal Monitoring and Data Management (DIMDM) of GDR through semiannual social safeguard report on land acquisition and resettlement to ADB and AIIB for review and disclosure. The DIMDM will confirm and validate that (i) entitlements and the corresponding compensation are paid in accordance with the Entitlement Matrix in the detailed RP, and (ii) GRM is functioning as per the guidelines. At the same time, PMU will be in-charge of monitoring of compliance of construction related activities, including the implementation of any CPP or VLD transactions in the subproject with some oversight and review from GDR. The PMU will submit a separate semi-annual social safeguards monitoring report to ADB on construction and VLD implementation related activities. The status of safeguards implementation, compliance issues and progress of corrective actions are to be reviewed by ADB-AIIB and disclosed on ADB and AIIB websites. The status of safeguards implementation will be discussed at each ADB review mission with necessary issues and agreed actions recorded in Aide Memoires and Memorandum of Understanding.

94. The EMA will be engaged to monitor the implementation of any IR category A subprojects, especially for the physically relocated, AH with major impact and vulnerable AHs. The EMA semiannual report will be submitted to GDR for review and forwarded to ADB-AIIB for review and disclosure at ADB and AIIB websites. ITP will be engaged and mobilized to monitor and validate any VLD transactions (as described in the DRP or CPP). ITP will prepare a special report based on their validation activities and submit it to ADB-AIIB and GDR-MOWRAM for review and thereafter will be forwarded to ADB-AIIB. The progress of VLD validation, implementation and monitoring will be included in the semi-annual monitoring report prepared by MOWRAM and submitted to ADB and AIIB for review and disclosure.

95. **Gender Equality and Social Dimensions.** Regular monitoring of gender related indicators in the DMF and GAP will be carried out during project implementation. The PPMS will ensure that data disaggregated by gender, age and other appropriate categories will be gathered, analyzed and reported wherever appropriate, in all progress reports and will allow regular monitoring of women's membership and participation in FWUC management committees, training and capacity development events, meetings, ownership of land in joint/single titles, participation in flood and drought risk assessment, mapping and protection plans, economic empowerment through employment in construction activities, and skill training in improved farming techniques. GAP monitoring reports will be submitted to ADB on a semiannual basis using GAP progress report template provided. Participatory monitoring of project impact will be implemented at the mid-term of the project, and this will include focus group discussions and interviews with female members and commune members who are not part of the FWUCs, construction workers, and community members to obtain quantitative and qualitative data. Qualitative data on women's empowerment and the expansion of their roles in FWUCs, such as positive changes and removal of constraints affecting their participation in FWUCs will be collected.

96. **Financial Management.** The status of compliance with the FM requirements, including financial reporting and auditing, FM action plan implementation and updates will be monitored by

the PMU, with support from the national FM consultant, and reported in the QPRs, which will be reviewed and discussed at each ADB review mission. ADB will update the e-Operations system with progress following each mission.

B. Evaluation

97. MOWRAM, with PMIC support, will provide semiannual updates on the project's performance through the PPMS. The status of achievement of performance targets or indicators of the project's outcome and output will be provided in the semi-annual updates. ADB/AIIB review missions will review the PPMS semi-annually to evaluate the project's performance and the likelihood of delivering the desired outputs and achieving the envisaged outcome. ADB's overall loan implementation rating will be made based on five performance indicators: technical, procurement, disbursement, financial management, and safeguards. Such rating will be updated quarterly based on the executing agency's quarterly project progress reports and/or ADB/AIIB review missions. Corrective actions will be agreed with the executing agency or implementing agency and recorded in the aide memoires or memoranda of understanding and subsequently monitored by ADB and the executing agency. Within 6 months of physical completion of the project, the executing agency will submit a project completion report to ADB and AIIB. A baseline survey will be carried out in the first quarter after project effectiveness to establish the baseline values. Midterm and outcome surveys will be carried out to estimate changes in agricultural income and climate resilience index ratings of beneficiary households.

C. Reporting

98. MOWRAM will provide ADB and AIIB with (i) quarterly progress reports in a format acceptable to ADB and MEF's template, which highlights the project's financial progress, showing periodic and cumulative amounts of budgeted and actual sources and uses of funds (covering the total project cost) following the cost categories in this project administration manual and reconciled with ADB's records; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) semi-annual safeguards, including the progress on the validation and implementation of CPP and gender monitoring reports, (d) an updated procurement plan, and (e) updated implementation plan for the next 12 months; (iii) annual audited project financial statements with management letter; and (iv) a project completion report within 6 months of physical completion of the project. To monitor project activities and ensure that the project funds are used for purposes intended, the annual audited project financial statements, together with the auditor's management letter, should be adequately reviewed before submission to ADB.

99. GDR will provide ADB and AIIB (i) a separate semiannual social safeguard on the preparation and implementation of DRPs, and (ii) semiannual independent external monitoring report on the DRPs implementations for review and disclosure.

D. Stakeholder Communication Strategy

100. The main stakeholders are categorized into government, beneficiaries, affected persons, CSOs, nongovernment organizations (NGOs), private sector, and displaced persons. The government agencies at national and sub national levels include the following: MEF, the PSC, MOWRAM, the PMU constituted under MOWRAM, Ministry of Women's Affairs at national level; at sub national level, the PDWRMM, Provincial Department of Agriculture, Forestry, and Fishery, and Provincial Department of Women's Affairs; and at subproject level, the related commune authorities, the FWUCs and their sub groups at village level. MOWRAM as the sector ministry,

will be responsible for all matters related to water resources sector in the country, and will be responsible for project planning, directing, administering, monitoring all project activities through the PMU in MOWRAM, the DFWUC, PDWRAMS and PIUs in the PDWRAMS, and for gender action plan implementation and monitoring through GMAG, GFPs in the national and sub national levels. MOWRAM and PDWRAMS will be responsible for all project planning and direction, monitoring and accountability. Project planning and implementation at provincial level for individual subprojects is to be done by PDWRAMS, in coordination with related departments at provincial levels and district agencies.

101. All these stakeholders will be aimed at for full and transparent communications through varying communication activities both direct and indirect, to provide timely and relevant information regarding the project and related sub project developments and activities as per the communications strategy outlined below.

- (i) Full and complete project access to all information will be provided to all government stakeholders through multiple communication channels including QPRs, PPMS, external monitoring of safeguards implementation, and ADB mission aide memoirs, in order to ensure that they understand the project, its significance, and all stakeholder roles and responsibilities, and guarantee their participation in project planning and implementation
- (ii) At sub project level PDWRAMS along with the district and commune level authorities and existing and FWUCs to be formed under the project will be responsible for consultative participatory project planning through women's FGDs, FGDs with beneficiaries, DPs, IPs, and other vulnerable groups for detailed sub project planning.
- (iii) Knowledge sharing and training. Staff from FWUC, GMAG and GFF and other staff from PDWRAMS, provincial departments of agriculture and forestry and fisheries, provincial departments of women's affairs and concerned CSOs will conduct trainings with women beneficiaries, women officers of FWUCs, farmers and beneficiaries of sub projects, in gender mainstreaming, social inclusion, FWUC organizing and management, functioning, roles and responsibilities, FWUC finances and accounting water resources management, conservation, O&M of minors, dispute resolution in FWUCs, skill training for value adding activities, diversification of commercial agriculture, market information, access to better markets and other related aspects.
- (iv) MOWRAM, PDWRAMS, and ADB will conduct regular meetings and consult with FWUCs, affected persons, DPs, beneficiaries, farmers, women in farming, CSOs, to ensure that they are regularly kept informed about the significance of the project to their livelihoods and incomes, the updated data about current project progress, planning, implementation, employment opportunities, and safeguards with regard to DPs, IPs, other vulnerable group, flood risk protection and management, community based flood protection planning, and other issues and concerns for water resources planning and usage, with the participation of CSOs working in the area.
- (v) Multiple communications channels would be used to provide up to date information to affected groups, DPs, IPs and other vulnerable sections about the latest project plans and discussions regarding project developments, compensation and prior notice for upcoming discussions and plans.
- (vi) Project implementation agencies will designate focal persons responsible for regularly updating the MOWRAM website that will provide latest information to

guide project stakeholders, participants and beneficiaries and partners in the implementation of the project.

- (vii) Multiple communication channels will be utilized to inform private sector of procurement contracts and ensure that project affected persons, stakeholders and international development partners are fully informed of project progress and performance.

102. The Stakeholder Strategies are summarized in Table 15.

Table 15: Stakeholder Communication Strategy Plan Matrix

Key Stakeholders	Desired Outcome	Risks	Information	Activities	Communications	Timing	Responsibility	Resources
Beneficiaries Farmers, female/male, Project affected persons/groups IPs, other vulnerable sections Other water users (private water companies, domestic water suppliers)	Complete understanding and acceptance of the project and project environmental and social/resettlement impacts Meaningful consultation on impacts and mitigation measures in the Initial IEE) and RF, RPs, as well as entitlements in the RF Understanding of entitlements and GRM	Accuracy, completeness, and timeliness of information Language or literacy barriers or difficulty All issued, concerns and complaints addressed in timely manner No perceived benefits among key stakeholders Political motives get into the way of project activities Dole- out mentality perception among local people	Project plans (IEE/EMP, RF, RPs REMD), land acquisition impacts, entitlements, compensation rates and GRM, as well as resettlement and income restoration strategies Project description, environmental impacts and mitigation, EMP, and GRM Activities during project preparation and implementation Broader project benefits Information on project planning, design and expected contributions, employment opportunities during construction phases	Provide clear and easily understandable, culturally appropriate, conflict-sensitive and accessible information Engage key stakeholders in soliciting meaningful feedback (through face-to-face meeting, if possible) Establishment of a project information office at PMIC, with volunteer community representatives in affected areas, if possible (case of Malabang) Consultations with FWUCs, beneficiaries, Quarterly Progress Reports (QPRs), PPMS, ADB Mission Reports, Aide Memoirs, MOWRAM and ADB Websites	Meetings and consultations with project affected persons Project information dissemination (posters, public notices) Executive Summary of the IEE (translated to Khmer language), while summary is posted in local government offices/ GRM Sustained and regular engagement with affected communities	Project's social preparation activities and/ or preliminary consultation activities Project readiness activities (pre-construction supervision) Project implementation activities (construction supervision)	MOWRAM, PDWRAM ADB	Human resources/ technical specialists (PMU and PMIC) Capacity building, training and technical support in communications and stakeholder engagement Budget for communication materials, translation and public posting of the IEE's executive summary, regular online meetings and community volunteers

Key Stakeholders	Desired Outcome	Risks	Information	Activities	Communications	Timing	Responsibility	Resources
Government Key stakeholders Steering Committee MOWRAM FWUCs PMU GMAG, MFF MAFF, MOWA MEF PDWRAM, PDPAFF, PDWA	Understanding of project rationale, objectives, scope of work & project implementation program Understanding project commitment to transparency and accountability	Lack of understanding of project goals, scope, activities, implications and results Lack of regular updates on project information Lack of regular communication flow	Regular and accurate messages and information sharing activities on project progress and developments Online and face-to-face meetings, workshops and consultations to Full access to all information on all aspects of project implementation and planning.	Public information updates on the progress of the project Establishment of a project information office at PIC, with volunteer community representatives QPRs, PPMS, Monitoring Reports on Safeguards, Monitoring Reports on GAP implementation, ADB Mission Reports, MOWRAM Website	Media outreach: local radio (including use of national language or local dialects), national radio, television, print, social media Distribution of essential communication	Project's social preparation activities and/ or preliminary consultation activities Project readiness activities (pre-construction supervision)	PMU, ADB	Human resources/ technical specialists (PMU and PMIC/CSC) Capacity building, training and technical support in communications
CSOs/NGOs MFIs any others	Understand and support the project due to corresponding benefits to the local community/ community authorities Link project benefits with other development opportunities such as employment, economic assistance and safety of public	Lack of accuracy, completeness, timeliness of information Abrupt changes in leadership at these levels – lack of familiarity with project and requirements and previous commitments Lack of commitment to and support for communications and stakeholder	(conflict-sensitive) messages (core and tailored messages for information dissemination and acceptable (conflict-sensitive) communication and dissemination channels/medium Project plans and	Meetings (online or face-to-face) with LGUs, local community authorities and leaders Provide easily-understood information Engage community leaders to support the project Establishment of a project information office at PMU and PIUs, with	Media outreach: local radio (including use of national language or local dialects), national radio, television, print, social media Distribution of essential communication materials (posters, notices)	All stages of project implementation Project's social preparation activities and/ or preliminary consultation activities Project readiness activities (pre-construction supervision) Project implementation	MOWRAM/PDW RAMs/ADB	Human resources/ technical specialists (PMU and PMIC) Support in communications and stakeholder engagement Budget for communication materials, translation and public posting of Budget for communication materials,

Key Stakeholders	Desired Outcome	Risks	Information	Activities	Communications	Timing	Responsibility	Resources
	and private commuters Involvement in consultation process regularly Understanding of process for handling concerns, grievance redress	engagement activities	implementation, activities and impacts on larger groups	volunteer community representatives and/or youth in affected areas Consultations with FWUCs, beneficiaries, QPRs, PPMSs, monitoring reports of safeguards, GAP reports, ADB Website, ADB Mission Reports and Aide Memoirs, MOWRAM Website		activities (construction supervision)		translation and public posting of the IEE's executive summary, regular online meetings and community authorities and volunteers, and community consultation activities

ADB = Asian Development Bank, CSO = civil society organization, DMF = design and monitoring framework, FWUC = farmer water user community, GAP = gender action plan, GMAG = gender mainstreaming action group, GRM = grievance redress mechanism, IEE = Initial Environmental Examination, ISF = irrigation service fee, MAFF = Ministry of Agriculture, Forestry and Fisheries, MEF = Ministry of Economy and Finance, MFI = , MOWRAM = Ministry of Water Resources and Meteorology, MOWA = Ministry of Women Affairs, NGO = non-governmental organization, O&M = operation and maintenance, OP = operational priority, PDAFF = provincial department of agriculture, forestry, and fisheries, PDWA = provincial department of women affairs, PDWRAM = provincial department of water resources and meteorology, PIU= project implementation unit, PMIC = project management and implementation consultant, PMU = project management unit, PPMS = project performance monitoring system, QPR = quarterly progress report, RBC = river basin committee, RF = resettlement framework, RP = resettlement plan, WRM = water resources management.

Source: Asian Development Bank.

X. ANTICORRUPTION POLICY

103. Implementation of the project shall adhere to ADB's *Anticorruption Policy* (1998) and *Integrity Principles and Guidelines* (2015), both as amended from time to time. ADB has the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project. All contracts financed by ADB shall include provisions specifying that (i) the contracts are ADB financed; (ii) ADB's *Anticorruption Policy and Integrity Principles and Guidelines* apply; (iii) the executing and implementing agencies and all project contractors, suppliers, consultants (including lead firms and sub-consultants), and other service providers shall permit ADB to review and inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB; and (iv) the project contractors, suppliers, consultants (including lead firms and sub-consultants), and other service providers undertake that no fees, gratuities, rebates, gifts, commissions, or other payments other than those shown in the bid have been offered, given, or received in connection with the procurement process or in the contract execution. Individuals and entities on ADB's complete Sanctions List²¹ are ineligible to participate in ADB-financed, -administered, and -supported activity and cannot be awarded any contracts under the project.²² ADB's Office of Anticorruption and Integrity endorsement should be sought and obtained prior to the effectivity of, or approving, any contract variation involving a debarred or temporarily suspended firm or individual in ADB's complete Sanctions List, regardless of the nature or cost of contract variation.

104. Underpinned by ADB's zero tolerance for corruption, the Office of Anticorruption and Integrity aligns with ADB's commitment to strengthen governance across Asia and the Pacific. To report a complaint of integrity violations to ADB's Office of Anticorruption and Integrity, please visit <https://www.adb.org/integrity/report-violations#accordion-0-2>.

105. To support these efforts, relevant provisions are included in the loan agreement, grant agreement, and bidding documents for the project. In particular, all contracts financed by ADB in connection with the project will include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all contractors, suppliers, consultants, and other service providers as they relate to the project.

XI. ACCOUNTABILITY MECHANISM

106. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.²³

²¹ ADB. [Sanctions List](#); and ADB. [Frequently Asked Questions on ADB Sanctions](#).

²² ADB. [Procurement Regulations for ADB Borrowers](#); and ADB. [Office of Anticorruption and Integrity](#).

²³ ADB. [Accountability Mechanism](#).

XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL**Table 16: Changes to the Project Administration Manual**

PAM Version	Date	Reasons for Change	Main Contents of Change
1.0			

Source: Asian Development Bank.

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with Cambodia's WRM made climate-adaptive and sustainable to support social and economic growth and protect ecosystems (Water Resources Management and Sustainable Irrigation Road Map and Investment Program 2019–2033) ^a			
Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
Outcome Livelihoods in the target river basin groups made climate and disaster resilient through climate-adaptive integrated water resources management	By 2031: a. The volume of available water for the target irrigation systems during the dry season increased by 20% (2023 baseline: average of 265 million m ³) (OP 5.3.1, OP3.2.1) b. Agricultural water productivity increased by 100% in the dry season and 20% in the wet season in target irrigation systems (2023 baseline: 0.08 kg/m ³ in the dry season and 0.38kg/m ³ in the wet season) (OP 5.3.1) c. Average yield increased by at least 20% in target irrigation systems (2023 baseline: early wet season rice 4.0 t/ha in Battambang, early wet season rice 3.0 t/ha in Pursat, late wet season rice 3.5 t/ha in Battambang, late wet season rice 2.5 t/ha in Pursat, middle season rice 2.3 t/ha in Battambang, 2.0 t/ha in Pursat, dry season rice 4.5 t/ha in Battambang and Pursat) (OP 5.3.1) d. Number of people living in areas with a 20-year return period flood hazard reduced to 28,000 people in Battambang and 10,000 people in Pursat (51% women, 7% elderly and 9% children) (2023 baseline: 39,400 people at risk in Battambang and 15,300 people in Pursat) (OP 2.5; OP 3.2.1) e. Lands affected by 20-year return river flood hazards reduced to 16,600 ha in Battambang and 31,500 ha in Pursat (2023 baseline: 18,800 ha in Battambang and 36,500 ha in Pursat) (OP 3.2.1.)	a–e. MOWRAM official records, project-generated reports, official statistics, flood risk analysis	R: Increase in floods and droughts as a result of climate change impacts exceeds projectionsreducing the benefits of the project, A: Sufficient budget for operating RBCs is allocated by provinces and provided by the government.
Outputs 1. Planning, coordination, and climate change adaptation capacities of WRM strengthened	By 2030: 1a. Two RBCs strengthened and fully functional, with 10% female members (2022 baseline: 2% female representation) (OP 2.3; OP 6.1.1) 1b. Two climate-adaptive and gender-responsive river basin management plans developed and	1a.–g. MOWRAM's decree, RBC's records, MOWRAM project-generated reports	R: Hydropower authorities are reluctant to agree on reservoir operation plans and river basin management plans.

Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
	<p>implemented with WRM performance monitoring and assessment systems^b (2023 baseline: 0) (OP 2.5; OP 3.2.4)</p> <p>1c. Two climate-adaptive reservoir operation plans developed and implemented (2023 baseline: 0) (OP 3.3.5)</p> <p>1d. Two gender-responsive^b river flow management plans with water allocation rules updated and implemented (2023 baseline: two plans but not gender-responsive) (OP 2.5; OP 3.2.4)</p> <p>1e. Four hydrological stations and 16 rainfall gauges upgraded or newly established (2023 baseline: 5 hydrological stations [1 in Battambang and 4 in Pursat] and 6 rainfall gauges [1 in Battambang and 5 in Pursat]) (OP 3.2.1; OP 5.3.1)</p> <p>1f. Two drought and flood forecasting and warning systems developed and fully functional (2023 baseline: 0) (OP 2.5; OP 3.2.1; OP 5.3.1)</p> <p>1g. By 2027, two sustainable WRM operation and management strategies approved and all arrangements set out in those strategies commenced (2023 baseline: 0) (OP 3.3.5)</p>		R: Water users are reluctant to agree on water allocation rules.
2. Water supply capacity increased	<p>2a. Crop areas increased to 54,466 ha in the wet season^c and 11,082 ha in the dry season^d through provision of reliable irrigation water for 28,666 ha in two irrigation systems^e with climate adaptive designs (2023 baseline: 43,984 ha in wet season^f and 4,407 ha in dry season^g) (OP 5.3.1, OP3.2.1)</p> <p>2b. 13 fish passages (4 in Battambang Province and 9 in Pursat Province) upgraded or installed in existing or new river crossing structures (2023 baseline: 1 in Battambang and 2 in Pursat) (OP 3.3.4)</p>	2a.–g. RBC's records, MOWRAM project-generated reports, project's assessment	

Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
	<p>2c. One existing irrigation regulator in Pursat remodeled for stable water intake for irrigation (2023 baseline: 0) (OP 1.1.3)</p> <p>2d. Women account for 25% of unskilled labor engaged in upgrading and construction of irrigation and flood protection infrastructure (2023 baseline: NA) (OP 2.3)</p> <p>2e. Three FWUCs in Battambang irrigation system strengthened and four new FWUCs in Pursat irrigation system established and functional (with women accounting at least 25% of management and 30% of members) and fully functional (2023 baseline: 0) (OP 2.3; OP 5.3.2)</p> <p>2f. 20% of farmers (10% female farmers) trained on growing non-paddy rice (2023 baseline: 0) (OP 2.5; OP 3.1.2)</p> <p>2g. Carbon emissions reduced by 11,750 tons with pilot testing of AWD on 2,350 ha with 1,150 trained farmers. (2023 baseline: 0) (OP 2.5; OP 3.1.2) (JFPR TA)</p>		
3. Flood risks during wet season reduced	<p>3a. Flood protection capacities in Sek Sork reservoir increased to discharge peak flow of 650 m³/s in events with probability of less than 5% through updating of operational rules (2023 baseline: 2,000 m³/s) (OP 3.2.1)</p> <p>3b. Capacity of flood flow diversion to old river channel increased to 400 m³/s (100 m³/s in Sangker River and 300 m³/s in Pursat River) through expansion of the old river channel (2023 baseline: 20 m³/s in Sangker River and 50 m³/s in Pursat River) (OP 3.2.1)</p> <p>3c. Flood risk maps and gender-responsive community flood preparedness plans developed and operational, and functional in target river basin groups (2023 baseline: 0) (OP 2.5; OP 3.2.1)</p>	3a.–c. RBC's records, MOWRAM project-generated reports, project's analysis	
Key Activities with Milestones 1. Planning, coordination, and climate change adaptation capacities of WRM strengthened 1.1 Upgrade hydrometeorological stations and staff training (Q2-Q4 2026) 1.2 Confirm RBC members in Pursat and Sangker RBC (Q3 2025) 1.3 Assist RBCs in developing climate-adaptive river basin management plans (Q3 2025-Q4 2027)			

<p>1.4 Develop climate adaptive flood management and integrated reservoir operation plans, in consultation with stakeholders (Q1 2025–Q4 2027)</p> <p>1.5 Develop river flow management plans with water allocation rules (Q4 2027)</p> <p>1.6 Hold seminars and consultation on river basin management plans (Q2 2027)</p> <p>1.7 Develop drought and flood forecasting and warning systems (Q3 2025–Q4 2027)</p> <p>1.8 Secure approval of wwo sustainable WRM operation and management strategies at least 2 years prior to project completion and commence all arrangements set out in those strategies in the 2 years prior to project completion (2023 baseline: 0) (OP 3.3.5) (Q1–Q4 2028)</p> <p>2. Water supply capacity during dry season increased</p> <p>2.1 Remodel Kbal Hong barrage at Pursat (Q1 2026–Q4 2028)^h</p> <p>2.2 Construct and/or upgrade irrigation canals at Kbal Hong and Kanghot (Q1 2026–Q4 2027)</p> <p>2.3 Construct fish passages and monitor operations (Q1 2026–Q4 2027)</p> <p>2.4 Establish FWUCs at Kbal Hong (Q1 2025–Q4 2027)</p> <p>2.5 Conduct capacity building for FWUCs at Kbal Hong and Kanghot (Q1 2025–Q2 2030)</p> <p>2.6 Provide climate-adaptive agriculture support services (Q1 2025–Q2 2030)</p> <p>2.7 Introduce and demonstrate the AWD (Q1 2025–Q2 2030)</p> <p>3. Flood risks during wet season reduced</p> <p>3.1 Construct Svay Ath offtake and channel works in Pursat (Q1 2026–Q4 2028)</p> <p>3.2 Construct Sangker SraLaU offtake in Battambang (Q1 2026–Q4 2028)</p> <p>3.3 Develop flood risk maps (Q1 2026–Q4 2028)</p> <p>3.4 Develop community flood preparedness plans (Q1 2026–Q4 2027)</p> <p>Project Management Activities</p> <p>Mobilize project management and implementation support consultant (Q4 2024)</p> <p>Review and update the social and environment safeguard documents (Q3 2024–Q2 2029)</p> <p>Implement the gender assessment and action plan (Q3 2024–Q3 2030)</p>
<p>Inputs</p> <p>Asian Development Bank: \$83.69 million (loan) and \$4.30 million (grant)</p> <p>Government of Cambodia: \$30.19 million</p> <p>Asian Infrastructure Investment Bank: \$80.00 million (loan, partially administered) and \$3.55 million (grant, not ADB-administered)^h</p> <p>Japan Fund for Prosperous and Resilient Asia and the Pacific Technical Assistance: \$1.50 million (ADB-administered)</p> <p>A = assumptions, AIIB = Asian Infrastructure Investment Bank, AWD = alternative wetting and drying, FWUC = farmer water users community, ha = hectare, m³ = cubic meter, m³/s = cubic meters per second, MOWRAM = Ministry of Water Resources and Meteorology, NA = not applicable, OP = operational priority, Q = quarter, R = risks, RBC = river basin committee, WRM = water resources management.</p> <p>^a Government of Cambodia. MOWRAM. 2019. <i>National Water Resources Management and Sustainable Irrigation Road Map and Investment Program 2019–2033</i>.</p> <p>^b The plans will consider different needs, roles, and responsibilities of men and women, as well as women in vulnerable circumstances, such as poor, elderly, or in female-headed households. The approach promotes the participation of women in consultations on how water is managed.</p> <p>^c 32,338 ha in Battambang and 22,128 ha in Pursat.</p> <p>^d 7,190 ha in Battambang and 3,898 ha in Pursat.</p> <p>^e 17,020 ha in Battambang and 11,646 ha in Pursat.</p> <p>^f 32,338 ha in Battambang and 11,646 ha in Pursat.</p> <p>^g 3,157 ha in Battambang and 1,250 ha in Pursat.</p> <p>^h The detailed engineering design consultant for remodeling the existing barrage will be fielded in Q3 2024 (funded by grant assistance from AIIB). The other detailed engineering design consultant will be fielded in Q4 2024 (funded by additional grant assistance from AIIB). Both of which will be administered by AIIB.</p> <p>Source: Asian Development Bank.</p>

DETAILED COST ESTIMATES BY EXPENDITURE CATEGORY
(\$ million)

Item	Amount	% of Base Cost
A. Base Costs ^{a, b}		
Works	133.30	86.4%
Goods	1.10	0.7%
Land acquisition and resettlement	8.73	5.7%
Consultants		
Consulting services (Environmental management)	0.71	0.5%
Consulting services (Gender action plan)	0.26	0.2%
Consulting services (Project management)	5.31	3.4%
Consulting services (Capacity development)	3.86	2.5%
Land acquisition arrangement for tertiary canals ^f	0.29	0.2%
Subtotal (A)	153.56	99.5%
B. Recurrent Costs ^{a, b}		
PMU salaries	0.35	0.2%
PMU operation and maintenance	0.41	0.3%
Subtotal (B)	0.76	0.5%
Total base cost (A+B)	154.31	100.0%
C. Contingencies ^{c, d}		
Physical	8.77	5.7%
Price	15.43	10.0%
Subtotal (C)	24.20	15.7%
D. Financing Charges During Implementation ^e		
Interest during construction	18.88	12.2%
Commitment charges	0.79	0.5%
Subtotal (D)	19.67	12.7%
Total Project Costs (A+B+C+D)	198.18	128.4%

Note: Figures may not sum due to rounding.

^a Includes taxes and duties of \$13.24 million to be financed by ADB and AIIB.

^b Base costs in Q2 2024 2023 prices.

^c Physical contingencies computed at 5% for civil works and 10% for other expenditure categories

^d Price contingencies were computed at 1.7% for 2023, 1.8% for 2024 and 2025, and gradually rising to 2.0% in 2030 and stay at that level thereafter for foreign currency cost escalation; and 3.0% for 2023, 2% for 2024 and 2025, and 3% for 2026 and thereafter for local currency cost escalation.

^e Interest during the grace period of 8 years computed at 1% per annum and 1.5% per annum thereafter for ADB loan; commitment charges computed at 0% per annum for ADB loan, and Interest during construction computed at 6.69% per annum and commitment charges computed at 0.25% per annum for AIIB loan.

^f Includes the cost for independent third party.

Source: ADB estimates.

DETAILED COST ESTIMATE BY FINANCIER
(\$ million)

Expenditure Category	ADB Loan		ADF		AIIB Loan		Government of Cambodia		Total	Taxes and duties	% of Cost
	Amount	% of Cost	Amount	% of Cost	Amount	% of Cost	Amount	% of Cost			
A. Investment Costs ^{a,b}											
Works	68.53	51.4%	-	0.0%	64.77	48.6%	-	0.0%	133.30	12.12	67.3%
Goods	0.55	50.0%	-	0.0%	0.55	50.0%	-	0.0%	1.10	0.10	0.6%
Land acquisition and resettlement	-	0.0%	-	0.0%	-	0.0%	8.73	100.0%	8.73	-	4.4%
Consultants											
Consulting services (Environmental management)	0.35	50.0%	-	0.0%	0.35	50.0%	-	0.0%	0.71	0.06	0.4%
Consulting services (Gender action plan)	0.13	50.0%	-	0.0%	0.13	50.0%	-	0.0%	0.26	0.02	0.1%
Consulting services (Project management)	2.66	50.0%	-	0.0%	2.66	50.0%	-	0.0%	5.31	0.48	2.7%
Consulting services (Capacity development)	-	0.0%	3.46	89.7%	0.40	10.3%	-	0.0%	3.86	0.35	1.9%
Land acquisition arrangement for tertiary canals ^c	-	0.0%	0.15	50.0%	0.15	50.0%	-	0.0%	0.29	0.03	0.1%
Subtotal (A)	72.22	47.0%	3.61	2.3%	69.01	44.9%	8.73	5.7%	153.56	13.17	77.5%
B. Recurrent Costs ^{a,b}											
PMU salaries	-	0.0%	-	0.0%	-	0.0%	0.35	100.0%	0.35	0.03	0.2%
PMU operation and maintenance	0.20	50.0%	-	0.0%	0.20	50.0%	-	0.0%	0.41	0.04	0.2%
Subtotal (B)	0.20	26.9%	-	0.0%	0.20	26.9%	0.35	46.1%	0.76	0.07	0.4%
Total base cost	72.43	46.9%	3.61	2.3%	69.21	44.8%	9.08	5.9%	154.31	13.24	77.9%
C. Contingencies ^{d,e}											
Physical	3.82	43.5%	0.36	4.1%	3.68	42.0%	0.91	10.4%	8.77		4.4%
Price	7.45	48.3%	0.33	2.2%	7.11	46.1%	0.54	3.5%	15.43		7.8%
Subtotal (C)	11.26	46.5%	0.69	2.9%	10.79	44.6%	1.45	6.0%	24.20	0.00	12.2%
D. Financing Charges During Implementation ^f											
Interest during construction		0.0%		0.0%		0.0%	18.88	100.0%	18.88	0.00	9.5%
Commitment charges		0.0%		0.0%		0.0%	0.79	100.0%	0.79	0.00	0.4%
Subtotal (D)	-	0.0%	-	0.0%	-	0.0%	19.67	100.0%	19.67	0.00	9.9%
Total Project Costs (A+B+C+D)	83.69	42.2%	4.30	2.2%	80.00	40.4%	30.19	15.2%	198.18	13.24	100.0%

ADB = Asian Development Bank, ADF = Asian Development Fund, AIIB = Asian Infrastructure Investment Bank, Q = quarter.

Note: Figures may not sum due to rounding.

^a Includes taxes and duties of \$13.24 million to be financed by ADB and AIIB.

^b Base costs in Q2 2024 prices.

^c Includes the cost for independent third party.

^d Physical contingencies computed at 5% for civil works and 10% for other expenditure categories

^e Price contingencies were computed at 1.7% for 2023, 1.8% for 2024 and 2025, and gradually rising to 2.0% in 2030 and stay at that level thereafter for foreign currency cost escalation; and 3.0% for 2023, 2% for 2024 and 2025, and 3% for 2026 and thereafter for local currency cost escalation.

^f Interest during the grace period of 8 years computed at 1% per annum and 1.5% per annum thereafter for ADB loan; commitment charges computed at 0% per annum for ADB loan, and Interest during construction computed at 6.69% per annum and commitment charges computed at 0.25% per annum for AIIB loan.

Source: ADB estimates.

DETAILED COST ESTIMATE BY OUTPUTS
(\$ million)

	Output 1: Planning, coordination, and climate change adaptation capacities of water resources management strengthened		Output 2: Water supply capacity increased		Output 3: Flood risks during wet season reduced		Total cost
	Amount	% of Cost	Amount	% of Cost	Amount	% of Cost	
A. Investment Costs ^{a,b}							
Works	-	-	115.85	86.9%	17.45	13.1%	133.30
Goods	0.64	58.0%	0.40	36.4%	0.06	5.7%	1.10
Land acquisition and resettlement	-	-	6.61	75.7%	2.12	24.3%	8.73
Consultants							
Consulting services (Environmental management)	0.01	1.8%	0.60	85.0%	0.09	13.2%	0.71
Consulting services (Gender action plan)	0.00	1.8%	0.22	85.0%	0.03	13.2%	0.26
Consulting services (Project management)	0.09	1.8%	4.52	85.0%	0.70	13.2%	5.31
Consulting services (Capacity development)	1.90	49.4%	1.95	50.6%	-	-	3.86
Land acquisition arrangement for tertiary canals ^c	-	-	0.29	100.0%	-	-	0.29
Subtotal (A)	2.65	1.7%	130.45	85.0%	20.46	13.3%	153.56
B. Recurrent Costs ^{a,b}							
PMU salaries	0.01	1.8%	0.30	85.0%	0.05	13.2%	0.35
PMU operation and maintenance	0.01	1.8%	0.35	85.0%	0.05	13.2%	0.41
Subtotal (B)	0.01	1.8%	0.64	85.0%	0.10	13.2%	0.76
A+B	2.67	1.7%	131.10	85.0%	20.56	13.3%	154.31
C. Contingencies ^{d,e}							
Physical	0.27	3.0%	7.32	83.5%	1.18	13.5%	8.77
Price	0.22	1.4%	13.34	86.5%	1.87	12.1%	15.43
Subtotal (C)	0.48	2.0%	20.66	85.4%	3.05	12.6%	24.20
A+B+C	3.15	1.8%	151.76	85.0%	23.61	13.2%	178.52
D. Financing Charges During Implementation ^f							
Interest during construction	0.33	1.8%	16.05	85.0%	2.50	13.2%	18.88
Commitment charges	0.01	1.8%	0.67	85.0%	0.10	13.2%	0.79
Subtotal (D)	0.35	1.8%	16.72	85.0%	2.60	13.2%	19.67
Total Project Costs (A+B+C+D)	3.50	1.8%	168.48	85.0%	26.21	13.2%	198.18

Note: Figures may not sum due to rounding.

^a Includes taxes and duties of \$13.24 million to be financed by ADB and, AIIB.

^b Base costs in Q2 2024 prices.

^c Includes the cost for independent third party.

^d Physical contingencies computed at 5% for civil works and 10% for other expenditure categories

^e Price contingencies were computed at 1.7% for 2023, 1.8% for 2024 and 2025, and gradually rising to 2.0% in 2030 and stay at that level thereafter for foreign currency cost escalation; and 3.0% for 2023, 2% for 2024 and 2025, and 3% for 2026 and thereafter for local currency cost escalation.

^f Interest during the grace period of 8 years computed at 1% per annum and 1.5% per annum thereafter for ADB loan; commitment charges computed at 0% per annum for ADB loan, and Interest during construction computed at 6.69% per annum and commitment charges computed at 0.25% per annum for AIIB loan.

Source: ADB estimates.

DETAILED COST ESTIMATE BY YEAR
(\$ million)

Expenditure Category	2024	2025	2026	2027	2028	2029	2030	Total
A. Investment Costs ^{a,b}								
Works	0.00	0.00	14.51	53.74	54.97	10.09	0.00	133.30
Goods	0.00	0.63	0.47	0.00	0.00	0.00	0.00	1.10
Land acquisition and resettlement	0.00	8.37	0.36	0.00	0.00	0.00	0.00	8.73
Consultants								
Consulting services (Environmental management)	0.00	0.17	0.09	0.14	0.08	0.08	0.14	0.71
Consulting services (Gender action plan)	0.00	0.06	0.03	0.05	0.03	0.03	0.05	0.26
Consulting services (Project management)	0.03	0.92	0.84	0.84	0.83	0.83	1.03	5.31
Consulting services (Capacity development)	0.00	0.62	1.24	1.23	0.76	0.00	0.00	3.86
Land acquisition arrangement for tertiary canals	0.04	0.13	0.05	0.05	0.03	0.00	0.00	0.29
Subtotal (A)	0.06	10.91	17.59	56.04	56.71	11.03	1.22	153.56
B. Recurrent Costs ^{a,b}								
PMU salaries	0.00	0.06	0.06	0.06	0.06	0.06	0.06	0.35
PMU operation and maintenance	0.00	0.12	0.04	0.09	0.04	0.04	0.09	0.41
Subtotal (B)	0.00	0.18	0.10	0.15	0.09	0.09	0.14	0.76
Total base cost	0.06	11.09	17.69	56.19	56.81	11.12	1.36	154.31
C. Contingencies ^{c,d}								
Physical	0.01	1.11	1.04	2.93	2.93	0.61	0.14	8.77
Price	0.00	0.60	1.16	5.10	6.68	1.63	0.26	15.43
Subtotal (C)	0.01	1.70	2.21	8.03	9.61	2.23	0.40	24.20
D. Financing Charges During Implementation ^e								
Interest during construction	0.00	0.05	0.44	1.97	4.39	5.87	6.16	18.88
Commitment charges	0.20	0.20	0.19	0.14	0.06	0.01	0.00	0.79
Subtotal (D)	0.20	0.25	0.63	2.10	4.45	5.88	6.16	19.67
Total Project Costs (A+B+C+D)	0.27	13.04	20.52	66.33	70.87	19.24	7.92	198.18
% of Total Project Cost	0.14%	6.58%	10.35%	33.47%	35.76%	9.71%	3.99%	100.00%

Note: Figures may not sum due to rounding.

^a Includes taxes and duties of \$13.24 million to be financed by ADB and AIIB.

^b Base costs in Q2 2024 prices.

^c Physical contingencies computed at 5% for civil works and 10% for other expenditure categories

^d Price contingencies were computed at 1.7% for 2023, 1.8% for 2024 and 2025, and gradually rising to 2.0% in 2030 and stay at that level thereafter for foreign currency cost escalation; and 3.0% for 2023, 2% for 2024 and 2025, and 3% for 2026 and thereafter for local currency cost escalation.

^e Interest during the grace period of 8 years computed at 1% per annum and 1.5% per annum thereafter for ADB loan; commitment charges computed at 0% per annum for ADB loan, and Interest during construction computed at 6.69% per annum and commitment charges computed at 0.25% per annum for AIIB loan.

Source: ADB estimates.

PROCUREMENT PLAN

Basic Data	
Project Name: Integrated Water Resources Management Project (IWRMP)	
Project Number: 55197-001	Approval Numbers: xxxx, xxxx,xxx
Country: Cambodia	Executing Agency: Ministry of Water Resources and Meteorology
Procurement Risk: Substantial	Implementing Agency: Provincial Governments of Battambang and Pursat
Project Financing Amount: \$ 167.99 million ADB Financing: \$ 87.99 million (\$83.69 million from ADB loan and \$4.30 million from Asian Development Fund) Cofinancing (ADB Administered): \$ 80.00 million Non-ADB Financing: Not Applicable	Project Closing Date: 30 June 2031
Date of First Procurement Plan {loan/grant approval date}	Date of this Procurement Plan: 14 March 2024
Procurement Plan Duration: 18 months	Related to COVID-19 response efforts: No
Advance contracting: Yes	Use of e-procurement (e-GP): No

A. Methods, Review and Procurement Plan

Except as the Asian Development Bank (ADB) may otherwise agree, the following methods shall apply to procurement of goods, works, nonconsulting services, and consulting services.

Procurement of Goods, Works and Nonconsulting Services	
Method	Comments
Open Competitive Bidding (OCB) for Goods	International and national advertising
Request For Quotations for Goods	National advertising
Open Competitive Bidding (OCB) for Works	International and national advertising

Consulting Services	
Method	Comments
Quality- and Cost-Based Selection for Consulting Firm	Quality Cost Ratio - 80:20
Consultants Qualifications Selection for Consultant	Agriculture Support Services, Independent Third Party, Detailed Risk Assessment and Community Participation Framework Development for Voluntary Land Donation
Competitive for Individual Consultant	Procurement Specialist (international and national) Financial Management Specialist (international and national), Environment Safeguards Specialist (international and national), Farmer Water User Community Facilitator (national)

B. List of Active Procurement Packages (Contracts)

The following table lists goods, works, nonconsulting, and consulting services contracts for which the procurement activity is either ongoing or expected to commence within the procurement plan's duration.

Goods, Works, and Nonconsulting Services							
Package Number ¹	General Description	Estimated Value (\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
	Kbal Hong Irrigation system						
IWRM-CW01	Construction of Pursat regulator/barrage including service bridge, river bank protection, fish pass, gates,	22,600,000	OCB	Prior	1S1E	Q3 2025	Advertising: International No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Large

Goods, Works, and Nonconsulting Services							
	and canal intake structures for MC1 and MC2						Works Advance contract: No
IWRM-G01	Supply, installation and commissioning of AWS and AHS equipment for hydromet stations in Sangker and Pursat river basins	700,000	OCB	Prior	1S1E	Q3 2025	Advertising: International No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Goods Advance contract: No
IWRM-G02	Vehicles	360,000	OCB	Prior	1S1E	Q1 2025	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: SOP Goods Advance contract: Yes
IWRM-G03	Computers and office equipment	82,000	RFQ	Post review (sampling)		Q1 2025	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: SOP RFQ for Goods Advance contract: Yes
IWRM-G04	Motorcycles	14,000	RFQ	Post review (sampling)		Q1 2025	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: SOP RFQ for Goods Advance contract: Yes
IWRM-G05	Office furniture	16,000	RFQ	Post review (sampling)		Q2 2025	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: SOP RFQ for Goods Advance contract: Yes

ADB = Asian Development Bank, km = kilometer, MC = main canal, OCB = open competitive bidding, Q = quarter, RFQ = request for quotations, 1S1E = single-stage: one envelope.

Consulting Services							
Package Number	General Description	Estimated Value (\$)	Selection Method	Review	Type of Proposal	Advertisement Date	Comments
IWRM-CS01	Project Management and Implementation Consultant, including construction supervision services	5,829,000	QCBS (80:20)	Prior	FTP	Q3 2024	Type: Firm Assignment: International Quality/cost ratio: 80:20 Prequalification of bidders: Yes Advance procurement: Yes
IWRM-CS02	Support to the River Basin Management Committees and flood forecasting system in Sangker and Pursat river basins, plus Community-Based Disaster Risk Management for Kanghot and Kbal Hong irrigation system sub-projects.	1,962,000	QCBS (80:20)	Prior	FTP	Q1 2025	Type: Firm Assignment: International Quality/cost ratio: 80:20 Prequalification of bidders: Yes Advance procurement: No
IWRM-CS07	FWUC Facilitator (national)	768,000	ICS	Prior		Q1 2025	Type: Individual Assignment: National Number of contracts: 8 Advance procurement: No
IWRM-CS08	Procurement Specialist (international)	72,000	ICS	Post Review (Sampling)		Q4 2024	Type: Individual Assignment: International Advance procurement: Yes
IWRM-CS09	Procurement Specialist (national)	36,000	ICS	Post Review (Sampling)		Q4 2024	Type: Individual Assignment: National Advance procurement: Yes

Consulting Services							
IWRM-CS10	Independent Third Party Monitors for voluntary land donation monitoring and evaluation	150,000	CQS	Prior	BTP	Q1 2025	Type: Firm Assignment: National Advance procurement: No
IWRM-CS11	Detailed risk assessment and community participation framework development for voluntary land donation	150,000	CQS	Post Review (Sampling)	BTP	Q1 2025	Type: Firm Assignment: National Advance procurement: No
IWRM-CS12	Financial Management Specialist (international)	20,000	ICS	Post Review (Sampling)		Q4 2024	Type: Individual Assignment: International Advance procurement: Yes
IWRM-CS13	Financial Management Specialist (national)	10,000	ICS	Post Review (Sampling)		Q4 2024	Type: Individual Assignment: National Advance procurement: Yes
IWRM-CS14	Environment Safeguards Specialist (international)	20,000	ICS	Post Review (Sampling)		Q4 2024	Type: Individual Assignment: International Advance procurement: Yes
IWRM-CS15	Environment Safeguards Specialist (national)	10,000	ICS	Post Review (Sampling)		Q4 2024	Type: Individual Assignment: National Advance procurement: Yes

BTP = biodata technical proposal, CQS = consultants qualifications selection, FTP = full technical proposal, ICS = individual consultant selection, Q = quarter, QCBS = quality- and cost-based selection.

C. List of Indicative Packages (Contracts) Required under the Project

The following table lists goods, works, nonconsulting, and consulting services contracts for which the procurement activity is expected to commence beyond the procurement plan duration and over the life of the project (i.e. those expected beyond the current procurement plan's duration).

Goods, Works and Nonconsulting Services						
Package Number ¹	General Description	Estimated Value (\$)	Procurement Method	Review	Bidding Procedure	Comments
	Kbal Hong Irrigation system					
IWRM-CW02	Modernizing of MC1 with length 16 km include all associate structures along MC1	12,090,000	OCB	Prior	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW03	Modernizing of MC2 with length 10 km include all associate structures along MC1	7,900,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW04	Upgrading and construction of secondary canals 90 km, Construction of offtakes from MC1, and associated structures	15,320,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW04a	Upgrading and construction of MC1 branch canals 250 km, and associated structures	5,810,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No

IWRM-CW05	Upgrading of MC2 secondary canals 49 km, sub-secondary canals and main drain 23 km and branch canals 77 km and associated structures	12,369,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB SBD Small Works Advance contract: No
IWRM-CW05a	Upgrading of MC2 branch canals 77 km and associated structures	1,677,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
	Kanghot Irrigation system					
IWRM-CW06	Upgrading and construction of MC1 secondary canals 49 km, laterite pavement alongside secondary canals 49 km, offtakes from MC1, secondary drains 45 km, and associated structures	6,153,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW06a	Upgrading and construction of MC1 branch canals 163 km in block A, and associated structures	3,448,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW07	Upgrading and construction of MC4 secondary canals 46 km, laterite pavement alongside secondary canals 54 km, offtakes from MC4, secondary drains 41 km, and associated structures, plus Sangker (Ou Sralau) channel improvement for flood risk mitigation	9,041,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW07a	Upgrading and construction of MC4 branch canals 160 km in block B, and associated structures	3,796,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW08	Upgrading of main canal MC6 with concrete lining 12.80 km, laterite pavement on the crest of the embankments of the secondary canals 57 km, offtake structures on MC6, secondary canals 37 km, secondary drains 57 km, and associated structures	7,744,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW08a	Upgrading of MC6 branch canals 172 km in block C, and associated structures	3,651,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW09	Upgrading of main canals MC7 / MC8 9.10 km, laterite pavement on the crest of the secondary canals 24 km, offtakes from MC7, MC8, secondary canals	3,237,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works

	15 km, secondary drains 13 km, and associated structures					Advance contract: No
IWRM-CW09a	Upgrading of branch canals MC7 22 km and MC8 20 km in block C, and associated structures	979,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
	Fish pass and flood mitigation					
IWRM-CW10	Construction of the fish pass structures at 12 locations in the Mounng Russey, Svay Donkeo, Pursat and Sangker River Basins	7,076,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No
IWRM-CW11	Pursat (Svay At) Drainage Canal Improvement include associate structures for the flood risk mitigation Sub-project in Pursat Province	15,173,000	OCB	Post review (sampling)	1S1E	Advertising: National No. of contracts: 1 Prequalification: No Bidding Doc.: ADB Small Works Advance contract: No

Consulting Services						
Package Number	General Description	Estimated Value (\$)	Selection Method	Review	Type of Proposal	Comments
IWRM-CS03	Agriculture support services, team 1	358,000	CQS	Post review (Sampling)	BTP	Type: Firm Assignment: National
IWRM-CS04	Agriculture support services, team 2	358,000	CQS	Post review (Sampling)	BTP	Type: Firm Assignment: National
IWRM-CS05	Agriculture support services, team 3	358,000	CQS	Post review (Sampling)	BTP	Type: Firm Assignment: National
IWRM-CS06	Agriculture support services, team 4	358,000	CQS	Post review (Sampling)	BTP	Type: Firm Assignment: National

D. List of Awarded and Completed Contracts

The following table lists the awarded contracts and completed contracts for goods, works, nonconsulting, and consulting services.

Goods, Works and Nonconsulting Services					
Package Number	General Description	Contract Value ⁹	Date of ADB Approval of Contract Award ¹⁰	Date of Completion ¹¹	Comments ¹²

Consulting Services					
Package Number	General Description	Contract Value ⁹	Date of ADB Approval of Contract Award ¹⁰	Date of Completion ¹¹	Comments ¹²

E. Non-ADB Financing

The following table lists goods, works, nonconsulting, and consulting services contracts over the life of the project, financed by non-ADB sources.

Goods, Works and Nonconsulting Services				
General Description	Estimated Value (cumulative, \$)	Estimated Number of Contracts	Procurement Method	Comments ¹³

Consulting Services				
General Description	Estimated Value (cumulative, \$)	Estimated Number of Contracts	Recruitment Method	Comments

TERMS OF REFERENCE

CS01: Project Management and Implementation Consultant

A. Project Background

1. The Ministry of Water Resources and Meteorology (MOWRAM) is preparing an Integrated Water Resources Management Project (IWRMP) to be co-financed by Asian Development Bank (ADB) and Asian Infrastructure Investment Bank (AIIB). The IWRMP will support the strengthening of the integrated water resources management (IWRM) to foster socioeconomic development in the project area in the river basin groups in Pursat and Battambang provinces covering rivers Pursat, Svay Daun Keo, Moung Russei, Sangker which are located in the southwest of the Tonle Sap Lake (TSL). The project will be aligned to impact: Cambodia's Water Resources Management (WRM) to adapt to the changing climate in inclusive and sustainable ways to support social and economic growth whilst protecting the environment and enhancing ecosystems in the river basin groups covering Pursat, Svay Daunkeo, Moung Russei, and Sangker¹. These river basin groups were assessed as highly vulnerable to climate change impacts. In the target basin groups, expected changes to precipitation and temperature patterns will result in more frequent short dry periods, which will increase water demands in various sectors in dry season. Substantial increases in wet season rainfalls are also expected, increasing the risk of both riverine and lowland flash flooding events. The potential for increased peak water levels at the TSL further exacerbates this risk.

2. The project is expected to have the following outcome: livelihoods in the target river basin groups made climate and disaster resilient through climate adaptive integrated water resources management (IWRM). The project target river basin groups and location are shown in Figure 1.

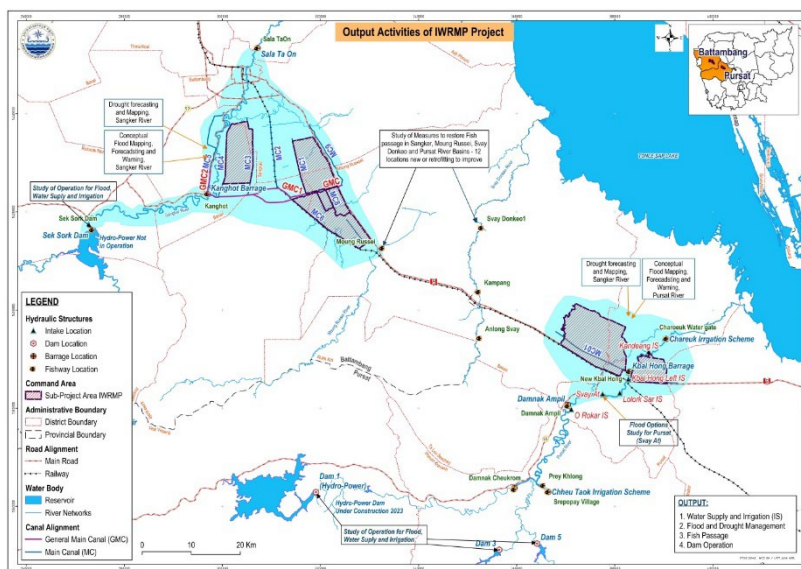
3. The IWRMP covers 3 project outputs as follows:

- (i) Output 1: Planning, coordination, and climate change adaptation capacities of water resources management strengthened. The project will help the two provinces (i) strengthen existing river basin committees (RBCs), (ii) develop effective and climate-adaptive river basin management plans, (iii) develop climate-adaptive reservoir operation plans for flood and dry season operation; and (iv) update river flow management plans with water allocation rules for various water users. These plans will be updated or developed in consultation with key water user stakeholders. The project will help the National River Basin Management Committee provide RBCs with necessary support, particularly on the climate change adaptation aspects. The project will also (v) upgrade existing and install additional hydrometeorological monitoring stations with remote monitoring and data transmission systems; and (vi) develop and operate drought and flood forecasting and warning systems with drought and flood risk maps. Output 1 will also provide training to RBCs to increase their climate-adaptive WRM capacities and enable them to perform their duties. The project will also help MOWRAM and two provinces develop sustainable WRM operation and management strategies to ensure sustainable operation of the developed plans and sustainable operation and maintenance (O&M) for developed/upgraded WRM infrastructure under outputs 2 and 3.

¹ Beneficiaries are within Pursat and Battambang Provinces.

- (ii) Output 2: Water supply capacity increased. The project will modernize two irrigation systems and efficiently provide reliable irrigation water increasing resilience to climate change risks for 17,020 ha command areas in Battambang Province and 13,500 ha command areas in Pursat Province. This will enable farmers to crop (i) rice in 32,330 ha during wet season, and rice and other crops in 7,190 ha during dry season in Battambang Province; and (ii) rice in 22,100 ha during wet season, and rice and other crops in 3,890 ha during dry season in Pursat Province, with expected increase in the crop yields. The modernizations will include main, secondary, and tertiary canals, with flood discharge drainage structures, gates and other regulated structures, including farm turnouts. An existing barrage in the irrigation system in Pursat Province will also be remodeled for stable water intake. The project will train farmers in the target irrigation systems to (a) form and train 4 new Farmer Water User Communities (FWUCs) and strengthen 3 existing FWUCs for efficient water use and sustainable O&M of the tertiary canals, (b) crop non-paddy rice in 4,800 ha and manage their farming, and (c) demonstrate the Alternate Wetting and Drying method (AWD) in 2,350 ha to grow paddy rice to reduce the methane emission while maintaining increased crop yield. The project will also install 14 fish passages in existing and new river crossing structures for fish friendly river management. The project will help reduce the climate-induced drought risks for the population of 37,170 in Battambang Province and 35,060 in Pursat Province.
- (iii) Output 3: Flood risk during wet season reduced. The project will (i) update and reinforce operation rules of existing reservoirs with the increase in flood protection capacity during the wet season to adapt to the climate-induced flood risks as well as the increase in storage capacity during the dry season for more available water for irrigation; (ii) modernize old river channels in Battambang and Pursat provinces to divert the flood flow from the Sangkar River in the Battambang Province and Pursat River in the Pursat Province; and (iii) develop flood risk maps and operate gender-responsive community flood preparedness plans.

Figure 8: Project Target River Bains and Location



Source: TRTA Team, 2023.

4. A summary of the scope to be procured under the project is shown in the following Table.

<p>Output 1 Planning, coordination, and climate change adaptation capacities of water resources management strengthened</p> <p><u>Goods</u></p> <ul style="list-style-type: none"> Hydro-meteorology station improvement in the Sangker and Pursat River Basin <p><u>Consulting</u></p> <ul style="list-style-type: none"> Support to the Pursat and Sangker RBCs and capacity building for flood forecasting system, including development/upgrading and operation of (i) climate-adaptive river basin management plans, (ii) climate-adaptive reservoir operation plans with operation rules; (iii) update river flow management plans with water allocation rules. <p>Output 2 – Water supply capacity increased</p> <p><u>Works</u></p> <ul style="list-style-type: none"> Rehabilitation of Kbal Hong irrigation scheme, 15,000 ha, including a new barrage, 2 main canals, secondary canal intakes, and secondary, tertiary canals and structures Development and upgrading of Kanghot MC1, MC4, MC6, MC7 and MC8 irrigation scheme, 20,800 ha, including secondary, tertiary canals and structures, canal-side roads Construction of the fish pass structures at 12 locations in the Moug Russey, Svay Donkeo, Pursat and Sangker River Basins <p><u>Consulting</u></p> <ul style="list-style-type: none"> Project Management and Implementation Consultant (PMIC) including project management and coordination supports and construction supervision Establish the Farmers Water User Community and strengthening for Kbal Hong irrigation scheme Strengthening the Farmers Water User Community for Kanghot MC1, MC4, MC6, MC7 and MC8 Agriculture support service for Kbal Hong and Kanghot irrigation schemes <p>Training farmers to demonstrate the Alternative Wetting and Drying (AWD) to grow paddy rice and reduce the methane emission (This service will be implemented under the attached technical assistance, separately from the consulting services for the IWRMP) for Kbal Hong and Kanghot irrigation schemes</p> <p>Output 3: Flood risks during the wet season reduced</p> <p><u>Works</u></p> <ul style="list-style-type: none"> Svay At offtake channel including associated structures for flood risk mitigation Ou Sralau channel improvement including associated structures for flood risk mitigation <p><u>Consulting (The below services will be integrated into the consulting services for output 1)</u></p> <ul style="list-style-type: none"> Update operation rules of existing reservoirs Development of flood risk maps Community-based disaster risk management (CBDRM) including development of flood / drought preparedness plans for Kanghot and Kbal Hong sub-projects

5. The activities preparing physical intervention during project preparation stage included the following: (i) A consulting firm engaged by ADB for preparation of feasibility studies for: Kbal Hong and Kanghot irrigation systems, including the Pursat barrage, and flood risk mitigation schemes on Svay At and Ou Sralau, and outline design of fishways. A consulting firm financed by AIIB will be engaged by MOWRAM during the 3rd quarter of 2024 for detailed design, procurement assistance, and preparing resettlement plan for the Pursat barrage, including its intakes to MC1 and MC2, and its fishway. Further, the consulting services for the detailed engineering design, bid documents preparation, and preparation of the resettlement plans, detailed resettlement plans, and social safeguard due diligence reports for other works than the Pursat barrage, including its intakes to MC1 and MC2, and its fishway is currently under the recruitment separately under AIIB's financing through Project Preparation Special Fund.

B. Purpose of Assignment

6. Under the guidance and directions of the PMU-MOWRAM, the purpose of the Consultant's assignment is: a) provide support and technical assistance to the Project Management Unit (PMU) for management of overall project implementation covering all goods, works, and consulting services packages. The support will include financial management, monitoring and evaluation (M&E), social, gender and environmental and social safeguards monitoring, b) support for bid evaluations and contract negotiations for all works and undertake construction supervision and contract administration duties for civil works contracts with duties delegated as the Engineer / Engineer's representative / Project manager according to the contract form used, and c) undertake capacity building of counterpart staff in the execution of their duties. The support will also include the overall management and coordination for capacity development consulting services for FWUCs, agriculture support services, AWD demonstration and RBC support.

C. Duration and Location of Services

7. The duration of the PMIC's assignment is 72 months (6 years) which comprises overall project management and construction supervision, and 12 months for the defect notification period. The PMU will provide office space for the Consultant in its PMU building at the MOWRAM, Phnom Penh, Cambodia, and the PIUs will provide office space for the PMIC field staff in the Provincial Department of Water Resources and Meteorology (PDWRAM) offices in Battambang, and Pursat provinces where the subprojects are located.

D. Scope of Services

8. The scope of work will include but is not limited to the following:

- (i) Help PMU review the detailed engineering design (DED) of Kbal Hong Irrigation Scheme and Kanghot Irrigation Scheme subprojects and detailed engineering design of Pursat and Sangker flood sub projects, and detailed engineering design of fish ways.
- (ii) Help PMU review detailed cost estimations and bidding documents and support the PMU for evaluating all bids including proposals for consulting services, negotiating all contracts for signings for the project.
- (iii) Undertake construction supervision and contract administration of all civil works under the project. Undertake duties if so, assigned by the Employer as "the Engineer" or "Engineer's Representative" for contracts using ADB's large works form of contract (FIDIC 2017), and "Project Manager" for contracts using ADB's small works form of contract.
- (iv) Support the PMU to manage the overall project including a) coordination of the designs and bid documents of all civil works packages to be prepared by consulting firms, and b) coordination and supervision of other consulting services packages under the project.
- (v) Assist the PMU in the financial management of the project such as the management of advance accounts, preparation of withdrawal applications, accounting, and internal audit, coordination with finance department of MOWRAM on project finance and/or accounting system;
- (vi) Conduct detailed planning of yearly activities in all aspects of the agreed and foreseen construction schedule;
- (vii) Ensure timely completion, adherence to specifications, and quality of construction works;

- (viii) Coordinate with consulting firms undertaking the main activities for Output 1 and Output 3 of the project for supporting improvement/establishment of the Pursat and Sangker RBCs including development/upgrading and operation of (a) climate-adaptive river basin management plans, (b) climate-adaptive reservoir operation plans with operation rules; (c) update river flow management plans with water allocation rules, and capacity building for flood forecasting system, together with community-based drought and flood risk reduction management. Assist the PMU with managing the work of a team of individual consultants recruited by the Employer which are undertaking to support for establishment and capacity building of FWUCs;
- (ix) Support PMU in the development of TOR for ADB review and endorsement for VLD assessment team and community participation framework (CPF) for the development of VLD implementation plan/ Community Participation Plan (CPP);
- (x) Support PMU for the development of ITP TOR for ADB review and endorsement before its recruitment and mobilization
- (xi) Support the PMU in the recruitment of VLD assessment team, VLD validation team, including monitoring their works;
- (xii) Support PMU in the work coordination of DED team, ITP team and communication and capacity building team;
- (xiii) Support DED2 team/ PMU for the preparation and submission of CPP(s) for ADB review and endorsement;
- (xiv) Assist the PMU to manage the work of consulting firms or NGOs undertaking agricultural extension assignments in the irrigation system areas and coordinate with the consultant firm to implement the AWD;
- (xv) Ensure compliance with ADB's Safeguard Policy Statement (SPS), 2009;
- (xvi) Support the Ministry of Economy and Finance-General Department of Resettlement (MEF-GDR) in monitoring the implementation of the contract package wise detailed resettlement plans (DRPs) for Kbang Hong Barrage and intake structures, Kbal Hong irrigation system and Kanghot irrigation system, as well as Output 3 subprojects (i.e. Svay At offtake channel including associated structures, and Ou Sralau channel improvement);
- (xvii) Assist PMU and MEF-GDR in dissemination of information and posting of safeguards documents in accessible public places;
- (xviii) Support PMU in the coordination and management of the report preparation and implementation of DDR and CPP for activities under output 2 and 3;
- (xix) Support PMU in preparing safeguards progress reports and semiannual social safeguard compliance reports for submission to ADB;
- (xx) In coordination with the DED team, review the CPP implementation report for ITP validation and reporting to ADB;
- (xxi) In coordination with MEF GDR, support the preparation of DRPs implementation report.
- (xxii) Support PMU in establishing, implementing and managing project and VLD grievance redress, including GRM records and database.
- (xxiii) Support the PMU in conducting meaningful public consultations with affected communities and monitoring the safeguard compliance by the contractor during the construction.
- (xxiv) Support the PMU in implementing the Gender Action Plan.
- (xxv) Ensure technology and transfer of knowhow from PMIC to their counterparts in the PMU; and

- (xxvi) Prepare quarterly progress reports (QPRs) including the GAP monitoring report, semiannual social safeguard reports, annual reports, project performance monitoring system (PPMS) and a project completion report (PCR).

E. Detailed Outputs of the Assignment

1. Key Timelines or Milestones

9. The services are anticipated to commence in September 2024, with a duration of 72 months. Detailed design and procurement of the first batch of packages are to be completed within 12 months of the commencement date.²

2. Team Composition and Qualification Requirements for the Key Experts

10. An estimated total of 1,129 person-month consisting of 112 person-month of international, and 1017 person-month of national experts and non-key experts is required. The required positions and inputs are summarized below:

Table A2.1. Summary of Required Positions and Inputs

	Position	Input (person months)		Key expert	Output		
					1	2	3
		Int'	Nat'				
1	Team Leader/Water Resources Specialist	55		√	√	√	√
2	Deputy Team Leader/ Irrigation and Drainage Engineer		60	√	√	√	√
3	Irrigation and Hydraulic Structure Design Engineer (2 National)		80	√		√	√
4	Hydro-mechanical and Electrical Engineer	4	6	√		√	
5	Mechanical/Pump Engineers	2	3	√		√	
6	Fishery Specialist	3	5	√		√	
7	Procurement/ Contract Management Specialist	3	6	√	√	√	√
8	Topo-Survey Engineer and Assistant Survey Engineers (3)		89			√	√
9	AutoCAD/ Civil 3D (3)		74			√	√
10	Environment Specialist		40	√		√	√
11	Social Safeguards/ Resettlement Specialist (2 positions for national)	5	30	√		√	√
12	Community consultations and communication specialist	1	25	√		√	√
13	Gender Specialist	4	40	√	√	√	√
14	Construction manager	25		√		√	√
15	Construction Management Engineers (3)		120			√	√
16	Materials/Quality Control Engineers		60			√	√
17	Field Supervisors (5)		160			√	√
18	Community Development Specialist/ FWUC Specialist		26	√		√	
19	Agriculture Development Specialist	6	26	√		√	
20	Operation & Maintenance Specialists	4	26	√		√	√
21	Monitoring and Evaluation Specialist		21	√	√	√	√

² The detailed design and bid document will be prepared by another consulting services, to be financed by AIIB's Project Preparation Special Fund grant.

22	Financial Management Specialist		60		√	√	√
23	Project Management Assistant		60		√	√	√
	Total	112	1017				

3. International Experts

11. **Team Leader/Water Resources Specialist.** Having a Bachelor's degree in water resources engineering or management, preferably with a post graduate qualification, and at least 15 years of relevant professional experience. Having experience in design, implementation and management for water resources management projects including major hydraulic structures such as dams, barrages and irrigations systems. Having experience of leading project teams, preferably for projects financed by ADB or the AIIB or the World Bank. Duties are: (i) provide overall responsibility for technical support during implementation, including preparation and implementation of work plans; (ii) coordinate financial management; (iii) monitor progress against project implementation schedule and coordinate preparation and submission of periodic progress reports and technical reports; (iv) work closely with the PMU and advise the PMU Project Director; (v) coordinate with ADB, PMU, and others stakeholders and key Cambodian government's institutions such as the Ministry of Mines and Energy (MME), Ministry of Agriculture, Forestry and Fisheries (MAFF), Fisheries Administration, Ministry of Economy and Finance (MEF), Ministry of Environment (MoE), and local authorities; (vi) provide guidance to the team to ensure that the quality of works meets a required standard; (vii) monitor work of the civil works carried out by contractors; (viii) assist PMU in contracts management; (ix) monitor financial performance of the project; (x) monitor the environment, work health and safety, quality assurance and control, resettlement and social safeguards aspects to bring minimum delays to the project work; (xi) be mainly responsible for the preparation of the QPRs, annual reports, semi-annual project performance monitoring system (PPMS) reports, environmental monitoring reports, and other reports that may be required by PMU and ADB.

12. **Irrigation and Hydraulic Structural Engineer.** Having a Master's degree in structural/civil engineering/hydraulics and at least 10 years of professional experience. Having experience in the design of water management facilities, including irrigation canals and associated structures. He/she will: (i) lead the review of detailed engineering design of facilities intended to improve irrigation efficiency and water productivity, ensuring the incorporation of climate proofing features, (ii) lead the review of cost estimates, technical specifications, bill of quantities for various irrigation facilities and, with the Procurement/Contract Management Specialists, review the tender documents for the construction of the systems; (iii) assist the PMU in evaluating the bids, with the Procurement/Contract Management Specialists; (iv) check the construction schedule submitted by Contractor and also supervise the construction management engineer due to revise the designing and (v) prepare technical design reports, as required for inclusion in the PMIC's QPRs and annual reports to PMU-MOWRAM.

13. **Hydro-Mechanical and Electrical Engineer.** Having a Bachelor's degree in hydro-mechanical and electrical engineering or relevant subjects and at least 10 years of professional experience. Preferably having experience in the design and construction supervision of hydraulic structures such as gates manufacturing and installation, gates lifting and control systems, and installation and commissioning. Duties include: (i) the review of the detailed design of the gates for the cross regulators on MC1 and MC2, and other gates for the structures in the command areas of the Kbal Hong and Kanghot sub-projects and sub-projects for Output 3, and (ii) supervise the construction of Pursat regulator gates and control system, and of the MC1/MC2 cross regulators, and any other gated structures for the outputs 2 and 3.

14. **Mechanical/Pump Engineer.** Having a Bachelor's degree in mechanical engineering and preferably 8 years of experience in supervising the construction of preferably one pumping station, pump installation, and other pump machinery and works. The specialist will: (i) review detailed designs and supervise the construction of the pump station in the MC2 of the Kbal Hong subproject in Pursat province, (ii) supervise pump installation including the installation of control panels and electricity facilities; (iii) report to the Construction Management Engineer on a regular basis; (iv) check the construction schedule submitted by the contractor; (v) check construction progress; (vi) certify the contractors' interim payment certificate and other documents relate to the pumping station; (vii) examine the contractors' claims for time extension, variations, and additional compensation, etc., and recommend appropriate decisions to the Construction Management Engineer; (viii) assist PMU in resolving contractual issues and overall contract management; and (ix) Ensure the quality of construction as per design specifications.

15. **Fishery Specialist.** Having a Bachelor's degree in fishery, and preferably having previous experience of fishway design and construction. Duties are to work closely with MOWRAM, MAFF, PDWRAMs, and PDAFFs of Pursat and Battambang provinces and relevant; to review detailed designs for the fish-ways, and with the support of the engineering staff in the team, review cost estimates, engineering drawings, and bidding documents; to work closely with hydraulic structural design engineer, and supervise fish-ways constructions. The expert should provide necessary inputs to the RBC support consultants to ensure that the relevant plans to be developed by the RBC support consultants are fishery-friendly.

16. **Procurement/Contract Management Specialist.** Having a Master's degree or equivalent in business administration, bachelor's degree in engineering or in other relevant fields with at least 10 years' professional experience. Preferably having experience in complex procurement of works and goods, preparation of tender and contract documents, evaluation of bids, and contracts management of projects, and recruitment of consultants following regulations of multilateral development banks. Having experience of preparation and administration of contracts under International Federation of Consulting Engineers (FIDIC) contracts for large works. The tasks include: (i) assist the PMU in reviewing bidding documents; (ii) assist the PMU in reviewing request for proposal for external monitoring agency (EMA); (iii) assist PMU in the evaluation of bids and proposals, prepare bid evaluation reports; (iv) contract negotiation with consulting firms; (v) finalizing contracts for works, goods, and services, (vi) preparing contract management plans; (vii) developing and organizing contract management capacity building and training covering FIDIC and ADB procurement guideline and procedures for project implementation staff of the executing agency and PMU; (viii) advising the Team Leader and the PMIC Team on progress reporting, quality control, and inspection systems to be followed during the execution of civil works contracts; (ix) advising PMU in resolving contractual issues; and (x) providing inputs for the PMIC's QPRs, annual reports for submission to PMU. The expert tasks also include assistance to the whole project's procurement, such as Hydro-meteorological equipment under output 1 and (xi) Review the Procurement Plan prepared by TRTA team and updated it based on the detailed design team cost estimated accordingly.

17. **Social Safeguards/Resettlement Specialist.** Having a Master's degree or equivalent in social sciences with at least 10 years of relevant work experience, preferably in donor funded projects. Prior experience of ADB financed projects, projects in Cambodia would be an advantage. Together with the National Social Safeguards/Resettlement Specialist, the expert will: (i) conduct monitoring visits to the subproject sites to assess the compliance of land acquisition and resettlement plan implementation with the provisions of the agreed updated land acquisition and resettlement plan and compliance with ADB SPS on the management of temporary impacts during construction activities; (ii) advise PMU, IRC-GDR and relevant agencies to resolve the

issues related land acquisition, and GRM issues - if any and develop project GRM records and data base; (iii) assist PMU and GDR to establish systems on project specific and VLD related GRM, including monitoring and evaluation indicators and the monitoring data management system on GRM and land acquisition and resettlement for the project as required; including the implementation of VLD transactions; (iv) support the PMU, and DED2 teams for the preparation of VLD risk assessment for CPF development upon DED completion; (v) support the PMU for development and submission of ITP TOR to ADB for review and endorsement; (vi) support PMU in the preparation and submission of semiannual social safeguard monitoring reports to ADB for review and disclosure; (vii) support the PMU in following up with GDR on the status of DRPs preparation and submission to ADB for review and approval, prior implementation; (viii) support the PMU the monitoring of the preparation, submission, and implementation of DDR and CPP prepared by DED2 consultant team; (ix); support the PMU in ensuring the coordination of work between DED2 team, communication and capacity building team and CPP validation team, (x) support the PMU in reviewing the provision of social safeguard requirement in the bidding document and contractor contracts especially for the compensation for damages occur during construction activities; (xi) provide training for social safeguard management and implementation, including GMR, to ensure project compliance with ADB SPS and CPF; (xii) support ITP validation team in implementing their validation task; (xiii) assists MEF-GDR in carrying out assessment in case of any unanticipated impacts, and updating/preparing the safeguards documents with corrective action plan (CAP) as required; and (xiv) support PMU in the development, management and dissemination of project specific and VLD related GRM.

18. Community consultation and communication specialist. Having a Bachelor's degree in public communication or relevant degree and at least five years of experience in social development activities with focus on public consultation, community participations, program development. Experience in urban-rural development activities/projects would be an advantage. In coordination with the PMU/PMIC and DED2 team, prepare community consultation and participation plan for IWRMP activities. In consultation and coordination with social safeguard specialist of PMIC and DED2 social safeguard team, the specialist will (i) prepare community consultation and participation plan for the IS of output 2 and output 3 activities; (ii) develop communication materials; (iii) conduct public consultations in each subproject areas during social safeguard document preparation and project implementation; (iv) support PMU/PMIC in the disclosure and dissemination of project GRM and other social safeguard documents.

19. Gender Specialist. Having a Bachelor's degree in social science or relevant degree and at least five years of experience in social development with particular focus on gender and development. Experience in agriculture, irrigation, water resources management, or rural development would be an advantage. Duties are assisting MOWRAM and the PMU to implement the Gender Action Plan (GAP). Specific GAP activities under output 2 are: collaborate with the PMU to develop and deliver a comprehensive skills-building program in each command area to (i) facilitate the establishment and/or strengthening of FWUCs with active participation of and leadership by women and (ii) provide training, mentoring and other support that addresses the needs and priorities of women in relation to FWUC management, irrigation and water resources management. This includes: (i) ensure that (a) all training materials developed or used in the skills-building program are gender sensitive (free of gender bias), and (b) training materials include relevant information on gender issues and the existing and potential role of women in irrigation, water management and FWUCs; and (ii) develop a new or revise an existing module on leadership skills for women leaders of FWUCs and/or other similar community or local groups. The module is expected to be delivered and targeted at women elected and potential leaders of FWUCs in command areas. Specific GAP activities under output 2 and output 3 are: Conduct training needs assessments with (i) all gender mainstreaming action group (GMAG) or gender

technical working group (GTWG) members and gender focal points (GFPs); (ii) DFWUC and PDWRAM technical staff on gender mainstreaming in irrigated agriculture and water resources management, and in the establishment and functioning of FWUCs. Based on the results, develop and strengthen training materials for delivery of annual training program to build institutional capacity on gender mainstreaming; and Work with MOWRAM to strengthen or establish a system for collecting data disaggregated by sex (and age, ethnicity and/or other relevant factors), including preparation of plan and annual reports, preparation and delivery of annual training program), Prepare the quarterly, annual and project completion report (PCR) related to gender. The specialist should provide necessary inputs to the RBC support consultants to ensure that the relevant plans to be developed by the RBC support consultants are gender responsive.

20. **Construction Manager.** Having a Bachelor's degree in civil engineering or relevant subject and at least 15 years of professional experience, of which at least 5 years on international projects and including use of FIDIC contracts. Prior experience of irrigation, dam / barrage, or flood protection projects, and of projects in Cambodia, would be an advantage. Duties are to manage and oversee the work of the field supervision team, and in particular to administer the FIDIC based contract(s) including construction of the Pursat regulator/barrage.

21. **Agriculture Development Specialist.** Having a Bachelor's degree in agriculture or related subject with preferably 8 years of experience in Agriculture and Economics. The Specialist will manage recruitment of agricultural support service teams, and coordinate and supervise their work on the Kbal Hong and Kanghot irrigation systems.

22. **Operation and Maintenance Specialist.** Having a Bachelor's degree in irrigation or drainage engineering with preferably 8 years of experience. Duties are to work in coordination with the design team and the FWUC specialists, and to: (i) review the existing O&M arrangements for each scheme; (ii) Estimate annual O&M requirements in each of two scopes (one scope is within the responsibility of MOWRAM and PDWRAM and another scope is within the responsibility of FWUCs) for each scheme; (iii) Prepare O&M plans , (iv) Prepare O&M manual for the Kbal Hong and Kanghot sub-projects; (v) Prepare and conducting trainings of farmers on O&M; and (vi) Improve the capacity of government staff through on the job and other trainings. The items (iii) and (iv) need to be submitted to the consultant firm for output 1 who is responsible for developing sustainable WRM operation and management strategies and sustainable O&M for developed/upgraded WRM infrastructure.

4. **National Specialists**

23. **Deputy Team Leader/Irrigation Management Specialist.** Having a Master's degree or equivalent in water resources/irrigation engineering and 10 years of relevant experience in the design and management of irrigation development projects. Preferably having experience of projects financed by donor agencies including ADB. Excellent communication skills in spoken and written English. In the absence of the Team Leader, the Deputy Team Leader will assume the management of the project. Duties are to support the Team Leader.

24. **Irrigation and Hydraulic Structural Engineer.** Having a Bachelor's degree in irrigation and drainage or hydraulic engineering or relevant subject and 10 years of professional experience in design and construction of irrigation or hydraulic structures such as dams, weirs, and irrigation systems. Experience of donor financed projects would be an advantage. Proficiency in spoken and written English. Duties are to support the international specialist.

25. **Hydro-Mechanical and Electrical Engineer Specialist.** Having a Bachelor's degree in hydro-mechanical or electrical engineering and preferably 8 years of experience in the design and

construction supervision of structural steelwork, hydraulic operation equipment, and their power and control systems. Experience of large-scale river or irrigation flow control structures would be an advantage. High proficiency in spoken and written English. Duties are to support the international specialist.

26. **Mechanical/Pump Engineer.** Having a Bachelor's degree in mechanical or electrical engineering with preferably 8 years of professional experience in designing and supervising installation of pumps and pumping systems, preferably including high-capacity pumping stations for irrigation or drainage. Proficiency in spoken and written English. Duties are to support the international specialist.

27. **Fishery Specialist.** Having a Bachelor's degree in fishery or relevant subject, and preferably having previous experience of fishway design and construction. Duties are to support the international specialist. The expert should provide necessary inputs to the RBC support consultants to ensure that the relevant plans to be developed by the RBC support consultants are fishery-friendly.

28. **Procurement/Contract Management Specialist.** Having a Bachelor's degree in engineering, business administration, or related fields and 10 years' experience in procurement and contract administration. Preferably having experience of donor financed procurement procedures. Preferably having experience of contract administration of contracts under FIDIC conditions of contract. Excellent communication skills in spoken and written English. Duties are to support the international specialist.

29. **Topo-Survey Engineers.** Qualified surveyor or engineer with at least 5 years of experience in survey. Duties are: (i) review topographic and other surveys for detailed design, including stream profile to allow hydraulic design or flood flow estimations; (ii) review the mapping of landholdings in the vicinity of works that may be required for Resettlement Plans; (iii) review the right of way (ROW) or reservation width alignment drawings; (iv) review the verification results of setting out and construction tolerances, and measurement of construction quantities

30. **AutoCAD/ Civil 3D.** Having a Bachelor's degree in engineering or advance qualification in Auto-cad with at least 3 years' experience in the use of AutoCAD, and preferably with experience in the design of rural infrastructure and irrigation works. He/she is responsible for preparation of revised design drawings, reviewing contractor submissions, and calculation of quantities for payment, during construction implementation.

31. **Environment Specialist.** Having a Master's degree or equivalent in environmental management or related field; with 10 years of experience in environmental management, monitoring, and/or impact assessment; preferably having familiarity with ADB environmental safeguards requirements. Proficiency in spoken and written English. Duties are to: (i) ensure that the EMPs are included in the bid documents and contracts for civil works; (ii) assist the PMU in review of relevant documents to ensure environmental mitigation measures and adequate budget for their implementation are included; (iii) carry out supervision on-site of the EMP implementation on behalf of/together with the PMU/PIUs, especially the mitigation measures by contractors during construction and by operators during operation respectively. Document the findings, problems and their causes, corrective actions recommended and follow up; (iv) help the PMU and local PIUs to train and advise the supervision engineers who undertake on-site daily supervision of civil works including the EMP measures execution, collect and review regular reporting (weekly and monthly) by the supervision engineers as input to the environmental monitoring reports for the projects. (v) assist the PMU/PIUs to engage external laboratory or monitors for quantitative monitoring of key parameters during construction and operation as specified in the EMP. Collect,

compile and interpret the data into the periodic reports to the ADB. In cases of non-compliance with applicable standards or against the benchmark data, need to analyze the reasons and propose remedies; (vi) in case of changes in any subprojects, assist the PMU/PIUs to meet both domestic and ADB requirements, e.g. update or prepare new IEE, complete domestic EIA process and obtain approvals if needed. Ensure that all environmental approval and related permits are obtained duly by the contractors for construction and operation; (vii) assist PMU/PIUs to establish and publicize the grievance redress mechanism (GRM) for sub-projects, ensuring the GRM is appropriate to the scale and complexity of the project; Assist the PIUs and the contractors in complying with the requirements by the Government inspections and concerns of affected people; (viii) provide training on the EMP to the PMU/PIUs staff, supervision engineers and contractors at the commencement of construction and operation, and refresh as needed, so that they are familiar with the applicable requirements; (ix) document all environmental activities, findings and data during each reporting period, Assist the PMU in preparing periodic reports to ADB on environmental implementation, following the requirements and format set in the EMP on reporting; (x) Undertake other relevant work required by the PMU. The expert should provide necessary inputs to the RBC support consultants to ensure that the relevant plans to be developed by the RBC support consultants are environmentally friendly.

32. **Social Safeguards/Resettlement Specialist.** Having a bachelor's degree in social sciences with preferably at least 5 years of relevant work experience, preferably in donor funded projects and government institutes. Preferably having experience working on ADB financed projects and familiar with ADB's SPS, 2009 and the Government's Standard Operating Procedures for Externally Financed Projects/Programs in Cambodia: Land Acquisition and Involuntary Resettlement, 2018. High proficiency in spoken and written English. Duties are to support the international specialist.

33. **Gender Specialist.** Having a bachelor's degree in social sciences or relevant subject with at least 7 years of experience in gender and development, preferably in agriculture, irrigation, water resources management, and/or rural development. Experience in donor-financed projects is an advantage. High proficiency in spoken and written English. Duties are to support the international specialist. The specialist should provide necessary inputs to the RBC support consultants to ensure that the relevant plans to be developed by the RBC support consultants are gender responsive.

34. **Construction Management Engineers.** Having a bachelor's degree in civil engineering with at least 7 years of construction experience, preferably in managing construction of irrigation canals and hydraulic structures, preferably with experience of donor-financed projects. Excellent communication skills in spoken and written English. The specialists will: (i) prepare construction schedule and ensure that construction progress adheres to the schedule; (ii) supervise the work of assistant engineers (field supervisors); (iii) monitor the progress and quality of construction works; (iv) review measurements for completed works and verify bills for payment; (v) take measures to minimize contract variations; (vi) assess the adequacy of contractors' input in terms of materials, equipment, construction machinery, workers, and construction approach and methodology; (vii) monitor physical and financial progress against milestones for timely completion; (viii) review and approve the construction drawings of the contractor and permit the contractors to carry out construction work effectively and efficiently and to the highest standards of quality; and (ix) report on progress, disputes, and all the other matters to the Team Leader and Deputy Team Leader (DTL).

35. **Materials/Quality Control Engineers.** Having a bachelor's degree in civil engineering with at least 10 years of laboratory and field testing experience for the quality control of earthworks

and concrete construction. Proficiency in spoken and written English. Duties are to: (i) ensure the high quality of construction as per design specifications; and (ii) conduct site quality tests and review the laboratory tests on materials submitted by the contractors.

36. **Field Supervision Engineers.** Having a bachelor's degree in civil engineering with at least 3 years of experience in site supervision of construction works preferably canals and hydraulic structures. Proficiency in spoken and written English. They will: (i) supervise and monitor the construction of works, prepare measurements for works completed and in progress and report to the Construction Management Engineers; (ii) certify contractors' bills; (iii) check the construction schedule submitted by the contractor and assist the contractor's site manager in preparing a detailed construction plan; (iv) report weekly and monthly construction progress and issues to the Construction Management Engineer; (v) report field variations to the Construction Management Engineer and regularly monitor physical and financial progress against milestones, according to the contracts, to ensure the timely completion of the contracts; (vi) examine contractors' claims for time extension, variations, and additional compensation, etc. and recommend appropriate decisions to the Construction Management Engineer; (vii) Assist PMU in resolving contractual issues and overall contract management; and (viii) ensure the quality of construction as per design specifications

37. **Community Development/ FWUC Specialist.** Having a bachelor's degree in social science or relevant subject with preferably 10 years of professional experience in community development. Proficiency in spoken and written English. Prior experience of support to FWUC strengthening/ capacity building would be an advantage. Duties are to (i) support the PMU to recruit FWUC individual experts; (ii) manage and oversee their field assignments, provide them with necessary guidance, and consolidate their outputs in the project progress report. The expert needs to work closely with Gender specialist and Agriculture Development Specialist and specialists responsible for the secondary and tertiary canal upgrading and/or constructions. The expert may also need to organize the workshop(s) by inviting FWUCs leaders.

38. **Operations and Maintenance Specialist.** Having a bachelor's degree in civil or mechanical engineering or a relevant subject with at least 8 years of professional experience. Proficiency in spoken and written English. Duties are to support the international specialist.

39. **Monitoring and Evaluation (M&E) Specialist:** Having a master's degree or equivalent in a related field with preferably at least 5 years of experience in M&E of donor-funded projects. Having excellent communication skills in spoken and written English. The specialist will: (i) establish the project performance monitoring system (PPMS), update it every 6 months, and prepare semi-annual PPMS reports; (ii) establish data collection, analysis, and reporting mechanism for the PPMS; (iii) collect benchmark or baseline data for performance indicators in the project's design and monitoring framework; and (iv) assist the Team Leader or Deputy Team Leader in preparing the QPRs and annual reports and assisting the executing agency or PMU in preparing the Borrower's project completion report.

40. **Agriculture Development Specialist.** Having a graduate degree in agriculture, agronomy, or related fields and preferably with 8 years of professional experience. Proficiency in spoken and written English. Preferably having extensive experience as an agricultural extension specialist. Duties are to support the international specialist.

41. **Financial Management Specialist.** Having a professional accounting qualification such as a CPA, ACCA, etc. with at least 8 years of professional experience. Proficiency in spoken and written English. Duties are to (i) design and strengthen project's financial management function, accounting, financial reporting and internal control systems in accordance with Standard

Operating Procedures 2019 (as updated by MEF) while also ensuring compliance with ADB's policies and guidelines, (ii) design and set up of accounting software with full chart of accounts and its mapping with expenditures categories to facilitate financial reporting, (iii) set up templates and support MOWRAM staff with monthly project account reconciliations, financial reports, quarterly progress reports, internal audit reports for the Project, (iv) assist MOWRAM during the annual independent audit fieldworks and help MOWRAM/PDWRAMs address and resolve management letter issues/findings, if any, (v) assist MOWRAM in ensuring that the project complies with all accounting and financial management procedures and guidelines by the government and ADB, (vi) assist MOWRAM in preparing withdrawal applications to ADB and AIIB and management of the advance accounts in accordance with ADB and AIIB disbursement guidelines, (vii) assist MOWRAM in timely and adequately implementing the mitigation measures as outlined in the financial management action plan table in PAM, and (viii) train MOWRAM and PDWRAMs' staff and orient other specialists on the internal controls, accounting and financial reporting requirements of the project to ensure consistency and impactful capacity building.

42. Project Management Assistant. Preferably having at least 2 years experiences of operating a document control system. Proficiency in spoken and written English. Duties are to establish and operate a web-based document control system and manage document submissions and provide administrative support to PMIC and coordination between PMIC and PMU. Experience for operating cloud-based document control system at least 2 years is mandatory.

F. Reporting Requirements and Time Schedule for Deliverables

43. The Consultant will be required to produce the following reports in English language: (i) an inception report within 2 months of mobilization; (ii) QPRs to the PMU for review and transmission to ADB, within 4 weeks of the end of each quarter; (iii) midterm report on project activities in preparation for the project's midterm review; (iv) semiannual environment and social safeguards monitoring reports; (v); a final report on completion of consultant inputs to be submitted to the PMU for consolidation and transmission to ADB within 1 month of completion of consultant inputs. The Consultant will also assist PMU in preparing the government's project completion report within 3 months of physical completion of the project.

1. Relevant background information or materials for the assignment

44. All available project reports and data, feasibility reports, detailed engineering designs, and drawings of the irrigation schemes include main canals, secondary canals and tertiary canals, if required.

2. Training and capacity building requirement

45. The Consultant will provide capacity building to the counterpart staff to perform their duties through classroom training as well as on-the-job training. The capacity building should include safeguard management and its monitoring and report preparation.

3. Clients Input and Counterpart Personnel

46. Services, facilities, and property to be made available to the Consultant by the Client comprise: (i) furnished office space including furniture, desktop computers, printers; (ii) vehicles (with driver, fuel and O&M), (iii) necessary administrative support; (iii) necessary data and reports.

47. Professional and support counterpart personnel to be assigned by the Client to the Consultant: The project steering committee, comprising of high-level representatives from the

relevant government agencies will provide overall guidance to the project and will be responsible for providing policy directions and project oversight. The PMU will be responsible for the smooth management and coordination of project activities and administration, including planning, budgeting, procurement, monitoring, coordination, maintaining all project documents, maintaining the advance account, as well as submitting required progress reports, annual audit reports, and financial statements as per agreed frequency and in proper format, and for ensuring that the project outcomes and outputs are achieved as planned and within the agreed schedule and budget.

PRINCIPLES REQUIREMENTS, GUIDELINES AND PROCEDURES ON VOLUNTARY LAND DONATION FOR TERTIARY CANALS CONSTRUCTION

A. Background

1. The project is planning to construct and/or rehabilitate approximately 487 kilometers of tertiary canals (TCs) in Kang Hot and Kbal Hong Irrigation System. The final length of the canal will be determined during detailed engineering designed (DED) stage. Some of the canals will be newly constructed. Voluntary land donations (VLD) might be used for construction of tertiary canals in Kanghot and Kbal Hong irrigation systems. However, VLD transaction should not be the primary land take process for the construction of proposed infrastructures under the project. Regular involuntary land acquisition process with compensation at replacement cost should be disclosed as the primary land take for affected private land and informed to all affected households. VLD will only be considered in the development of Tertiary Canal's where social mobilization and collaborative decision-making processes are implemented through an established FWUC.

B. VLD Principles and Requirements.

2. VLD may be considered as an option to secure land acquisition for the construction and rehabilitation of the TCs. The VLD will only apply to donation of narrow strips of 1.0m wide or minor land or maximum of 5% of the total affected land plot. However, VLD transaction will be subject to the prior approval and implementation by of the ADB-AIIB on the conditions that the MOWRAM can demonstrate the following:

- (i) the potential donor or donors have been appropriately informed and consulted about the subproject and the choices available to them;
- (ii) No coercion or social pressures involved in the process;
- (iii) potential donors are aware that refusal is an option, have confirmed in writing their willingness to proceed with the donation;
- (iv) the amount of land being donated is minor, not more 5% of the affected plot of the donor and will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels;
- (v) will not involve relocation of main structures or household;
- (vi) the donor is expected to benefit directly from the project; and
- (vii) for community and collective land, donation can only occur with the consent of individuals using or occupying the land.

3. MOWRAM will maintain a transparent record of all consultations, eligibility screening results, supporting with the socio and economic information of the eligible donors and agreements reached with the donors and make them available/ share the required information with the ADB for review. These VLD planning documents with the required supporting information will form the basis of ADB review and final decision making regarding approving use of VLD as a mechanism to secure land for the TCs in each subproject/contract package.

4. The review of VLD on its process and implementation will be validated by an independent third party, where necessary, and as with an agreed TOR between MOWRAM and ADB. In cases where private or community land is to be acquired through VLD, as it will be decided during the DED stage, the proposed activities should be included in a separate document called Community Participation Plan (CPP), subject to agreement between MOWRAM and ADB. Detailed outline and process of CPP preparation will be included in the Community Participation Framework (CPF)

to be prepared by the consultant and endorsed by ADB during project implementation. The PMU will also prepare a special report detailing the VLDs when these are completed for subproject TCs for each contract package and submit to ADB with all the relevant supporting documents. Meaningful consultation and proper due diligence will be done to ensure that donors are fully informed and willing and not coerced to donate the land.

5. The basic principles guiding any VLD for the Project/subproject will be refined during the risk-based due diligence process at DED stage. These principles will build upon the following fundamental principles as in the following:

- (i) DED should select the alignments that avoid or otherwise minimize impacts on land, structures and other fixed assets
- (ii) Where land will be required through VLD, carry out meaningful consultation with landowners and any non-titled affected persons on subprojects in a free and friendly manner to ascertain their willingness to make voluntary contribution by donating their land.
- (iii) The AHs must be fully informed that the by voluntary donating their assets, there will be no monetary compensation to be given to them
- (iv) No coercion, intimidation, bribery, or undue influence is used to influence the decision of the affected persons
- (v) There is no threat of expropriation or other compulsory procedure if parties do not reach an agreement.
- (vi) The donors must be a direct beneficiary household of the planned subproject activities.
- (vii) If VLD is feasible, such donations must not severely affect the living standards of affected people and are directly linked to benefits for the affected people, supported written confirmation by them. This should be supported with the information of social and economic condition/status of the donors and land ownership status.
- (viii) Any VLD will be confirmed through verbal (consultations) and written record and verified by an independent third party.
- (ix) DED should select the alignments that avoid or otherwise minimize impacts on land, structures and other fixed assets.
- (x) The donated land portion (intended to be donated to the subproject) is free of dispute, houses, major structures or other fixed assets, and occupancy by other people (than the landowner).
- (xi) For TC to be constructed in a cluster of households along the same canal, a FWUC will be formed, and location on a minor privately owned land plot will be based on the agreement of shared use signed by all committee members
- (xii) Adequate local level project-specific grievance redress mechanism (GRM) is in place at the commune level
- (xiii) The project benefits should realistically offset the size of the donated land and assets
- (xiv) Donated land must be
 - a. minor in nature (not more than 5% of the affected land plot per household) can be donated for the subproject) linked to and will provide direct the benefits of the affected people/donors; and
 - b. will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels.

6. For the vulnerable households no VLD is accepted by the subproject and compensation

will be paid to poor and vulnerable AHs, The definition of vulnerable households is explained in the RF and supported by the socio-economic information of the affected households. The absence of ID poor card will not be used as a determining factor for the affected households' vulnerability status.

- (i) Potential donors rendered to disadvantage or vulnerable by the transfer of the land right should not be allowed to donate.
- (ii) For households donating land, no physical or economic displacement will take place except for a minor shift-back at the same location and restored to pre-existing condition under the subproject civil works budget.
- (iii) Ensure that no fees for the transfer of ownership of the land are paid by the donating AHs and that any fees and taxes incurred are covered by MOWRAM; and
- (iv) Minor affected assets such as fences, retaining walls and boundary walls will be rebuilt or reinstated by the construction contractor as part of temporary impacts to its pre-existing condition.
- (v) In case there are refusal to donate from the affected landowners, alternative technical design should also be considered to avoid the impacts to the non-negotiated affected land or compensation at replacement rate should be offered.

C. VLD Procedures

7. VLD is not within the scope of the ADB SPS. Thus, robust monitoring, proper due diligence and meaningful consultation will need to be conducted. The land donation must be done voluntarily, and the people donating are not adversely impacted. Independent monitoring will be required to validate and monitor the VLD implementation, at a minimum as agreed between MOWRAM and the ADB. The due diligence and consultation will (i) verify that the donation is in fact voluntary and did not result from coercion; and (ii) ensure written records and confirmation obtained through an independent third party. TOR of the Independent Monitoring party will be prepared by MOWRAM and agreed by ADB prior to recruitment and mobilization. ADB's clearance of validation report on the VLD transaction from the independent third party will be required prior to the start of civil work and land take in the areas.

8. The steps for VLD are as follows:

- (i) Disseminate information to all relevant stakeholders on project information, approved DED design; and land donation concept and raise awareness on the donation eligibility;
- (ii) Once donation was offered by the potential land-donors, identification and verification of land and/or assets to be donated will be done through screening and survey;
- (iii) The PMU will conduct meaningful consultation and maintain a transparent record of all consultations, and social economic background of the donor to validate that voluntary donation is meeting the eligible criteria as determined in this document.
- (iv) The records and background information of the land donors should be accessible for review and validation of proposed VLD transaction by ADB and independent third parties.
- (v) Summary meaningful consultation for the VLD agreement should be recorded and included in the VLD implementation plan. Supporting documents (i.e., pictures of consultation, donated lands, signed agreement records, etc.) are required.

- (vi) VLD documentation and implementation plan will be prepared in a separate documentation named VLD implementation plan or community participation plan (CPP).
- (vii) Assets identified for donation will not include any fruit bearing trees that contribute to AHs income or represent their livelihood source, houses or shops.
- (viii) Social and economic background information of the potential land donor will be collected and recorded to validate the eligibility of donation.
- (ix) The landowners will be given enough time to consider the disposition of their property.
- (x) PMU will be responsible for obtaining signed agreements for land donation and processing the transfer of title for the donated portion of the land.
- (xi) Any VLD will be confirmed through verbal (consultation) and written consent/agreement (signed by husband and wife). It will be verified and monitored external independent third party (ITP).
- (xii) CPP will be submitted by MOWRAM to ADB for review and endorsement, prior to implementation.
- (xiii) VLD/CPP implementation and monitoring reports will be prepared by MOWRAM and included in the project semiannual monitoring reports and submitted to ADB for review and disclosure.
- (xiv) Progress of VLD/CPP preparation can also be included in the project QPR or semiannual safeguard monitoring report,
- (xv) VLD/CPP for each subproject/contract package should be prepared by PMU/MOWRAM and submitted to ADB/AIIB for review and approval prior to implementation and starts of civil works.
- (xvi) GRM for VLD mechanism must be established and disclosed by PMU to the affected communities.
- (xvii) The TOR of ITP will be developed by PMU and submit the ADB for review and endorsement prior to its recruitment and mobilization.

9. To ensure transparency, written confirmation on VLD will be submitted by the donors to the project. The confirmation will be in form of Memorandum of Understanding (MOU), which will be concluded between the donor(s) and PMU/MOWRAM and will be verified by ITP.

10. To ensure legal possession of the land to be donated, a copy of the proof of ownership, as applicable, shall be obtained by PDWRAM/PIU. In the case that the landowners have unclear titles or is unable to provide proof ownership, a committee comprising of the chief of the respected commune, a reputed senior citizen of the village, a member from PIU will be assigned to verify the ownership of the concerned landowner of the assets/ land parcel in question. The donation will not be accepted if this verification is not successful. And new alignment of the tertiary canal will be sought.

11. In the cases of VLDs, the potential AHs will be invited to consultation sessions to understand the project/subproject compensation processes and the availability of the VLD option that affected people may consider. Special attention will be given to disadvantaged/vulnerable individuals/groups, Indigenous Peoples, if any, and women. Local authorities will also be invited to participate in these consultations. As outlined in the RF, consultations will begin as early as subproject's design and location are identified and will be facilitated by the Social and Environment Officers (SEO) of MOWRAM assisted by the PMIC and local authorities. The consultation will be an iterative process in which all potential AHs will be informed of their right to compensation and the option for a VLD, including VLD procedures, and the subproject's benefits.

12. In addition to the project information booklet (PIB) that explained the project activities and distributed to the stakeholders, in cases of VLDs, affected people with land in the riparian corridor of TCs will be informed about the subproject and their options for them to receive compensation or to voluntarily donate their affected lands. The GRM will be explained in detail and donors will be appropriately informed and consulted about the subproject and choices available to them. The contact information of MOWRAM's SEOs will also be disclosed during the consultation process. As described, when people choose to voluntarily donate, the process of VLD will be adequately recorded and documented in English and Khmer. Documentation will be publicly disclosed at the freely accessible at local level (such as commune halls and pagodas) and at national level (MOWRAM's website). Personal details and sensitive information of donating people will be removed the documents from the publicly disclosed document to protect their privacy prior to disclosure.

D. Institutional Arrangement and Responsibility.

13. For VLD, the GDR will not be involved, the process of VLD is implemented by MOWRAM's PMU, PIU, PMIC, local authorities, communes and farmer water user committee (FWUC). The PMU's Environment and Social Management Unit with the assistance of PMIC, will conduct and implement the VLD process.

14. The following tasks will be required for PMU to implement VLD related activities:

- (i) With support from DED2 consultant lead the preparation and documentation of VLD transactions.
- (ii) With support from PIC safeguard expert develop Community Participation Framework for community participation plan (CPP) arrangement and conduct VLD risk assessment for ADB-AIIB review and endorsement.
- (iii) Establish, manage, disseminate/ inform the affected communities on non-LAR related and VLD specific GRM.
- (iv) Submit the VLD implementation plan/ community participation plan (CPP) prior to its implementation for each subproject IS package to ADB-AIIB for review and approval.
- (v) Establish and manage VLD and project specific GRM at the commune and project level including the data management and record keeping; and disseminate GRM contacts to the affected community.
- (vi) With support from the PMC develop TOR for the independent third party (ITP) for the monitoring and validation of VLD preparation and documentation of VLD transactions. The TOR will be shared and agreed with ADB-AIIB prior to the recruitment and mobilization.
- (vii) Recruit and mobilize ITP for VLD validation and implementation monitoring.
- (viii) Support the work of ITP for VLD validation and report preparation; and
- (ix) Submit a semi-annual social safeguard monitoring reports on construction, VLD implementation and project quarterly progress reports to ADB

E. Monitoring and Reporting.

15. **Internal Monitoring.** MOWRAM/PMU will be responsible for the monitoring of the overall implementation of the Project and Subprojects as well as all aspects relating to VLD for TCs and compliance to ADB SPS and RF during project implementation.

16. In the case of VLDs MOWRAM will be responsible for internal monitoring including keeping adequate records of donations and ensuring they meet the provisions outlined in this RF.

As part of internal monitoring, the PMU will be responsible for reviewing the reports submitted by the PMIC/PMU SEOs on VLDs and any grievances. VLD implementation and monitoring can be included in the social safeguard semiannual report for ADB-AIIB submission and disclosure.

17. The SEOs with the assistance of PMIC consultants and independent third-party will conduct due diligence on the VLDs and report the following:

- (i) Validation and documentation that assets required for the subproject are given voluntarily and are free from any dispute on ownership or any other encumbrances.
- (ii) Validation that VLD is within COI and person(s) donating directly benefit from the subproject.
- (iii) Validation that donated land does not cause any significant impact on livelihoods.
- (iv) Validation that no relocation or displacement of persons is involved.
- (v) Validation that the potential donors are meeting the criteria as detailed in the CPF.
- (vi) Validation that meaningful consultation has been conducted in good faith with all potential donors, including that donors are aware that they were entitled to compensation. Separate discussions to be held with women as required to facilitate meaningful participation.
- (vii) Validation that a grievance redress mechanism is in place and a review and documentation of grievances, if relevant; and
- (viii) In cases of community donation, there is consent of individuals using/occupying.

18. The PMU's ESMU with the assistance of consulting services engaged by MOWRAM will prepare a special report detailing the VLD when these are completed for subproject TCs for each contract package and submit directly ADB with all the relevant supporting documents review and clearance. In addition, they will report on all aspects of VLDs in the quarterly progress reports and submit them to ADB and AIIB.

19. **External Monitoring.** independent and external monitoring of the VLD will be required to monitor and evaluate the VLD preparation and implementation. An independent third party will be recruited by the PMU where VLD is conducted. The ITP will prepare semi-annual VLD monitoring reports for each validated subproject/ contract package where VLD transactions are used and submit them to PMU/MOWRAM for review and forward them to ADB and AIIB for their review and disclosure. The summary of validation report will be included in the PMU's semiannual social safeguard implementation report to be submitted to ADB-AIIB for review and disclosure. Any correction actions as recommended based on the ITP findings must be implemented by PMU.