

# Project Administration Manual

Project Number: 52195-001

Loan and Grant Numbers: {LXXXX; GXXXX, TXXXX}

September 2020

## Nepal: Priority River Basins Flood Risk Management Project

## ABBREVIATIONS

ADB	–	Asian Development Bank
APFS	–	audited project financial statement
CBDRM	–	community-based disaster risk management
DHM	–	Department of Hydrology and Meteorology
DMF	–	design and monitoring framework
DWRI	–	Department of Water Resources and Irrigation
e-MIS	–	environmental safeguards management information system
EMP	–	environmental management plan
EMR	–	environmental monitoring report
FFEWS	–	flood forecasting and early warning system
FMA	–	financial management assessment
GESI	–	gender equality and social inclusion
GRC	–	grievance redress committee
GRM	–	grievance redress mechanism
IEE	–	initial environmental examination
MEWRI	–	Ministry of Energy, Water Resources and Irrigation
MOF	–	Ministry of Finance
NGO	–	nongovernment organization
OAG	–	Office of the Auditor General
OCB	–	open competitive bidding
OHS	–	occupational health and safety
PAM	–	project administration manual
PIC	–	project implementation consultants
PIU	–	project implementation unit
PMU	–	project management unit
QPR	–	quarterly progress report
SEC	–	senior environment cum safety consultant
SEMP	–	site-specific environmental management plan
SLO	–	safeguard liaison officer
SMR	–	social safeguard monitoring report
SOE	–	statement of expenditures
SOP	–	standard operating procedure
SPS	–	Safeguard Policy Statement, 2009
SSC	–	senior social consultant

## NOTE

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

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### **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 in accordance with the policies and procedures of the government and Asian Development Bank (ADB). The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministry of Energy, Water Resources and Irrigation (MEWRI), the Project Management Unit (PMU), the field offices under the Department of Water Resources and Irrigation (DWRI), and the Project Implementation Unit (PIU) under the Department of Hydrology and Meteorology (DHM) are wholly responsible for the implementation of ADB-financed project, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by MEWRI, DWRI and DHM of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

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 negotiations. In the event of any discrepancy or contradiction between the PAM and the loan agreement, the provisions of the loan and grant agreement shall prevail.

After ADB Board approval of the project's report and recommendations 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

1. The Government of Nepal has requested the Asian Development Bank (ADB) to support the implementation of the Priority River Basins Flood Risk Management Project which focuses on six priority river basins in the Terai region: (i) West Rapti; (ii) Mawa Ratuwa; (iii) Lakhandei; (iv) Mohana Khutiya; (v) East Rapti; and (vi) Bakraha.<sup>1</sup> Collectively, 29,356 hectares (ha) of the priority river basins and 70,428 people are exposed to 1-in-50-year flood. The project areas have minimal reactive embankment interventions that provide limited flood protection.

2. The project will improve the resilience of communities to flooding in the six selected river basins in the Terai. These areas are vulnerable to flooding due to in-migration of people in search of better livelihoods and insufficient flood protection infrastructure or early flood warnings and low community awareness on how to respond to flooding. Flood risk is expected to increase with climate change. The project will support Nepal's National Water Plan to reduce social and economic losses from water induced disasters through blending structural and nonstructural measures.<sup>2</sup> The project will protect agricultural land and households in priority areas from a 1-in-50-year flood by constructing flood embankments, spurs and outlet structures. The local response to flooding will be strengthened through the development of flood forecasting and early warning systems (FFEWS) and community-based disaster risk management (CBDRM). The direct project beneficiaries will be the local communities within the project area. The Department of Water Resources and Irrigation (DWRI) and the Department of Hydrology and Meteorology (DHM) will be the implementing agencies.

3. The project will have the following outputs:

- (i) **Output 1. Flood protection infrastructure improved.** The project will reduce direct impacts from flooding through (i) construction of flood control infrastructure (embankments, spurs, and outlet structures); (ii) planning and implementation of bioengineering of river embankments for enhanced flood risk management, using suitable vegetative methods to prevent soil erosion; and (iii) development of maintenance manuals and an asset management system for flood protection infrastructure. The construction works are expected to generate employment for at least 10% of the affected households, including indigenous peoples, Dalits and women.
- (ii) **Output 2. Flood forecasting and response systems enhanced.** The project will support the government and communities in flood-prone areas to improve early flood warning systems through (i) installing about 40 rain gauges and 30 hydrometeorological stations, (ii) developing about 5 FFEWS, and (iii) improving maintenance of FFEWS.
- (iii) **Output 3. Flood prevention and preparedness capacity improved.** This will be delivered by (i) undertaking an organizational capacity building program on flood risk management and infrastructure planning for the DWRI and local governments (municipalities, village municipalities and provincial governments); (ii) developing the capacity of local communities on disaster preparedness; (iii) constructing about 48 flood shelters with gender-responsive features; and (iv) developing CBDRM

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<sup>1</sup> Priority rivers were selected from 25 river basins from ADB. 2016. *Flood Hazard Mapping and Preliminary Preparation of Flood Risk Management Projects: Final Report*. Manila. Factors such as likelihood/ magnitude of flood damage, poverty index, impact on human wellbeing, loss of life, as well as equitable distribution of projects between regions, were taken into consideration.

<sup>2</sup> Government of Nepal, Water and Energy Commission Secretariat. 2002. *National Water Plan, 2002–2027*. Kathmandu.

plans, in consultation with community stakeholders (including women) and in line with local development plans and budgets that integrate disaster risk information.<sup>3</sup>

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<sup>3</sup> CBDRM includes developing flood risk maps and supporting implementation of non-structural measures prioritized in community plans, especially measures related to strengthening livelihood resilience.



## II. IMPLEMENTATION PLANS

### A. Project Readiness Activities

**Table 1: Project Readiness Activities**

Indicative activities	2020									2021			Agency
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
Advance contracting actions:													
(i) <b>PIC Recruitment (CS-01)</b>													DWRI
a. Issuing RFP					x								DWRI
b. Submission of proposal & evaluation						x	x	x	x	x	x		DWRI
c. Negotiation and award												x	DWRI
d. Mobilize and implementation												x	DWRI
(ii) <b>Procurement of Works Package (CW-01)</b>													DWRI
a. Bid advertisement and bid period					x	x	x						DWRI
b. Bid submission and evaluation							x	x	x				DWRI
c. Award and mobilize										x			DWRI
(iii) <b>Procurement of Works Package (CW-02)</b>													DWRI
a. Bid advertisement and bid period					x	x	x						DWRI
b. Bid submission and evaluation					x	x	x	x	x				DWRI
c. Award and mobilize										x			DWRI
(iv) Establish project implementation arrangements	x	x	x	x	x	x	x	x					DWRI, DHM
(v) Approval of IEEs	x												DWRI
(vi) ADB Board Approval						x							ADB
(vii) Loan/grant signing							x						MOF, MEWRI, ADB
(viii) Government legal opinion provided								x					MOF
(ix) Government budget inclusion	x												MOF, MEWRI, ADB
(x) Loan/grant effectiveness									x				ADB

ADB = Asian Development Bank, CW = Civil works, DHM = Department of Hydrology and Meteorology, DWRI = Department of Water Resources and Irrigation, FFEWS = flood forecasting and early warning system, IEE = initial environmental examination, MEWRI = Ministry of Energy, Water Resources and Irrigation, MOF = Ministry of Finance, PIC = project implementation consultant, RFP = request for proposal.

Source: Asian Development Bank.

## B. Overall Project Implementation Plan

4. The project is expected to be approved in September 2020. After loan effectiveness, which is anticipated in December 2020, the project implementation period is 7 years.<sup>4</sup> The project is expected to be physically completed by March 2027 and financially closed by September 2027. Monitoring of the project performance and outcome will be until October 2028, including preparation of the project completion report. The project's overall implementation plan is in ATTACHMENT B.

## III. PROJECT MANAGEMENT ARRANGEMENTS

### C. Project Implementation Organizations: Roles and Responsibilities

5. The project implementation organizations including their roles and responsibilities are shown in the table below.

**Table 2: Project Implementation Organizations: Roles and Responsibilities**

<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
Ministry of Finance	<ul style="list-style-type: none"> <li>• Ensures timely signing of lending agreements.</li> <li>• Manages the advance accounts each for the ADB loan and grant</li> <li>• Through DWRI and DHM, obtaining account statements of advance accounts, reconciles advance accounts with the project subaccounts, and submits withdrawal applications to ADB.</li> <li>• Ensures timely allocation and release of both project and counterpart funds.</li> </ul>
Project Steering Committee	<ul style="list-style-type: none"> <li>• Chaired by MEWRI and members are shown in ATTACHMENT C. It will meet at least biannually, or more regularly as required.</li> <li>• Provides policy guidance based on performance reviews of the project.</li> <li>• Ensures collaboration among central and district level agencies.</li> <li>• Monitors the progress and addresses relevant issues for smooth implementation of the project.</li> </ul>
<b>Executing agency:</b> Ministry of Energy, Water Resources and Irrigation	<ul style="list-style-type: none"> <li>• Ensures overall oversight of the project and makes timely decisions on all matters relating to project implementation.</li> <li>• Ensures full staffing and timely mobilization of PMU, Field Offices and PIU.</li> <li>• Facilitates inter-ministerial coordination.</li> <li>• Leads interagency coordination.</li> <li>• Ensures adequacy of overall project financing and secures annual budget allocations for implementation.</li> <li>• Overall responsibility for complying with loan and grant covenants, environmental safeguards, and facilitating corrective actions as required.</li> </ul>
<b>Implementing agency:</b> Department of Water Resources and Irrigation	<ul style="list-style-type: none"> <li>• Overall responsibility for ensuring the project is implemented according to time, quality, and budget.</li> <li>• Ensures full staffing and timely mobilization of PMU and Field Offices.</li> </ul>

<sup>4</sup> Implementation of output 1 is expected to be completed within 5 years.

Project Implementation Organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> <li>• Ensures minimum staff turnover of PMU and Field Offices.</li> <li>• Monitors compliance with loan and grant covenants, environmental and social safeguards, and facilitates corrective actions as required.</li> <li>• Opens and manages its respective advance and project subaccounts.</li> <li>• Prepares and reviews withdrawal applications, obtains project account statements, and submits them to ADB.</li> </ul>
<b>Implementing agency:</b> Department of Hydrology and Meteorology	<ul style="list-style-type: none"> <li>• Overall responsibility for ensuring that project output 2 on FFEWS is implemented according to time, quality, and budget.</li> <li>• Ensures full staffing and timely mobilization of PIU.</li> <li>• Ensures minimum staff turnover of PIU.</li> <li>• Monitors compliance with loan and grant covenants, environmental and social safeguards, and facilitates corrective actions as required.</li> <li>• Opens and manages its respective advance and project subaccounts.</li> <li>• Prepares and reviews withdrawal applications, obtaining project account statements, and submits the required documents for withdrawal applications to PMU.</li> </ul>
Project Management Unit	<ul style="list-style-type: none"> <li>• The PMU will be established within the DWRI offices in Jawalakhel (See staff schedule in ATTACHMENT D).</li> <li>• The PMU will be led by a Project Director who will be responsible for the overall implementation and management of the project. The Project Director will serve as the focal contact with ADB.</li> <li>• Other key personnel within the PMU are: Deputy Project Directors, Project Accountant, Environmental Specialist, Social Safeguards Focal, Community Based Disaster Risk Management and FFEWS Coordinator.</li> </ul> <p><b>General Project Administration and Management</b></p> <ul style="list-style-type: none"> <li>• Responsible for overall project management, implementation, and monitoring.</li> <li>• Coordinates with MOF to ensure the provision of adequate counterpart budget for the project.</li> <li>• Coordinates with ADB, stakeholders, and other agencies at central level for smooth project implementation.</li> <li>• Coordinates with government agencies to resolve any departmental issues.</li> <li>• Prepares implementation plans, annual budgets, and disbursement projections.</li> <li>• Approves all planning, design and contract documents associated with the project.</li> <li>• Monitors and ensures compliance with the loan and grant covenants, GESI action plan, environmental and social safeguards.</li> <li>• Maintains project documents, consolidates inputs from PIU and field offices, and submits reports (quarterly and annual progress reports, semi-annual safeguards reports, and project completion report) in a timely manner.</li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> <li>• Prepares and submits periodic progress reports on each investment activities as required.</li> <li>• Prepares reports, advising the PSC and coordinates PSC meetings.</li> <li>• Establishes and manages separate project advance accounts for ADB loan and grant.</li> <li>• Actively uses the ADB disbursement information systems such as the loan financial information services (LFIS) and Client Portal for Disbursement (CPD) to ensure project accounts are complete.</li> <li>• Manages project account for government funds.</li> <li>• Establishes and maintains a PPMES for each package, output and outcome levels.</li> <li>• Consolidates accounts and prepares withdrawal applications for MOF to submit to ADB.</li> <li>• Submits all audited project accounts and financial statements pertaining to the project within six months of the end of each fiscal year.</li> <li>• Maintains project accounts and comprehensive loan financial records and submits consolidated quarterly reports.</li> <li>• Leads project implementation by (i) procuring and evaluating services, works and goods; and (ii) obtaining all necessary government approvals and right-of-way clearances from state departments and private land-owners.</li> <li>• Recruits and manages the (i) PIC, and (ii) CBDRM NGO, and (iii) procures equipment and vehicles for the project.</li> <li>• Monitors the activities of the field offices and provides advice as necessary.</li> <li>• Monitors physical and non-physical investment activities under the project; obtaining necessary data for establishing baselines, maintaining and updating the PPMES.</li> <li>• Prepares project completion report with the help of project consultants.</li> <li>• Provides support to ADB missions.</li> </ul> <p><b>Technical Oversight and Support</b></p> <ul style="list-style-type: none"> <li>• Supports, reviews, and submits the detailed engineering designs and estimates to DWRI for approval.</li> <li>• Carries out periodic quality audit of the civil works contracts; and providing guidance, support and monitor field offices in implementing subprojects.</li> <li>• Takes full responsibility for operation and maintenance of civil works during implementation</li> </ul> <p><b>Safeguards Compliance</b></p> <ul style="list-style-type: none"> <li>• Overall responsibility for safeguards by monitoring and ensuring compliance with ADB's Safeguards Policy Statement, 2009 and government requirements.</li> <li>• Establishes a central safeguard desk comprising of a safeguard liaison Officer supported by a senior environment/safety consultant accredited in OHS and senior social consultant of the PIC. The central safeguard desk will ensure full compliance with the overall environmental and social safeguards.</li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> <li>• Prepares and submits initial environmental examination reports, with environmental management plan, OHS plan, resettlement plans, and indigenous people development plan, as appropriate.</li> <li>• Coordinates obtaining right-of-way clearances.</li> <li>• Ensures integration of environmental and social safeguards, including voluntary land donation, land acquisition and gender aspects, as required in all documents, particularly in tender documents.</li> <li>• Prepare automated environmental safeguards management information system (e-MIS) and associated monitoring checklist; orient project staff, field safeguards monitors, and contractors on safeguards monitoring, corrective action and reporting in the project using e-MIS.</li> <li>• Updates and monitors satisfactory implementation of the EMPs, and any correction action plans for additional facilities such as access roads and camps, consistent with safeguards requirements and ADB's Safeguards Policy Statement (2009).</li> <li>• Consolidates monthly safeguard monitoring report submitted by field offices and prepares and submits to ADB semi-annual environmental and semi- annual social safeguards monitoring reports following ADB's template for review and disclosure.</li> <li>• Ensures grievance redress mechanisms are established and functioning in all subproject with participation of the concerned municipalities.</li> <li>• Addresses grievances related to the project following the grievance redress mechanism established in the project.</li> <li>• Provides capacity support to field offices on safeguards issues.</li> </ul>
Project Implementation Unit	<ul style="list-style-type: none"> <li>• The PIU will be established within the DHM office in Babar Mahal (See staff schedule in ATTACHMENT D).</li> <li>• The PIU will be led by a Project Manager who will be responsible for overall implementation management of Output 2 FFEWS. The Project Manager will serve as the focal contact with ADB.</li> <li>• Other key personnel within the PIU are: Senior Accountant, Hydrologist and Meteorologist.</li> <li>• Maintains project documents and submits reports (quarterly progress reports and project completion report) in a timely manner.</li> <li>• Submits all audited project accounts and financial statements pertaining to the project within six months of the end of each fiscal year.</li> <li>• The PIU will be responsible for: <ul style="list-style-type: none"> <li>• Overseeing the overall implementation of Output 2 FFEWS.</li> <li>• Preparing implementation plans, annual budgets, and disbursement projections.</li> <li>• Coordinating with DWRI.</li> <li>• Liaising and corresponding with ADB on all issues relating to the project.</li> <li>• Coordinating with government agencies to resolve any departmental issues.</li> </ul> </li> <li>• Approving all planning, design and contract documents associated with Output 2.</li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> <li>• Leading implementation of the project by (i) procuring and evaluating services, works and goods; (ii) obtaining all necessary government approvals and right-of-way clearances from state departments and private land-owners as needed.</li> <li>• Procuring and overall management of the FFEWS goods package.</li> <li>• Providing inputs for the PPMES under the PMU.</li> <li>• Preparing and submitting reports to the PMU; (i) periodic progress reports on each investment activities; (ii) disbursement projections; (iii) requesting budgetary allocations for counterpart funds; (iv) collecting supporting documents for preparing withdrawal applications; (v) audit reports; and (vi) reports mandated under the loan, grant and project agreements.</li> <li>• Monthly submission to PMU of supporting documents for withdrawal applications to ADB.</li> <li>• Updates and monitors satisfactory implementation of the EMPs, and any correction action plans for additional facilities such as access roads and camps, consistent with safeguards requirements and ADB's Safeguards Policy Statement (2009) and submitting updated safeguards and monitoring reports for review and disclosure.</li> </ul>
<p>Implementing agency: Six Field Offices under the Project Management Unit</p>	<p>There are six field offices (Jhapa, Morang, Sarlahi, Makwanpur, Dang and Kailali) established at field level and working under the PMU. Each field office will be headed by a Project Manager and will be responsible for the day-to-day management of the civil works contracts in their respective areas. The main functions of the field offices will include:</p> <ul style="list-style-type: none"> <li>• Close coordination with PMU on management of civil works contracts, timely disbursements, compliance with loan covenants and any project management issues.</li> <li>• Day-to-day inspection of civil works and quality assurance control.</li> <li>• Establish a Safeguard Desk chaired by safeguard focal person supported by safeguards field monitors under overall guidance of senior environment/safety consultant and senior social consultant.</li> <li>• Approval of SEMP including OHS Plan submitted by contractor. Ensures contractor has timely appointed senior safeguards assurance officer and a safety officer by approving their biodata. Monitors SEMP during implementation using standard checklist, and instruct contractor to take corrective action in cases of non-compliance. Prepare monthly subproject safeguards compliance monitoring report based on contractor's monthly report, and forward information to PMU to consolidate and prepare EMR.</li> <li>• Addresses project related grievances on gender and safeguards.</li> <li>• Signs MOU with community group for establishing nursery and implementing bio-engineering of the embankments.</li> <li>• Prepares progress reports for assigned contracts and MOUs.</li> <li>• Verifies certification and payments contractors' claims and submits required documents to PMU for withdrawal applications</li> <li>• Maintains project financial and other records.</li> </ul> <p>The key personnel within the field offices are: Project Manager, Accountant, Public Relations Manager.</p>

Project Implementation Organizations	Management Roles and Responsibilities
Subproject Consultation Committee	<ul style="list-style-type: none"> <li>• Chaired by Provincial Government Infrastructure and Development Secretary. Members are shown in ATTACHMENT C. It will meet as and when required.</li> <li>• Provides inputs on project design and construction issues.</li> <li>• Ensures collaboration among district level agencies.</li> <li>• Support the Grievance Redressal Mechanism.</li> </ul>
Project Implementation Consultant (CS-01)	<ul style="list-style-type: none"> <li>• Prepares, designs, and finalizes bid documents of remaining civil works, goods and services contract packages to be awarded under the Project.</li> <li>• Survey and design protection of embankments by using bio-engineering (nature-based vegetative method of slope protection), prepares standard MOU for signing with user's committee, and supports field offices to sign MOU and implement bio-engineering work (establishing nursery, orientation to bio-technicians and community, implement bio-engineering and their routine maintenance).</li> <li>• Provides overall project management and administration support on reporting, financial management, and monitoring and evaluation.</li> <li>• Supports the PMU, field offices and PIU with establishing and maintaining the PPMES.</li> <li>• Supports PMU, field offices and PIU to procure, mobilize, manage and supervise all contracts.</li> <li>• Ensures implementation of the project per the approved plans, designs, and cost estimates.</li> <li>• Undertakes any necessary additional surveys and investigations to support designs and implementation.</li> <li>• Prepares detailed terms of reference, and assisting PIU to recruit, mobilize, and manage studies and surveys under provisional sum items.</li> <li>• Provides technical and management advice, as required.</li> <li>• Establish safeguards mechanism in the project, guide contractor in preparation of SEMP and field office approval, prepare environmental and social monitoring checklist, orient project staff and PIC field monitors on safeguards compliance requirements of the project and taking corrective actions, collect monthly monitoring report from field offices and consolidate to prepare safeguards reporting in QPR and EMR.</li> <li>• Monitors the implementation of the GESI action plan.</li> <li>• Supports PMU to manage and administer the project financing.</li> <li>• Prepares routine reporting requirements of ADB.</li> <li>• Knowledge transfer to the PMU, field offices and PIU.</li> <li>• Assists PIU with preparations, logistics and reporting for missions fielded by ADB, as necessary.</li> <li>• Reports directly to PMU for all matters related to implementation of the project.</li> <li>• Reviews and confirms social safeguard due diligence reports.</li> <li>• Supports commissioning and operation of the investments, including preparing management, operation and maintenance manuals.</li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
ADB	<p>ADB will monitor and review overall implementation of the project including compliance with loan and grant agreements, project agreement and ADB guidelines. ADB will be responsible in:</p> <ul style="list-style-type: none"> <li>• Fielding bi-annual review missions, midterm review missions, and project completion review mission to assess project implementation progress and compliance with loan covenants.</li> <li>• Reviewing PMU's submissions for procurement of goods, civil works, and services.</li> <li>• Ensuring environmental and social safeguards and GESI action plan compliance for ensuring sustainable implementation of project.</li> <li>• Ensuring timely disbursement of funds subject to PMU's submission of withdrawal applications.</li> </ul>

ADB = Asian Development Bank, CBDRM = community-based disaster risk management, DHM = Department of Hydrology and Meteorology, DWRI = Department of Water Resources and Irrigation, EMP = environment management plan, EMR = environment monitoring report, FFEWS = flood forecasting and early warning system, GESI = Gender Equality and Social Inclusion, MEWRI = Ministry of Energy, Water Resources and Irrigation, MOF = Ministry of Finance, OHS = occupational health and safety, PIC = project implementation consultant, PIU = project implementation unit, PMU = project management unit, PPMES = project performance monitoring and evaluation system, PSC = project steering committee, SEMP = site-specific environmental management plan.

Source: Asian Development Bank.

## D. Key Persons Involved in Implementation

6. The following key persons are involved in implementation:

### Executing Agency

Ministry of Energy, Water Resources and Irrigation through the Steering Committee

Officer's Name: Er. Rabindra Nath Shrestha  
 Position: Secretary  
 Telephone: +977-1-4211426  
 Email address: ghilirabindra@yahoo.com  
 Office Address: Singha Durbar, Kathmandu, Nepal

### Implementing Agency

Project Management Unit under the Department of Water Resources and Irrigation

Officer's Name: Mr. Ajay Adhikari  
 Position: Project Director  
 Telephone: +977-1-5526213  
 Email address: prbfrmp@dwri.gov.np  
 Office Address: Jawalakhel, Lalitpur, Nepal

Project Implementation Unit under the Department of Hydrology and Meteorology

Officer's Name: Mr. Bikram Shrestha Zoowa  
 Position: Senior Div. Hydrologist  
 Flood Forecasting Section and Hydrological Data and Network Section  
 Telephone: +977-1-4428229, +977-9860088578  
 Email address: [b\\_zoowa@hotmail.com](mailto:b_zoowa@hotmail.com)  
 Office Address: POB 406, Babar mahal, Kathmandu

### Asian Development Bank

South Asia Environment, Natural Resources and Agriculture Division (SAER)

Staff Name: Ms. Mio Oka  
 Position: Director  
 Telephone No. +63 2 8632 6834  
 Email address: [moka@adb.org](mailto:moka@adb.org)



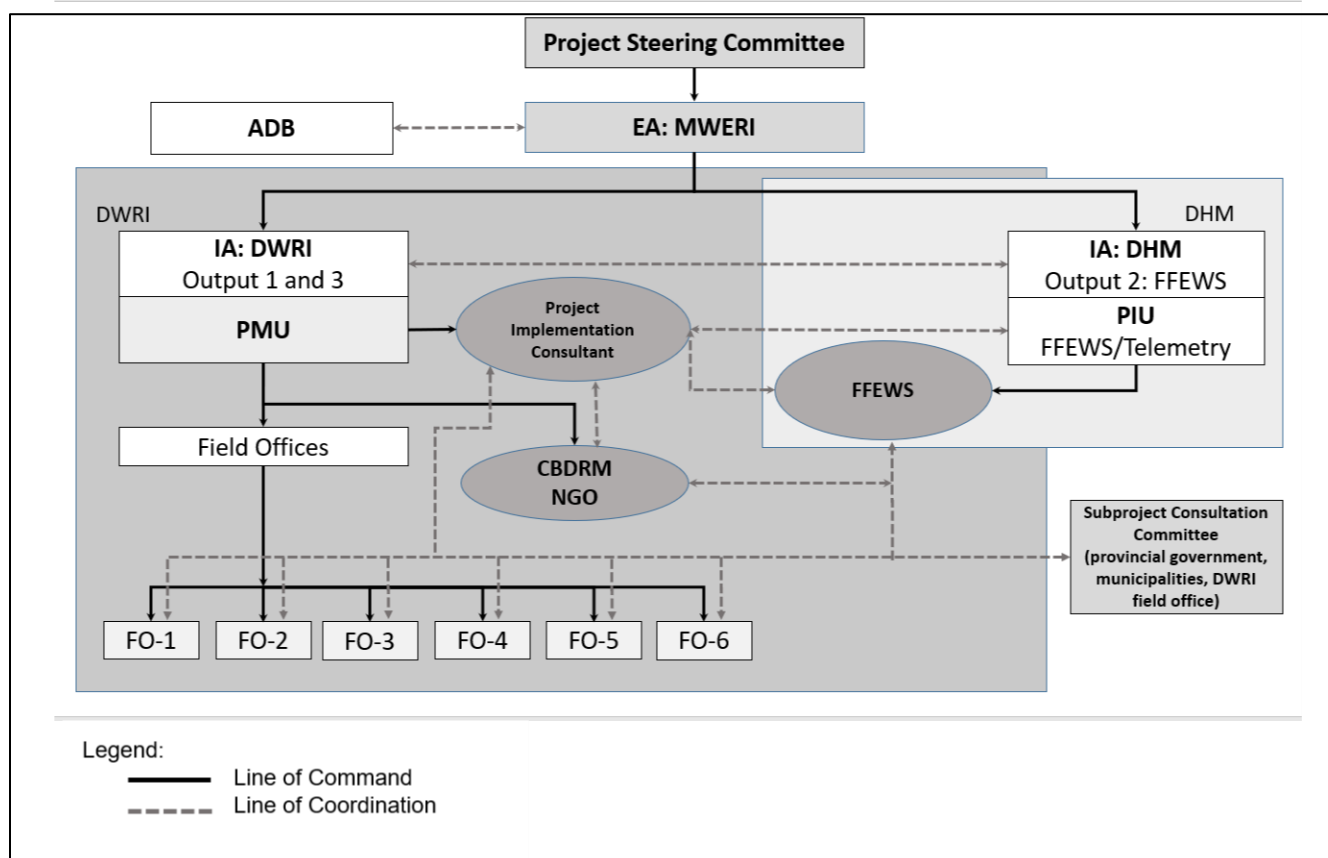
Mission Leader

Staff Name: Ms. Suzanne Marsh  
 Position: Water Resources Specialist  
 Telephone No. +63 2 8632 4205  
 Email address: [smarsh@adb.org](mailto:smarsh@adb.org)

## E. Project Organization Structure

7. The following flow chart show the reporting lines essential internal structures of key organizations involved in implementation.

**Figure 1: Project Organization Chart**



ADB = Asian Development Bank, CBDRM = community-based disaster risk management, DHM = Department of Hydrology and Meteorology, DWRI = Department of Water Resources and Irrigation, EA = executing agency, FFEWS = flood forecasting and early warning system, FO = field office, IA = implementing agency, MEWRI = Ministry of Energy, Water Resources and Irrigation, NGO = nongovernment organization, PIU = project implementation unit, PMU = project management unit.

#### IV. COSTS AND FINANCING

8. The cost of the project is estimated at \$63.00 million, inclusive of taxes and duties, and financing charges during implementation. In addition to financing a proportionate share for the project components, the government will finance all costs related to (i) safeguard implementation, (iii) salaries and operating costs of the project management unit (PMU), field offices and project implementation unit (PIU), and (iv) training.

**Table 3: Project Investment Plan**

Item	Amount (\$ million) <sup>a</sup>
A. Base Cost <sup>b</sup>	
1. Output 1: Flood Protection Infrastructure Improved	39.15
2. Output 2: Flood Forecasting and Response Systems Enhanced	8.47
3. Output 3: Flood Protection and Preparedness Capacity Improved	4.90
B. Contingencies <sup>c</sup>	8.84
C. Financing Charged During implementation <sup>d</sup>	1.64
<b>Total (A+B+C)</b>	<b>63.00</b>

<sup>a</sup> Includes taxes and duties of \$5.30 million to be financed from government resources.

<sup>b</sup> In February 2020 prices.

<sup>c</sup> Physical contingencies computed at 5% for civil works and FFEWS, 5% for equipment and 4% for consultancy services. Price contingencies computed, on average, at 1.5%–1.6% on foreign exchange costs and 4.6%–6.0% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate

<sup>d</sup> Includes interest and other charges on all sources of financing. Includes interest of 1% during the grace period and 1.5% during the amortization period.

Source: Asian Development Bank estimates.

9. The government has requested (i) a concessional loan in an amount of \$40.00 million from ADB's ordinary capital resources, and (ii) a grant not exceeding \$10.00 million from ADB's Special Funds resources (Asian Development Fund), both to help finance part of the project.

10. The summary financing plan is in Table 4. ADB will partly finance the expenditures in relation to civil works, equipment, consulting services, and FFEWS.

**Table 4: Financing Plan**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	50.00	
Ordinary capital resources (concessional loan) <sup>a</sup>	40.00	63.50
Special Funds resources (ADF grant) <sup>b</sup>	10.00	15.90
Government	13.00	20.60
<b>Total</b>	<b>63.00</b>	<b>100.00</b>

ADF = Asian Development Fund.

<sup>a</sup> Includes \$20.00 million from ADF 12 disaster risk reduction funding.

<sup>b</sup> ADF 12 disaster risk reduction grant funding.

Source: Asian Development Bank estimates.

#### A. Cost Estimates Preparation and Revisions

11. Cost estimates were prepared by ADB in consultation with DWRI and DHM. Cost estimates for civil works and equipment were based on estimates prepared by DWRI, which were in turn based on the Nepal Schedule of Rates for 2019. During implementation, the PIU will be responsible for updating cost estimates, subject to consultation with PMU. Revisions to planned withdrawal allocations will require prior approval from ADB.

## B. Key Assumptions

10. The following key assumptions underpin the cost estimates and financing plan:
- (i) Exchange rate: NRs114.11 = \$1.00 (as of 16 Feb 2020).
  - (ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

**Table 5: Escalation Rates for Price Contingency Calculation**

Item	2020	2021	2022	2023	2024	2025	2026	2027	Average
Foreign rate of price inflation (%)	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
Domestic rate of price inflation (%)	5.1%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	5.9%

Source: Asian Development Bank staff estimates.

## C. Detailed Cost Estimates by Expenditure Category

12. The cost estimates of the project amounts to \$63.00 million. The detailed cost estimates by expenditure category are given in the Table 6.

**Table 6: Detailed Cost Estimates by Expenditure Category**

Item	NRs million	\$ million	% of Total Base Cost
<b>A. Investment Costs</b>			
1. FFEWS (turnkey contract)	933.78	7.54	14.36%
2. Civil Works	4,429.24	35.74	68.05%
3. Equipment (Vehicles)	29.33	0.25	0.48%
4. Equipment (CBDRM, Office Supplies)	144.01	1.12	2.13%
5. Safeguards Implementation	200.08	1.65	3.14%
6. Consulting Services <sup>a</sup>	386.37	3.11	5.92%
7. Training	4.09	0.03	0.06%
<b>Sub Total (A)</b>	<b>6,126.90</b>	<b>49.44</b>	<b>94.14%</b>
<b>B. Recurrent Cost</b>			
Government Staff Salaries	334.19	2.63	5.01%
Operation Costs	59.12	0.45	0.86%
<b>Sub Total (B)</b>	<b>393.31</b>	<b>3.08</b>	<b>5.86%</b>
<b>Total Base Costs (A+B)</b>	<b>6,520.21</b>	<b>52.52</b>	<b>100.00 %</b>
<b>C. Contingencies</b>			
Physical	363.21	2.80	5.33%
Price	782.51	6.04	11.50%
<b>Sub Total (C)</b>	<b>1,145.72</b>	<b>8.84</b>	<b>16.83%</b>
<b>D. Financing Charges During Implementation</b>			
Interest during construction	226.88	1.64	3.12%
<b>Subtotal (D)</b>	<b>226.88</b>	<b>1.64</b>	<b>3.12%</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>7,892.81</b>	<b>63.00</b>	<b>119.95%</b>

FFEWS = flood forecasting and early warning system.

<sup>a</sup> Consulting services amount to 4.9% of ADB funding (loan and grant)

Notes: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank estimates.

**D. Allocation and Withdrawal of Loan and Grant Proceeds.****Table 7. Allocation and Withdrawal of ADB Loan Proceeds <sup>a</sup>**

No.	Item	Amount Allocated \$	Percentage and Basis for Withdrawal from the Loan Account
		Category	
1	Civil works	29,570,000	83% of total expenditure claimed
2	Equipment <sup>b</sup>	550,000	49% of total expenditure claimed
3	Consulting Services <sup>c</sup>	2,470,000	79% of total expenditure claimed
4	Interest	1,640,000	100% of amounts due
5	Unallocated	5,770,000	
	<b>Total</b>	<b>40,000,000</b>	

<sup>a</sup> Disaster Risk Reduction Fund will finance \$20.00 million equivalent of the ADB concessional OCR loan (COL).

<sup>b</sup> Equipment includes CBDRM Equipment and Office Supplies as listed in the procurement plan

<sup>c</sup> Consulting services amount to 4.9% of total ADB funding (loan and grant amount)

**Table 8. Allocation and Withdrawal of ADB Grant Proceeds <sup>a</sup>**

No.	Item	Amount Allocated \$	Percentage and Basis for Withdrawal from the Grant Account
		Category	
1	Civil works	1,520,000	4% of total expenditure claimed
2	Equipment <sup>b</sup>	420,000	38% of total expenditure claimed
3	Vehicles <sup>c</sup>	217,000	100% of total expenditure claimed <sup>e</sup>
4	FFEWS <sup>d</sup>	6,450,000	86% of total expenditure claimed
5	Training and Workshop	30,000	100% of total expenditure claimed <sup>e</sup>
6	Unallocated	1,363,000	
	<b>Total</b>	<b>10,000,000</b>	

FFEWS = flood forecasting and early warning system.

<sup>a</sup> Disaster Risk Reduction Fund will finance \$10.00 million equivalent of the ADF Grant.

<sup>b</sup> Equipment includes CBDRM Equipment and Office Supplies as listed in the procurement plan

<sup>c</sup> Vehicles to be used for project site supervision both for DHM and DWRI (9 Motorcycles, two 4WD vehicles).

<sup>d</sup> DHM Category User

<sup>e</sup> Exclusive of taxes and duties imposed in the territory of the recipient

# E. Detailed Cost Estimates by Financier

**Table 9: Cost Estimate Summary by Expenditure Category and Financier**  
(\$ million)

Item	ADB Loan <sup>a</sup>		ADB Grant <sup>b</sup>		Government <sup>c</sup>		Total Cost
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	
<b>A. Investment Costs</b>							
1. FFEWS (turnkey contract)	0.00	0 %	6.45	86%	1.09	14%	7.54
2. Civil Works	29.57	83%	1.52	4%	4.65	13%	35.74
3. Vehicles <sup>d</sup>	0.00	0.0%	0.22	87%	0.03	13%	0.25
4. Equipment	0.55	49%	0.42	38%	0.15	13%	1.12
5. Safeguards Implementation	0.00	0%	0.00	0%	1.65	100%	1.65
6. Consulting Services	2.47	79%	0.00	0%	0.64	21%	3.11
7. Training and Workshops	0.00	0%	0.03	100%	0.00	0%	0.03
<b>Subtotal A</b>	<b>32.59</b>	<b>66%</b>	<b>8.64</b>	<b>17%</b>	<b>8.21</b>	<b>17%</b>	<b>49.44</b>
<b>B. Recurrent Costs</b>							
1. Government Staff Salaries	0.00	0%	0.00	0%	2.63	100%	2.63
2. Operational costs	0.00	0%	0.00	0%	0.45	100%	0.45
<b>Subtotal B</b>	<b>0.00</b>	<b>0%</b>	<b>0.00</b>	<b>0%</b>	<b>3.08</b>	<b>100%</b>	<b>3.08</b>
<b>Total Base Costs</b>	<b>32.59</b>	<b>62%</b>	<b>8.64</b>	<b>16%</b>	<b>11.29</b>	<b>22%</b>	<b>52.52</b>
<b>C. Contingencies</b>							
1. Physical	1.61	58%	0.43	15%	0.76	27%	2.80
2. Price	4.16	69%	0.93	15%	0.95	16%	6.04
<b>Subtotal C</b>	<b>5.77</b>	<b>65%</b>	<b>1.36</b>	<b>15%</b>	<b>1.71</b>	<b>19%</b>	<b>8.84</b>
<b>D. Financial Charges During Implementation</b>	<b>1.64</b>	<b>100%</b>	<b>0.00</b>	<b>0%</b>	<b>0.00</b>	<b>0%</b>	<b>1.64</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>40.00</b>	<b>64%</b>	<b>10.00</b>	<b>16%</b>	<b>13.0</b>	<b>21%</b>	<b>63.00</b>
<b>% Total Project Cost</b>		<b>64%</b>		<b>16%</b>		<b>21%</b>	<b>100.0%</b>

FFEWS = flood forecasting and early warning system.

Note: Numbers may not sum precisely because of rounding.

<sup>a</sup> Disaster Risk Reduction (DRR) Fund will finance \$20.00 million equivalent of the ADB concessional OCR lending (COL).

<sup>b</sup> DRR funds will finance \$10.00 million of the ADB grant.

<sup>c</sup> Includes taxes and duties. Audit costs is included as part of the government cost.

<sup>d</sup> Vehicles to be procured under the grant (9 Motorcycles, two 4WD vehicles)

Source: Asian Development Bank estimates.

# F. Detailed Cost Estimates by Component

**Table 10: Cost Estimate Summary by Expenditure Category and Output**  
(\$ million)

	Total cost	Output 1.		Output 2.		Output 3.	
	Amount	Amount	% of Cost	Amount	% of Cost	Amount	% of Cost
<b>A. Investment Costs</b>							
1. FFEWS (turnkey contract)	7.54	0.00	0%	7.54	100%	0.00	0%
2. Civil Works	35.74	33.97	95%	0.00	0%	1.77	5%
3. Vehicles	0.25	0.14	56%	0.11	44%	0.00	0%
4. Equipment	1.12	0.00	0%	0.00	0%	1.12	100%
5. Safeguards Implementation	1.65	1.65	100%	0.00	0%	0.00	0%
6. Consulting Services	3.11	1.58	51%	0.21	7%	1.32	42%
7. Training and Workshops	0.03	0.00	0%	0.00	0%	0.03	100%
<b>Subtotal (A)</b>	<b>49.44</b>	<b>37.34</b>	<b>75%</b>	<b>7.86</b>	<b>16%</b>	<b>4.24</b>	<b>9%</b>
<b>B. Recurrent Cost</b>							
1. Government Staff Salaries	2.63	1.54	58%	0.52	20%	0.57	22%
2. Operational Costs	0.45	0.27	60%	0.09	20%	0.09	20%
<b>Subtotal (B)</b>	<b>3.08</b>	<b>1.81</b>	<b>59%</b>	<b>0.61</b>	<b>20%</b>	<b>0.66</b>	<b>21%</b>
<b>Total Base Cost</b>	<b>52.52</b>	<b>39.15</b>	<b>75%</b>	<b>8.47</b>	<b>16%</b>	<b>4.90</b>	<b>9%</b>
<b>C. Contingencies</b>							
1. Physical	2.80	2.27	81%	0.35	13%	0.18	6%
2. Price	6.04	4.6	76%	0.84	14%	0.60	10%
<b>Subtotal (C)</b>	<b>8.84</b>	<b>6.87</b>	<b>78%</b>	<b>1.19</b>	<b>13%</b>	<b>0.78</b>	<b>9%</b>
<b>D. Financing Charges During Implementation</b>							
1. Interest during construction	1.64	1.24	76%	0.25	15%	0.15	9%
<b>Subtotal (D)</b>	<b>1.64</b>	<b>1.24</b>	<b>76%</b>	<b>0.25</b>	<b>15%</b>	<b>0.15</b>	<b>9%</b>
<b>Total Project Costs (A+B+C+D)</b>	<b>63.00</b>	<b>47.26</b>	<b>75%</b>	<b>9.91</b>	<b>16%</b>	<b>5.83</b>	<b>9%</b>

FFEWS = flood forecasting and early warning system.  
Source: Asian Development Bank estimates.

## G. Detailed Cost Estimates by Year

**Table 11: Detailed Cost Estimates by Year**  
(\$ million)

Item	Total Cost	2020	2021	2022	2023	2024	2025	2026	2027
<b>A. Investment Costs</b>									
1. FFEWS (turnkey contract)	7.54	0.00	2.40	2.30	1.47	0.71	0.34	0.16	0.16
2. Civil Works	35.74	4.12	6.15	10.89	6.84	4.92	1.44	1.38	0.00
3. Vehicles	0.25	0.00	0.13	0.12	0.00	0.00	0.00	0.00	0.00
4. Equipment	1.12	0.00	0.06	0.30	0.28	0.27	0.16	0.05	0.00
5. Safeguards Implementation	1.65	0.00	0.68	0.66	0.16	0.08	0.07	0.00	0.00
6. Consulting Services	3.11	0.23	0.77	0.74	0.62	0.38	0.19	0.18	0.00
7. Training and Workshops	0.03	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
<b>Subtotal (A)</b>	<b>49.44</b>	<b>4.35</b>	<b>10.2</b>	<b>15.02</b>	<b>9.38</b>	<b>6.36</b>	<b>2.22</b>	<b>1.77</b>	<b>0.16</b>
<b>B. Recurrent Costs</b>									
1. Government Staff Salaries	2.63	0.06	0.57	0.71	0.37	0.36	0.29	0.16	0.11
2. Operational Costs	0.45	0.00	0.05	0.05	0.09	0.09	0.09	0.06	0.02
<b>Subtotal (B)</b>	<b>3.08</b>	<b>0.06</b>	<b>0.62</b>	<b>0.76</b>	<b>0.46</b>	<b>0.45</b>	<b>0.38</b>	<b>0.22</b>	<b>0.13</b>
<b>Total Base Costs (A+B)</b>	<b>52.52</b>	<b>4.41</b>	<b>10.82</b>	<b>15.78</b>	<b>9.84</b>	<b>6.81</b>	<b>2.58</b>	<b>1.99</b>	<b>0.29</b>
<b>C. Contingencies</b>									
1. Physical	2.80	0.19	0.41	0.63	0.43	0.26	0.09	0.43	0.36
2. Price	6.04	0.00	0.47	1.45	1.39	1.33	0.65	0.64	0.11
<b>Subtotal C</b>	<b>8.84</b>	<b>0.19</b>	<b>0.88</b>	<b>2.08</b>	<b>1.82</b>	<b>1.59</b>	<b>0.74</b>	<b>1.07</b>	<b>0.47</b>
<b>D. Financing Charges During Implementation</b>	<b>1.64</b>	<b>0.00</b>	<b>0.03</b>	<b>0.12</b>	<b>0.21</b>	<b>0.28</b>	<b>0.30</b>	<b>0.35</b>	<b>0.35</b>
<b>Total Project Costs (A+B+C+D)</b>	<b>63.00</b>	<b>4.60</b>	<b>11.73</b>	<b>17.98</b>	<b>11.87</b>	<b>8.68</b>	<b>3.62</b>	<b>3.41</b>	<b>1.11</b>
<b>% Total Project Cost</b>	<b>100.0%</b>	<b>7.3%</b>	<b>18.6%</b>	<b>28.5%</b>	<b>18.8%</b>	<b>13.8%</b>	<b>5.7%</b>	<b>5.4%</b>	<b>1.8%</b>

FFEWS = flood forecasting and early warning system.

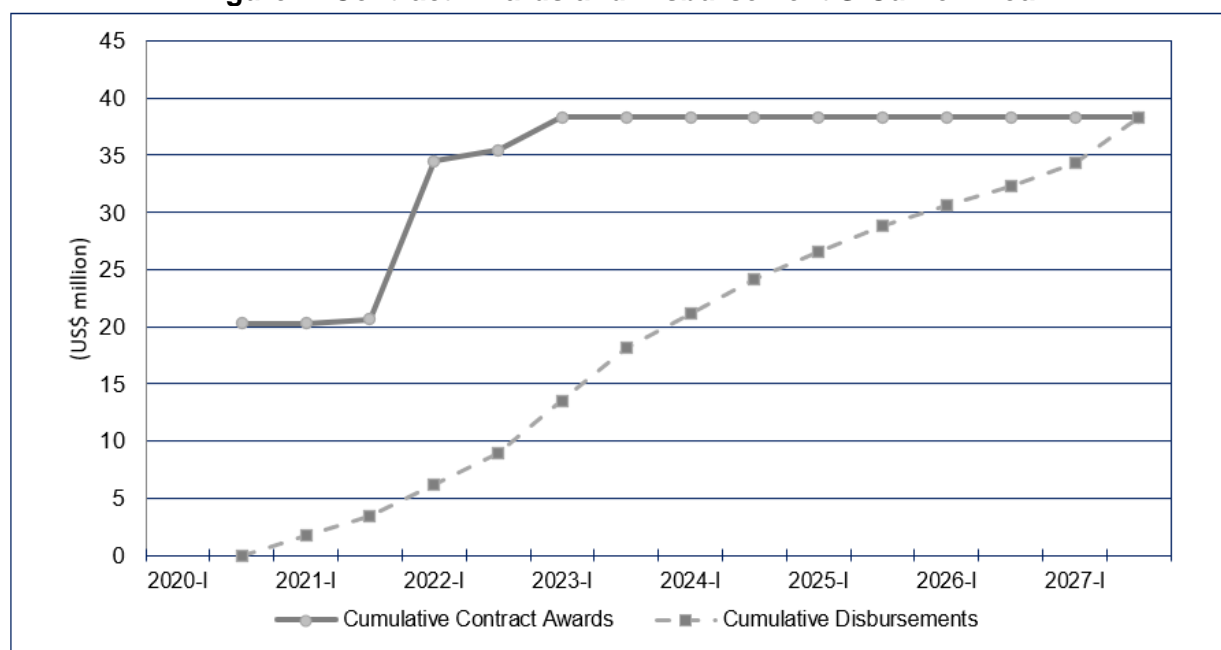
Note: Figures may not sum due to rounding.

Source: ADB estimates.

## H. Contract and Disbursement S-Curve

13. The following shows quarterly contract awards and disbursement projections over the life of the project. The S-Curve is only for ADB financing and ADB-administered co-financing, which will be recorded in ADB's systems and reported through e-Ops. Counterpart funds are excluded. The projection for contract awards includes contingencies and unallocated amounts, but excludes front-end fees, service charges, and interest during construction. The total projected disbursements equal to the full loan amount, up to 4 months after loan closing.

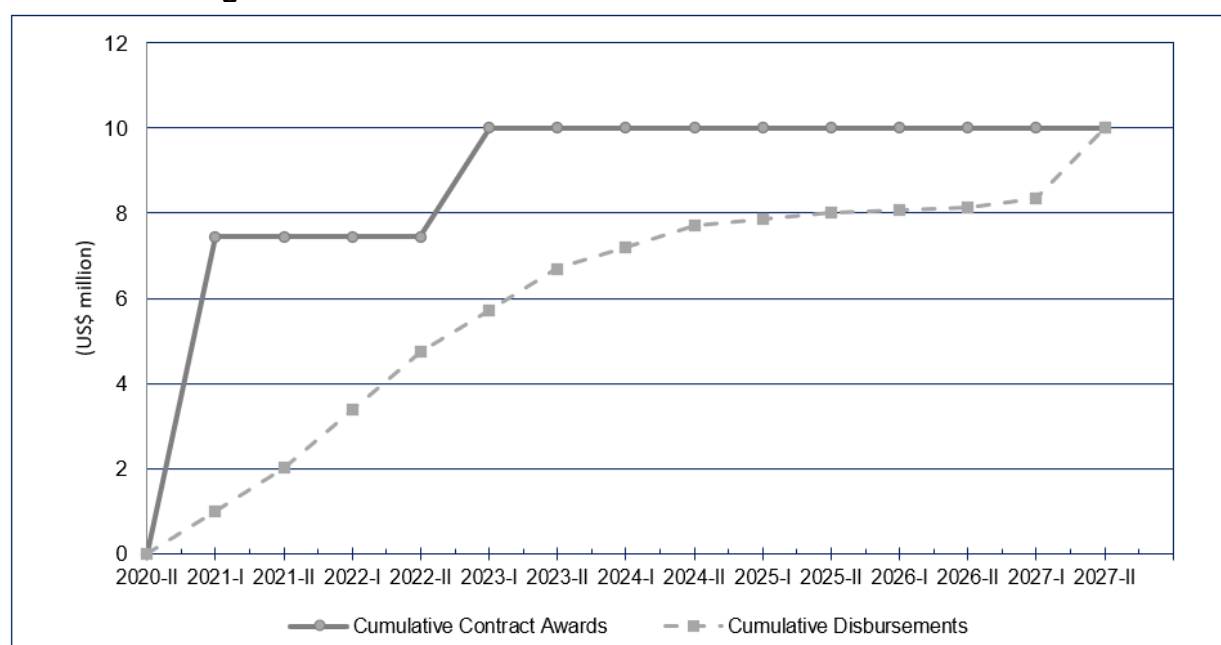
**Figure 2: Contract Awards and Disbursement S-Curve – Loan**



**Table 12: Project Loan: Contract Awards and Disbursement (\$ million)**

Year	Contract Awards (\$ million)					Disbursements (\$ million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2020	-	-	-	20.3	20.3	-	-	-	-	-
2021	-	-	0.4	-	0.4	1.6	0.9	0.9	1.4	4.8
2022	13.8	1.0	-	-	14.8	1.4	1.4	1.4	2.2	6.4
2023	2.9	-	-	-	2.9	2.3	2.3	2.3	1.5	8.4
2024	-	-	-	-	-	1.5	1.5	1.5	1.2	5.7
2025	-	-	-	-	-	1.2	1.2	1.2	0.8	4.4
2026	-	-	-	-	-	0.9	0.9	0.9	0.9	3.6
2027	-	-	-	-	-	1.1	2.0	2.0	-	5.1
	Total Contract Awards				38.4	Total Disbursements				38.4

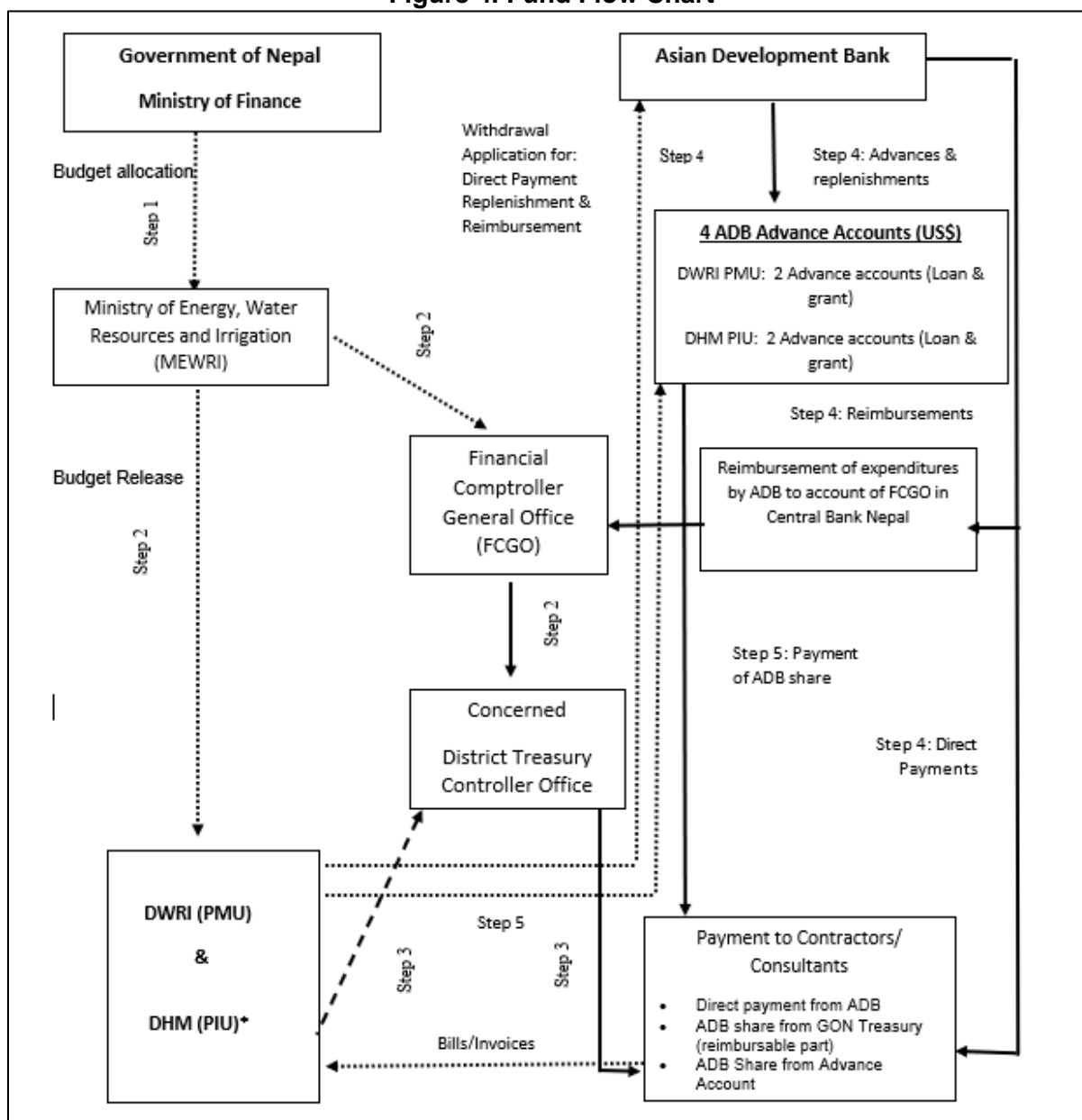


**Figure 3: Contract Awards and Disbursement S-Curve – Grant****Table 13: Project Grant: Contract Awards and Disbursement (\$ million)**

Year	Contract Awards (in USD million)					Disbursements (in USD million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2020	-	-	-	-	-	-	-	-	-	-
2021	7.5	-	-	-	7.5	-	1.7	1.7	0.7	4.1
2022	-	-	-	-	-	0.7	0.5	0.5	0.5	2.2
2023	2.5	-	-	-	2.5	0.5	0.3	0.3	0.3	1.4
2024	-	-	-	-	-	0.3	0.1	0.1	0.1	0.6
2025	-	-	-	-	-	0.1	0.0	0.0	0.0	0.1
2026	-	-	-	-	-	0.0	0.1	0.1	0.7	0.9
2027	-	-	-	-	-	0.7	-	-	-	0.7
	Total Contract Awards				10.00	Total Disbursements				10.00

## I. Fund Flow Diagram

Figure 4. Fund Flow Chart



Legend:

- .....> Documents Flow
- - - -> Request for payment from counterpart fund (government share)
- > Fund Flow

ADB = Asian Development Bank, DHM = Department of Hydrology and Meteorology, DWRI = Department of Water Resources and Irrigation, FCGO = financial comptroller general's office, PIU = project implementation unit, PMU = project management unit.

Step 1: Budget allocation; Step 2: Budget release; Step 3: Counterpart fund payment; Step 4: Withdrawal application for payment from ADB for direct payment, replenishment to Advance Account and reimbursement to Government Account; Step 5: Payment from Advance Account.

\*DHM will claim withdrawal applications through the DWRI PMU, by submitting to the PMU the required documentation as outlined in the ADB disbursement handbook and the PMU will prepare the withdrawal application.

## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

14. A financial management assessment (FMA) has been conducted for the two implementing agencies DWRI and DHM, in accordance with ADB's Guidelines for the Financial Management and Analysis of Projects<sup>5</sup> and Financial Due Diligence: A Methodology Note,<sup>6</sup> and Technical Guidance Notes. The FMA focused on fund flows, staffing, accounting policies and procedures, internal controls, financial reporting and monitoring and internal and external audit. The purpose of the FMA is to ensure that adequate financial management arrangements are in place for the proposed project. The PMU in DWRI and PIU in DHM will be responsible for the financial management arrangements under their respective outputs but PMU will have the overall responsibility of consolidating, compiling, and coordinating the financial information.

15. The FMA found that DWRI and DHM have adequate financial management capability to (i) record the required financial transactions, (ii) provide reliable annual financial statements and audit reports in a timely manner, and (iii) safeguard the financial assets. However, the FMA also identified the following main financial management risks: (i) frequent project staff turnover; (ii) DHM lacks knowledge and experience with ADB procedures and systems; and (iii) weak internal audit. Overall, the financial management risk is assessed as Moderate.

16. The main risk mitigation actions include: (i) assigning qualified account staff to the PMU and PIU; (ii) engaging a Financial Management Specialist to support the project; (iii) providing training to the project's financial staff in ADB's procedures and systems; (iv) including comprehensive financial information in the quarterly project progress reports; and (v) active use of ADB disbursement information systems such as the loan financial information services (LFIS) and Client Portal for Disbursement (CPD) to ensure project accounts are complete. The detailed financial management risks and mitigation actions are summarized in the table below.

**Table 14: Financial Management and Internal Control Risk Assessment**

Risk	Risk Assessment	Risk Description	Mitigation Measures
<b>Inherent Risk</b>			
1. Country-specific	Substantial	Absorption capacity of the government departments for capital expenditure, slow implementation and timeliness of counterpart financing may pose a challenge.	Close monitoring of the activities and timeliness of counterpart funds throughout the project implementation.
2. Entity-specific	Moderate	DWRI has past experience in implementing ADB projects while DHM has implemented a World Bank project in the past.	A PMU to be set-up in the DWRI and a PIU to be set-up in the DHM.

<sup>5</sup> ADB. 2005. *Financial Management and Analysis of Projects*. Manila.

Available: <http://www.adb.org/documents/financial-management-and-analysis-projects>

<sup>6</sup> ADB. 2015. *Financial Due Diligence: A Methodology Note*. Manila.

Available: <http://www.adb.org/documents/financial-due-diligence-methodology-note>

Risk	Risk Assessment	Risk Description	Mitigation Measures
3. Project-specific	Moderate	The project will be implemented in several remote locations and by two different implementing agencies.	Not applicable.
<b>Overall Inherent Risk</b>	<b>Substantial</b>		
<b>Control Risk</b>			
1. Implementing entity	Moderate	Complex implementation arrangement with two implementing agencies, which may pose challenges in coordinating and consolidation of financial reporting.	A PMU to be set up in the DWRI and a PIU to be set up in the DHM. The financial management related roles and responsibilities between the PMU and the PIU need to be operationalized as outlined in the sections below.
2. Fund flow	Moderate	Timely release of counterpart fund.  Complex flow of funds with two implementing agencies and separate advance accounts.	Assurances to be sought from the Government to provide adequate and timely counterpart funds to DWRI and DHI.  Separate advance accounts to be maintained by the PMU and PIU. All withdrawal applications to be prepared by PMU. Expenditures incurred by the PMU and PIU to be claimed through separate withdrawal applications.
3. Staffing	Substantial	Frequent turnover of finance and accounting staff.  Lack of knowledge and experience with ADB procedures and systems.	Qualified financial management/accountants' staff to be assigned to the PMU and the PIU to work full-time for the project.  Develop a training plan for project financial management staff.  Training in ADB procedures and systems to be ensured on a regular basis to enhance the financial management staffs' understanding in ADB policies and requirements.  A qualified financial management consultant to be engaged as part of the Project Implementation Consultant package.
4. Accounting policies and procedures	Moderate	Existing government policies and procedures are followed.	Develop supplementary accounting instructions to enable consistent financial reporting by the PMU and PIU in line with expenditure categories outlined in the PAM.

<b>Risk</b>	<b>Risk Assessment</b>	<b>Risk Description</b>	<b>Mitigation Measures</b>
5. Internal audit	Substantial	Internal audit function generally weak.	FCGO/DTCO shall include the proposed project in their audit scope. The internal audit observations shall be shared with the respective PMU and PIU management for management responses and implementation as applicable.
6. External audit	Moderate	Audit to be conducted by the OAG in accordance with National Audit standards. The DWRI and DHM to be audited separately. Audit report may be submitted to ADB with minor delays.	The PMU and PIU will cause their respective PFS to be audited separately by the OAG in accordance with the statement of audit needs agreed between ADB and OAG. The PMU shall compile both APFS and submit them to ABD within 6 months at the end of the financial year.
7. Reporting and monitoring	Moderate	Financial reports may not meet ADB's minimum requirements.	<p>The PMU and PIU shall prepare quarterly financial reports within 30 days after the end of the reporting period. The PMU shall consolidate the financial information to be included in the quarterly progress reports to be submitted within 45 days after the end of the reporting period.</p> <p>PMU and PIU shall prepare separate PFS according to agreed format within two months after the fiscal year.</p>
8. Information systems	Moderate	<p>Since 2019, DWRI and DHM are using the government software called CGAS e-payment system. However, direct payments and USD payments made from the advance account will have to be manually included in the system.</p> <p>The project financial reports are created manually in excel based on the CGAS information.</p>	<p>Active use of ADB systems (LFIS and CPD) to reconcile project accounts and ADB disbursement records, and keep track of direct payments as well as advances, replenishments and liquidations to the advance account.</p> <p>PMU and to PIU to explore ways to automate financial reporting for the project in the agreed format.</p>
<b>Control Risk</b>	<b>Moderate</b>		
<b>Overall Project financial management risk</b>	<b>Moderate</b>		

ADB = Asian Development Bank, APFS = audited project financial statement, CGAS = Computerized Government Accounting System, CPD = client portal for disbursement, DHM = Department of Hydrology and Meteorology, DTCO = district treasury controller's office, DWRI = Department of Water Resources and Irrigation, FCGO = financial comptroller general's office, FM = financial management, GON = Government of Nepal, LFIS = loan financial information services, OAG = office of the auditor general, PAM = project administration manual, PFS = project financial statement, PIU = project implementation unit, PMU = project management unit, WB = World Bank.

17. DWRI and DHM have agreed to implement an action plan with key measures to address the identified risks. The financial management action plan presented in the table below summarizes the key risks, activities for mitigation, staff and/or personnel responsible, and agreed completion dates.

**Table 15: Financial Management Action Plan**

<b>Risk area</b>	<b>Agreed Action</b>	<b>Responsible entity</b>	<b>Agreed Completion Date</b>
Implementing entity	Set up and formalize the financial management arrangements including roles and responsibilities between the PMU and PIU.	PMU and PIU	By loan effectiveness
Staffing	Assign qualified accountant to the PMU and PIU.	PMU and PIU	By loan effectiveness
Staffing	Engage a financial management specialist to support PMU and PIU in training, system set-up, accounting and financial reporting.	PMU	By loan effectiveness
Staffing	Develop and implement a financial management training plan with regards to project financial reporting, ADB disbursement procedures and systems (CPD and LFIS), and FM and audit requirements.	PMU, PIU and ADB	Within 2 months after loan effectiveness
Accounting	Develop supplementary accounting instructions to enable consistent financial reporting by the PMU and PIU in line with financing structure and expenditure categories outlined in the PAM.	PMU and PIU	Within 2 months after loan effectiveness
Internal audit	Monitor FCGO/DTCO audit observations and implement all significant audit recommendations related to the project.	PMU and PIU	Within six months after the receipt of the internal audit report throughout the project implementation
External audit	Ensure the project is included in the audit plan of the OAG.	PMU and PIU	Within 2 months after loan effectiveness
	Cause PMU's and the PIU's project financial statements to be audited separately by OAG in accordance with the statement of audit needs agreed between ADB and OAG.	PMU and PIU	Annually throughout the project implementation
	Compile the PMU and PIU APFS for further submission to ADB.	PMU	Within 6 months after the end of the fiscal year
Financial reporting	Prepare quarterly financial reports and include comprehensive financial	PMU and PIU	Within 45 days after the end of the reporting period

Risk area	Agreed Action	Responsible entity	Agreed Completion Date
	information in the quarterly progress reports to be submitted to ADB.		
Information systems	<p>Use of ADB systems (LFIS and CPD) to reconcile project accounts and ADB disbursement records, and keep track of direct payments as well as advances, replenishments, and liquidations to the advance account.</p> <p>PMU and PIU to explore ways to automate financial reporting for the project in the agreed format.</p>	PMU and PIU	<p>Monthly from loan first disbursement throughout project implementation</p> <p>Within six months after loan effectiveness</p>

ADB = Asian Development Bank, APFS = audited project financial statement, CPD = client portal for disbursement, DTCO = district treasury controller's office, FCGO = financial comptroller general's office, LFIS = loan financial information services, OAG = office of the auditor general, PAM = project administration manual, PIU = project implementation unit, PMU = project management unit.

18. To ensure effective and timely implementation of the financial management action plan, DWRI and DHM are required to review the progress made against each agreed action on a quarterly basis. In addition, ADB review missions will review and verify the status of the financial management risks and financial management action plan on an annual basis and suggest remedial measures, as appropriate.

## B. Disbursement

### 1. Disbursement Arrangements for ADB Funds

19. The loan proceeds will be disbursed in accordance with ADB's Loan Disbursement Handbook (2017, as amended from time to time), and detailed arrangements agreed upon between the government and ADB.<sup>7</sup> Online training for project staff on disbursement policies and procedures is available.<sup>8</sup> Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

20. The project will make use of the Advance Fund, direct payment, and reimbursement procedure. DWRI and DHM will be responsible for: (i) preparing disbursement projections, and (ii) requesting budgetary allocations for counterpart funds and collecting supporting documents for their respective outputs. DWRI will be responsible for preparing and submitting all withdrawal applications to ADB and collecting the necessary documents from DHM and retaining supporting documents. To facilitate consolidation of ADB disbursement records and DWRI's and DHM's books of accounts, DWRI will claim expenditures incurred by DWRI and DHM in separate withdrawal applications.

21. **Advance fund procedure.** Immediately after loan effectiveness, DWRI and DHM will establish two advance accounts each, one for loan and one for the grant, in the Nepal Rastra Bank. The currency of the advance accounts is the US dollar. The advance account is to be used exclusively for ADB's share of eligible expenditures. The implementing agencies, DWRI and

<sup>7</sup> The handbook is available electronically from the ADB website: <https://www.adb.org/documents/loan-disbursement-handbook>

<sup>8</sup> Disbursement eLearning: [http://wqr4.adb.org/disbursement\\_elearning](http://wqr4.adb.org/disbursement_elearning)

DHM, who administer their respective advance accounts are accountable and responsible for proper use of advances to the advance account including advances to any sub-accounts.

22. The total outstanding advance to each of the advance accounts should not exceed the estimate of ADB's share of expenditures to be paid through the advance account for the forthcoming 6 months. DWRI and DHM may request for initial and additional advances to the advance account based on an estimate of expenditure sheet setting out the estimated expenditures to be financed through the account for the forthcoming 6 months.<sup>9</sup> For every liquidation and replenishment request of the advance account, the borrower will furnish to ADB (i) a statement of account (bank statement ending balance). issued by the bank where the advance account is maintained, and (ii) the advance account reconciliation statement (AARS) reconciling the above-mentioned bank statement against Ministry of Finance's (MOF) records.<sup>10</sup> Supporting documents should be submitted to ADB or retained by DWRI and DHM in accordance with ADB's Loan Disbursement Handbook (2017, as amended from time to time) when liquidating or replenishing the advance accounts.

23. **Statement of expenditure (SOE) procedure.**<sup>11</sup> The SOE procedure may be used for reimbursement of eligible expenditures and liquidation of the advance account. The ceiling of the SOE procedure is the equivalent of \$100,000 per individual payment. 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. DWRI and DHM (through DWRI) will be responsible for preparing liquidation and replenishment of the advance fund. Procedures for establishing and operating the advance account and SOE procedures are detailed in the ADB's Loan Disbursement Handbook (2017, as amended from time to time).

24. Before the submission of the first withdrawal application, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is stipulated in the ADB's Loan Disbursement Handbook (2017, as amended from time to time). The borrower should ensure sufficient category and contract balances before requesting disbursements. Use of ADB's Client Portal for Disbursements (CPD) system is encouraged for submission of withdrawal applications to ADB.<sup>12</sup>

## 2. Disbursement Arrangements for Counterpart Funds

25. All disbursements under government financing will be carried out in accordance with the regulations of the Government of Nepal and accounting principles acceptable to ADB.

<sup>9</sup> Estimate of expenditure sheet is available in Appendix 8A of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

<sup>10</sup> Follow the format provided in Appendix 8B of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

<sup>11</sup> Statement of expenditure forms are available in Appendix 7B and 7D of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

<sup>12</sup> The Client Portal for Disbursement facilitates online submission of withdrawal application to ADB, resulting in faster disbursement. The forms to be completed by the Borrower are available online.



## C. Accounting

26. DWRI and DHM will maintain, or cause to be maintained, separate books and records covering all cash receipts from all funding sources and payments occurred under their respective project outputs. DWRI and DHM will prepare separate project financial statements, in accordance with Nepal Public Sector Accounting Standards cash basis of accounting and Government of Nepal's accounting policies which are consistent with international accounting principles.

27. **Financial Reporting.** The project financial statements shall follow the guidance included in the statements of audit needs agreed between ADB and the Office of the Auditor General (OAG) and will include at a minimum, the following:

- (i) Statement of sources and consolidated uses of funds showing the funds received and expenditures incurred from ADB, the government and other project financiers (if applicable) for the current year, prior year and cumulative from inception to date;
- (ii) Statement of budget versus actual showing expenditures for the current year. Any significant variances must be adequately explained in the notes;
- (iii) Statement of expenditures (SOE);
- (iv) Statement of imprest/advance account including advance account reconciliation and advance account ledger and photocopy of imprest/advance account bank statement as well as bank balance certificate for the unspent balance;
- (v) Statement of compliance with financial covenants;
- (vi) Detailed notes to the financial statements including accounting policies and explanatory notes, break-down of expenditures by financiers, and a detailed list of Withdrawal applications submitted to—and the amounts paid by ADB as follows: (a) withdrawal application number; (b) the amount claimed and currency; (c) date submitted; and (d) disbursement method and the amount disbursed by ADB as well as the applicable exchange rate.

28. In order to provide timely information on the project's financial progress and the status of financial management, to the project management, DWRI and DHM as well as ADB, the DWRI and DHM will produce quarterly financial reports within 30 days after the end of the reporting period. The DWRI will consolidate the financial information in the quarterly progress reports (QPRs) to be submitted to ADB within 45 days after the end of the quarter.

29. The consolidated financial information in the QPRs will include at least the following:

- (i) Overall financial progress by financing source for the reporting period, year to date and cumulative;
- (ii) Timeliness and adequacy of Government counterpart funding;
- (iii) Disbursement information for the reporting period, year to date and cumulative, including comparison with the disbursement curves outlined in the PAM;
- (iv) Reconciliations of the Advance Accounts. Any reconciliation items are to be disclosed and explained in the text;
- (v) Reconciliation of project records with ADB disbursement data. Any discrepancies are to be disclosed and explained in the text;
- (vi) Variance analysis including budget vs actual expenditures and physical vs financial progress, with significant deviations are analyzed and explained;
- (vii) Signed contracts and payments made under each contract in the reporting period and cumulative, including comparison with the contract award curve outlined in the PAM; and

- (viii) Status of financial management under the project including follow-up status on the (a) FM action plan, (b) compliance with financial loan covenants, (c) past external and internal audit (if any) observations related to the project as well as (d) agreed actions from review missions.

30. **Reconciliations and Variance analysis.** Detailed financial reports may be included as an annex to the progress report as agreed with ADB. To ensure the correctness and completeness of the project's disbursement records, DWRI and DHM shall conduct:

- (i) Monthly reconciliations of the two advance accounts and the respective subaccounts; and
- (ii) Quarterly reconciliation of the project accounts, and ADB's disbursement data available in the Loan/Grant Financial Information System.

31. Any discrepancies and/or reconciliation items will be promptly followed up on to ensure these are resolved in a prompt manner. Furthermore, any differences between amounts claimed and the amounts disbursed will be disclosed and explained in the WA register, in the quarterly progress reports and in the notes of the project financial statements.

32. Moreover, DWRI and DHM will conduct variance analysis of at least on a quarterly basis, examining the differences between budgeted vs. actual expenditures as well as financial vs. physical progress. The variance analysis will pay particular attention to:

- (i) Significant deviations from the budgeted engineer's estimate;
- (ii) Significant deviations between financial and physical progress;
- (iii) Significant delays on (planned vs. reported) physical and/or financial progress; and
- (iv) Inconsistent and/or delayed progress reporting.

33. Any significant variances, delays or deviations etc. shall be promptly followed-up on and explained in the QPRs.

34. **Capacity building of financial management staff.** To ensure an effective operation of FM staff assigned to the project, the PMU/DWRI and PIU DHM will ensure that each financial/accounts staff assigned to the project undertake the following actions within the first 3 months working with the project:

- (i) Become aware of the ADB's and national anticorruption policy and whistleblowing mechanisms;
- (ii) Complete the ADB Disbursement eLearning course;
- (iii) Master loan/grant agreement including the loan covenants and the relevant sections of the Project Administration Manual, ADB disbursement handbook as well as The Statement of Audit needs agreed between ADB and the OAG;
- (iv) Obtain user/reader rights (as required) to ADB's systems including: CPD and Loan/Grant Financial Information System; and
- (v) Familiarize themselves with the agreed statement of audit needs between OAG and ADB as well as ADB's financial reporting requirements.

35. In addition, the project should on a yearly basis liaise with ADB to take advantage of other financial management resources and training events organized by ADB, especially in the first years of project implementation.<sup>13</sup>

36. **Fixed Asset Management.** All project assets created, and equipment purchased as part of the project will be recorded in the DWRI/DHM's fixed asset register. The project assets will be subject to annual physical inventory exercises/verification counts where the location and condition of the assets/equipment is confirmed.

## **D. External Auditing and Public Disclosure**

37. DWRI and DHM will cause their respective project financial statements to be audited separately on an annual basis and in accordance with the International Organization of Supreme Audit Institutions Fundamental Auditing Principles by the OAG. The Statement of Audit Needs agreed between ADB and the OAG will be used as a guide.

38. The respective audit reports will include a separate audit opinions, which will cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether the loan proceeds were used only for the purposes of the project; and (iii) the level of compliance for each financial covenant contained in the legal agreements for the project. As part of the audit report a management letter shall also be provided. From the second audit onwards, the management letters will include a follow-up on the implementation status of previous audit recommendations (where applicable).

39. The PIU will submit its audited project financial statement (APFS) to the PMU in a timely manner to allow the PMU to compile the APFS, audit opinions and management letters for both entities and submit the complete package to ADB in a timely manner.<sup>14</sup> As part of the compilation, the PMU will ensure the financial information presented in each of the APFS reconcile with ADB's disbursement records. In this regard, a separate unaudited reconciliation statement, in a format acceptable to ADB, will be attached to the complied APFS submitted to ADB. Any discrepancies will be promptly followed-up by the PMU, so the matter can be solved in a timely manner.

40. The APFS, together with the auditor's opinion, and the management letter will be presented in the English language and submitted to ADB within 6 months from the end of the fiscal year. 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.

41. The government, DWRI, and DHM 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.<sup>15</sup> ADB reserves the right to require a change in the auditor (in a manner

<sup>13</sup> ADB offers an eLearning course: [Cash Basis IPSAS for ADB Project Financial Reporting](#).

<sup>14</sup> No later than 6 months after the end of the fiscal year.

<sup>15</sup> Following is ADB's policy on 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 (i) the audit documents are overdue; and (ii) 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 *have not been received within 6 months after the due date*, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of

consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed.

42. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures. Public disclosure of the APFS, including the auditor's opinion on the project financial statements, will be guided by ADB's Access to Information Policy.<sup>16</sup> After the review, ADB will disclose the APFS 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 and additional auditor's opinions will not be disclosed.<sup>17</sup>

43. **Winding up and loan closure.** In order to close the project account in a timely manner and to comply with ADB's requirements, DWRI and DHM will ensure that the following measures are undertaken:

- (i) All ADB-financed expenditures are incurred before or by the loan/grant closing date;
- (ii) All withdrawal applications including liquidations of the advance account are submitted to ADB preferably by the loan/grant closing date but in no case later than the end of the winding-up period; that is, within four months after the end of the loan closing date;
- (iii) Any unutilized advances are refunded to ADB within 2 months after the end of the winding-up period;
- (iv) The final project financial statements are audited by independent auditors (OAG) as agreed with ADB and the APFS and the management letter are submitted to ADB as soon as possible after the loan closing date;
- (v) The final APFS must include all eligible expenditures incurred up to the loan closing date as well as up to the final withdrawal application submitted to ADB;
- (vi) All past audit observations are resolved in a timely manner;
- (vii) A final inventory of the project's assets is conducted and duly documented to facilitate the transfer of assets to the relevant authorities, as applicable; and
- (viii) All project financial records are filed in an orderly manner and stored in a secure location for a for at least 1 year following receipt by ADB of the final audited project financial statements or 2 years after the loan closing date, whichever is later.

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advance accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (i) inform the executing agency of ADB's actions; and (ii) advise that the loan may be suspended if the audit documents are not received within the next 6 months.

- (iii) When audited project financial statements *have not been received within 12 months after the due date*, ADB may suspend the loan.

<sup>16</sup> Available at <https://www.adb.org/sites/default/files/institutional-document/450636/access-information-policy.pdf>

<sup>17</sup> ADB. 2018. *Access to Information Policy*. Paragraph 17(iv) and (v). This type of information would generally fall under public communications policy exceptions to disclosure.

## VI. PROCUREMENT AND CONSULTING SERVICES

### A. Advance Contracting and Retroactive Financing

44. All advance contracting and retroactive financing will be undertaken in accordance with ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower, Executing Agency MEWRI, and Implementing Agencies, DWRI and DHM have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance project.

45. **Advance contracting.** The works and services packages to be financed by the project through advance contracting are: (i) Civil works CW-01 (Mohana Khutiya subproject); (ii) Civil works CW-02 (Mawa Ratuwa subproject); and (ii) Consulting services CS-01 (Project Implementation Consultant) and (iii) FFEWS FF-01. Eligible PMU and PIU setting-up expenses (office equipment, vehicles, and personnel) may also be part of advance contracting and retroactive financing. Table 16 below indicates the schedule for advance contracting, for CS-01, CW-01, CW-02, and FF-01 including status for each activity.

46. **Retroactive financing.** The maximum amount of expenditures eligible under the retroactive financing shall not exceed 20% of the total ADB loan amount which shall have been incurred before loan effectiveness, but not more than 12 months before the signing of the loan agreement.

**Table 16: Advanced Actions**

Activity	Responsible	Due date	Comment
<b>CS-01: Project Implementation Consultant</b>			
CSRN posting	DWRI	31-Oct-19	Completed
EOI submission deadline		29-Nov-19	Completed
Shortlisting and submission of S-1	DWRI	30-May-20	Completed
RFP submission deadline		28-Sep-20	
Technical proposal evaluation, preparation and submission of S-2	DWRI	27-Dec-20	
Financial proposal evaluation, preparation and submission of S-3	DWRI	09-Feb- 20	
Contract negotiation and signing	DWRI	23-Feb-21	
Consultant mobilization	DWRI	24-Mar-21	

Activity	Responsible	Due date	Comment
<b>CW-01: Flood Control Works at Mohana Khutiya River Basin</b>			
Submission of bid document to ADB	DWRI	20-Jun-20	Submitted 24-Jun-20
Advertise Bid Notice	DWRI	29-Aug-20	
Receipt of bids	DWRI	10-Oct-20	
Technical bid evaluation report preparation and submission to ADB	DWRI	09-Nov-20	
Price bid evaluation report preparation and submission to ADB	DWRI	19-Dec-20	
Contract signing	DWRI	26-Jan-21	
Submission of signed contract agreement to ADB	DWRI	27-Jan-21	
Contractor mobilization	DWRI	27-Jan-21	

Activity	Responsible	Due date	Comment
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<b>CW-02: Flood Control Works at Mawa Ratuwa River Basin</b>			
Submission bid document to ADB	DWRI	20-Jun-20	Submitted 24-Jun-20
Advertise Bid Notice	DWRI	29-Aug-20	
Receipt of bids	DWRI	10-Oct-20	
Technical bid evaluation report preparation and submission to ADB	DWRI	09-Nov-20	
Price bid evaluation report preparation and submission to ADB	DWRI	19-Dec-20	
Contract signing	DWRI	26-Jan-21	
Submission of signed contract agreement to ADB	DWRI	27-Jan-21	
Contractor mobilization	DWRI	27-Jan-21	

<b>Activity</b>	<b>Responsible</b>	<b>Due date</b>	<b>Comment</b>
<b>FF-01: FFEWS</b>			
Submission bid document to ADB	DHM	31-Aug-20	
Advertise Bid Notice	DHM	01-Oct-20	
Receipt of bids	DHM	12-Nov-20	
Technical bid evaluation report preparation and submission to ADB	DHM	12-Dec-20	
Price bid evaluation report preparation and submission to ADB	DHM	21-Jan-21	
Contract signing	DHM	28-Feb-21	
Submission of signed contract agreement to ADB	DHM	01-Mar-21	
Contractor mobilization	DHM	01-Mar-21	

ADB = Asian Development Bank, CS = consulting services, CSRN = consulting services recruitment notice, CW = civil works, DWRI = Department of Water Resources and Irrigation, EOI = expression of interest, RFP = request for proposals, S = submission.

## **B. Procurement of Goods, Works, and Consulting Services**

47. All procurement (including consulting services and non-government organizations) of goods and works will follow ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).<sup>18</sup>

48. Open competitive bidding (OCB) (international advertisement) procedures will be used for any works contract estimated to cost \$5.00 million or higher, and any goods contract valued at \$2.00 million or higher. Domestic preference may apply to civil works and goods packages. For any works contract estimated to cost less than \$5.00 million and any goods contract estimated to cost less than \$2.00 million OCB (national advertisement) procedures will be used. Request for quotations will be used for procurement of works and goods worth less than \$100,000. The government shall use hard copies or through electronic means for OCB (national advertisement). For OCB (international advertisement), only manual bidding will be used.

49. All OCB (national advertisement) contracts and first package each of shopping for works and goods under the project will be subject to prior review by ADB. Procurement capacity assessment of the DWRI and DHM indicates that it has adequate human and physical resources for carrying out procurement.

50. All procurement activities, including the FFEWS, will be the responsibility of the Project Director of the PMU, who will be supported by his or her staff and consultants. ADB will closely monitor all major project implementation activities. Civil works will comprise (i) five OCB packages

<sup>18</sup> In the event of any unclarity regarding procedures to be undertaken for procurement under the Project, ADB will provide clarifications at the government's request. Procurement under the project will be undertaken through use of the applicable standard bidding documents published by ADB.

for the river training works and (ii) OCB packages for flood shelters. FFEWS would be procured through a turnkey contract (using Goods and related services single stage two envelope procedure of ADB).

51. The terms of reference for the project implementation consultants (PIC) are provided in ATTACHMENT F. An estimated 57 person-months of consulting services (25 international, 26 national and 6 national non-key) are required to (i) facilitate design, supervision, and management of subprojects; (ii) support project management and quality assurance; (iii) strengthen institutional capacity; and (iv) facilitate gender development and poverty alleviation. A team of consultants (PIC) will be recruited through a firm using the quality and cost-based method of selection with a quality-cost ratio of 90:10 to ensure engagement of highly qualified and experienced team of consultants.

52. The project also envisages the recruitment of an NGO for design and implementation of CBDRM activities. They will be recruited using the quality and cost-based method of selection with a quality-cost ratio of 90:10. The services of CBDRM consultant are required to facilitate design, management and implementation of CBDRM activities. The project through the field offices will procure works through community procurement in compliance with the threshold limit indicated in procurement plan. The field offices have adequate capacity and experience in procuring community contracts for civil works. The community procurement for implementing bio-engineering work (establishing nursery, implementing bio-engineering of embankments, and their maintenance shall not exceed the threshold of NRs6 million).

### **C. Procurement Plan**

53. The procurement plan (ATTACHMENT E) is prepared in accordance with ADB's country-specific template. The procurement plan indicates threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines. The procurement plan provides: (i) a list of goods, works, and consulting services contract packages that will be processed over the next 18 months with milestone dates for activities; (ii) the proposed methods for procurement of such contracts that are permitted under the loan agreement; and (iii) the related ADB review procedures. The procurement plan will be updated by the PMU for approval by ADB, at least annually, and more frequently if necessary, and should cover the next 18 months of procurement activity. A delay in loan effectiveness, other start-up delays, and delays during implementation will require an unscheduled procurement plan update. ADB will review each updated procurement plan prior to its publication.

54. ADB will review documents and submissions related to procurement at all major milestones prior to proceeding with the procurement process. PMU and DHM PIU will be supported by procurement specialist in the PIC and with regular trainings on procurement.

## VII. SAFEGUARDS

55. In compliance with ADB's Safeguard Policy Statement, 2009 (SPS), the project's safeguard categories are as follows.

### A. Environmental Safeguards

56. **Environment (category B).** Initial environmental examination (IEEs) were prepared for the six river basins from feasibility studies, although the East Rapti subproject involves only construction of flood shelters and development of FFEWSs. The IEEs were prepared following the national environmental provisions and ADB's SPS. The IEEs include the environmental management plan (EMP), which identifies the potential environmental impacts and proposes mitigation measures, a monitoring plan, and overall safeguards implementation institutional arrangements. The EMP also requires occupational health and safety measures for project staff and nearby communities, including managing the spread of coronavirus disease (COVID-19). The IEEs will be disclosed on ADB's website based on the requirements of the SPS and ADB's Access to Information Policy.

57. The project will not encroach upon national parks and buffer zones, protected or sensitive ecosystems, and ancient heritage sites. The project's key activities that attract environmental concerns are construction of embankments, flood shelters, FFEWSs, and quarry operation. The environmental impacts predicted during implementation are mainly restricted to the construction stage and will be site specific, short in duration, reversible, and of low significance, such as temporary dust in the air, sediments in water, and noise pollution.

58. An environmental liaison officer will be appointed at PMU for overall safeguards coordination in the project. The officer will be supported by the PIC environmental specialist. The consultant will be responsible to establish overall safeguards monitoring and reporting mechanism in the project, develop an environmental safeguards management information system (MIS) prepare monitoring checklist and reporting formats, and support in capacity development of executing agency, implementing agency and contractors in operation of e-MIS and reporting by using standard checklist. The Chief of the Field Offices will be designated as safeguard focal point, who will be supported by safeguards field monitors of the PIC (one in each subproject). The field monitors will support the field offices safeguard focal in compliance monitoring and reporting field level safeguards performance. The contractor will appoint a full-time senior safeguards assurance officer and a senior safety officer accredited in occupational health and safety in each contract package. Safeguards performance of the project will be reported through QPR and semi-annual environmental monitoring report (EMR) during construction and annual monitoring report during operation and maintenance phases. Consultation with stakeholders and affected people were carried out during project preparation and will be continued during implementation following ADB's Access to Information Policy. The executing agency will establish a grievance redress mechanism (GRM) at central and local levels to receive, assess and resolve complaints from affected persons or community during implementation. Transparency will be maintained in handling the complaints at all times.

59. **Environmental Management Plan.** The EMP will be attached with the respective bidding and contract agreement documents. The bidders shall propose sufficient budget in their bids for implementing EMP requirements following suggested specifications as suggested in the bill of quantities. The contract agreement will have safeguards clause along with action for noncompliance's. Sufficiency of budget and commitment of bidder in this regard will be verified by the Employer. The site-specific environmental management plan (SEMP) will take into account



the prevailing pandemic situation and the guidance issued by Government of Nepal, the successful contractor will prepare and submit a SEMP that includes the occupational health and safety (OHS) plan and a standard operational procedure (SOP) to manage COVID-19 risks. The SEMP and OHS Plan will comply with the EMP measures and the government instruction/guidelines for implementing construction work during the pandemic. The SOP will also follow the guidance issued by agencies like WHO, ILO and IFC. The EA will guide the contractor in preparing site-specific EMP and OHS plans with SOP giving a priority to the measures for responding to the COVID-19 risks during construction. The contractor will seek the Employer's endorsement after award of contract and before site mobilization.

## **B. Social Safeguards**

60. **Involuntary resettlement.** The project is classified as category C for involuntary resettlement in accordance with ADB's SPS. The social safeguards due diligence confirms that there is no physical or economic displacement due to involuntary land acquisition or involuntary restriction on land use under the project.<sup>19</sup> Project infrastructure is estimated to require (i) about 50 hectares (ha) of land for construction of embankments (9 m–12 m width) across five river basins, (ii) 1.6 ha of land for construction of 48 community flood shelters (approximately 340 m<sup>2</sup> per flood shelter) across six river basins, and (iii) 0.02 ha of land for the 30 rain gauge stations (approximately 5 m<sup>2</sup>). The project will satisfy land use requirements through a combination of government land, negotiated settlement and voluntary land contributions from direct project beneficiaries. Government land is free from occupants (including street vendors) and there are no common property resources on such lands. The following paragraphs outline the project's procedures for undertaking negotiated land settlements and or voluntary land or land use donations in a transparent, consistent, and equitable manner so that people entering into agreements maintain the same or better income and livelihood status. The institutional roles, responsibilities, and implementation arrangements for social safeguards is outlined below in Section D.

61. **Procedure for voluntary land or land use donation.** Land for embankment construction will be contributed on a voluntarily basis by *eligible* project beneficiaries. Landowners and users are deemed eligible to contribute land or land use to the project when: (i) the donation is verified as voluntary and not resulting from coercion or force,<sup>20</sup> (ii) the donation is verified to not negatively impact or impoverished the land owner or user,<sup>21</sup> (iii) the project benefit will realistically offset the affected party's land or land use donation, and (iv) the donation is verified in verbal and written records as confirmed and witnessed by an independent third party.<sup>22</sup> Recognizing that landowners and users living in flood affected areas are majority poor and marginalized, the project will provide livelihoods enhancement training for all landowners and users that contributed to the project.<sup>23</sup> Private land owners will choose to transfer the contributed land title deed to the government or maintain the land title deed in their own name; whichever option is deemed preferable in the

<sup>19</sup> Social Safeguards Due Diligence Reports (accessible from the list of linked documents in Appendix 2 of the report and recommendation of the President).

<sup>20</sup> Including from other community members, government authorities or any other party.

<sup>21</sup> Donations resulting in a loss of more than 10% of the household annual income *OR* a loss of more than 10% of the household total land holding cannot be contributed on a voluntary basis to the project, irrespective of the affected party's willingness to do so. Furthermore, no structures including residential, business, animal or food storage can be donated to the project on a voluntary basis.

<sup>22</sup> An independent third party is a designated nongovernmental organization, government or legal authority who does not serve to benefit from the Project and is impartial to the donation outcome.

<sup>23</sup> The Social Safeguard Focal will be responsible for overseeing the design, preparation, and implementation of the livelihood's enhancement for eligible households. A budget has been assigned to the activities; a time-bound work plan will be submitted to ADB following the verification of land use arrangements.

landowner interest.<sup>24</sup> All land and land user contributions must be verified by the field office Social Development Officers in collaboration with local representatives (ward members) before land is provided by PMU to the contractors. The PMU will ensure that all voluntary land and land use donations are documented, overseen by an independent third party and reported within the project's semi-annual Social Safeguards Monitoring Reports (SMR. see para. 91).

62. **Procedure for negotiated settlement.** Where landowners or users are ineligible or do not wish to donate land, the project has the option to enter into a negotiated settlement. Compensation for the negotiated settlement will be provided in the form of replacement of assets (land for land) or cash compensation. Embankment user associations will be formed with the ward representative to identify cases and appropriate compensation provisions. As per ADB SPS, negotiated settlement is achieved by providing fair and appropriate compensation and other incentives to the willing seller, negotiated through meaningful and well documented consultations. To the extent negotiation is based on the concept of willing buyer and willing seller, negotiated settlement is voluntary (footnote 22). If negotiations fail, the project must avoid the affected asset by changing the project design. The PMU will ensure that negotiated settlements are documented, overseen by an independent third party and reported within the project's SMR.

63. **Indigenous peoples:** The project is classified as category *B* for indigenous peoples in accordance with ADB's SPS. Social safeguards due diligence confirmed that the targeted beneficiary population are majority indigenous as per the ADB definition; ethnically distinct and vulnerable. Over 50 community consultations and 400 household surveys were conducted during the project preparation for the purpose of indigenous people identification and impact assessment. Multiple indigenous people groups were identified, including the Madheshi, Tamang, Bote, Chepang, Gurung, Rai, Magar, Newar, and Tharus ethnic groups.<sup>25</sup> Consultations confirm that project activities will not adversely affect the dignity, human rights, livelihood systems, culture, territory, natural, or cultural resources of indigenous peoples.. The indigenous people population expects to benefit from flood protection and enhanced disaster readiness.

64. ADB's SPS indigenous people safeguard seeks to ensure that indigenous peoples (i) receive culturally appropriate social and economic benefits, (ii) do not suffer adverse impacts as a result of projects, and (iii) can participate actively in projects that affect them. As per Appendix 3, para. 17 of ADB's SPS, a separate indigenous peoples plan is not required, as indigenous peoples are the majority of direct project beneficiaries, and only positive impacts are identified. The project design has mainstreamed a culturally sensitive approach to information sharing, meaningful consultation, and benefit sharing.<sup>26</sup> The following paragraphs describe how the project has ensuring meaningful and ongoing consultations with indigenous people and culturally appropriate benefit sharing mechanisms.

65. Indigenous people information sharing and consultation in project design and implementation. During project preparation, indigenous peoples actively participated in project

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<sup>24</sup> Landowners will not be obliged to transfer their land title deeds to the government as the river course will change in time and the landowner may be able to reclaim their land. As per the Memorandum of Understanding, landowners will only be able to access the donated land once the embankment is no longer functional. The expected life of the embankment is 25 years.

<sup>25</sup> The Brahmin, Chhetri and the Dalit castes are common to all the sub project areas whereas diverse indigenous ethnic groups are present across in the six sub project areas. Indigenous peoples are found to maintain their own distinct ethnic cultural systems and nature-based livelihood practices. For example, the Rajbansis, Majhi, Bote, Danwar and Tharu maintain a river-based lifestyle and fish consumption as a staple in the diet. Each indigenous ethnic group has their own way of deriving their livelihood from available natural resources in the sub-projects.

<sup>26</sup> ADB. 2009. *Safeguard Policy Statement*. Manila. See Appendix 3, Safeguard Requirements 3: Indigenous Peoples, para. 17.

screening activities including community level focus group discussions and household surveys. Indigenous people participants, both male and female, were invited to share views about the location and use of project infrastructure (embankments, rain gauges and community flood shelters). Indigenous peoples were also invited to share distinct cultural norms and practices associated with flood protection management, including preparation, response, early warning, and post-disaster relief. Community consultations highlighted that indigenous peoples in the project area possess extensive knowledge about the trend of rivers, including indigenous ways of knowing about flood indications as well as various local methods to complement the river embankment related construction activities. The main concern of indigenous peoples related however to ensuring a gender responsive project design. Specifically, indigenous people women and girls have requested that community flood shelters provide separate bathrooms and private spaces for menstruating and elderly women, as well as women with small children. Indigenous people women also requested the project to ensure their participation in decision making and training opportunities. Indigenous people groups did not perceive any issue with the mixing of indigenous people groups during a flood response scenario. To the contrary, rural communities in the region are often ethnically diverse. Furthermore, indigenous people groups do not reportedly have any culturally distinct flood mitigation or response practices that they deem relevant for the project. Notwithstanding this, indigenous peoples will again be consulted during the implementation period when the community-based flood forecasting and early warning system is designed.

66. **Gender.** The project's Gender Equality and Social Inclusion (GESI) Action Plan was designed in response to indigenous people feedback. The GESI action plan outlines a series of activities and targets aimed at ensuring ongoing and meaningful consultation with indigenous people groups about impacts and culturally appropriate benefit sharing. For example, the GESI action plan contains targets for indigenous people (and indigenous people women's) inclusion in the rehabilitation and construction of flood control infrastructures. Participation of indigenous peoples (and indigenous people women) in all safeguards related consultations. Targeted indigenous people inclusion in flood risk management training. Indigenous people participation and input into the design of culturally responsive community risk reduction plan for each subproject. The GESI action plan activities and targets are budgeted and will be monitored within the project's quarterly progress report. The project's Social Safeguards Focal will further report on adherence to ADB's indigenous people safeguard principles within the project's semi-annual SMR. The GRM is designed to be culturally sensitive to the needs and interests of indigenous peoples.

67. **Prohibited investment activities.** Pursuant to ADB's SPS, ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the ADB's SPS.

### **C. Grievance Redress Mechanism**

68. Under safeguards implementation, a project specific GRM will be established to receive and facilitate the resolution of affected people's concerns, complaints, and grievances if any about the social and environmental performance at the project level. The GRM will aim to provide a time bound and transparent mechanism to voice and resolve social and environmental concerns linked with the project. A GRM shall be established to ensure:

- (i) The basic rights and interests of every person affected by poor environmental or social performance of the project are protected; and

- (ii) Concerns arising from the poor environmental or social performance of the project during the conduct of pre-construction, construction and operation activities are effectively and timely addressed.

69. GRM is proposed to be simple, transparent, and responsive. GRM will address only the concerns arising due to the project implementation activities, mainly during construction stage. It will be a four-tier mechanism with scope for availing Nepal's legal system which can be availed at any time irrespective of lodging any concerns in the first and second tier of GRM.

70. The Environmental Liaison Officer in PMU will distribute the project booklets designed to inform general public about their rights as per the EMP by following the provision of GRM, and also complaints forms to the chiefs of all local bodies. The affected person or community desiring to register complain about the impact of construction works on their property, production system, economic well-being, and any other environmental impacts such as quality of surface and ground water, quality of air and noise, health, safety, welfare, or any other assets of their lives shall make their complaint using these complaints forms and register in the grievance redress committee.

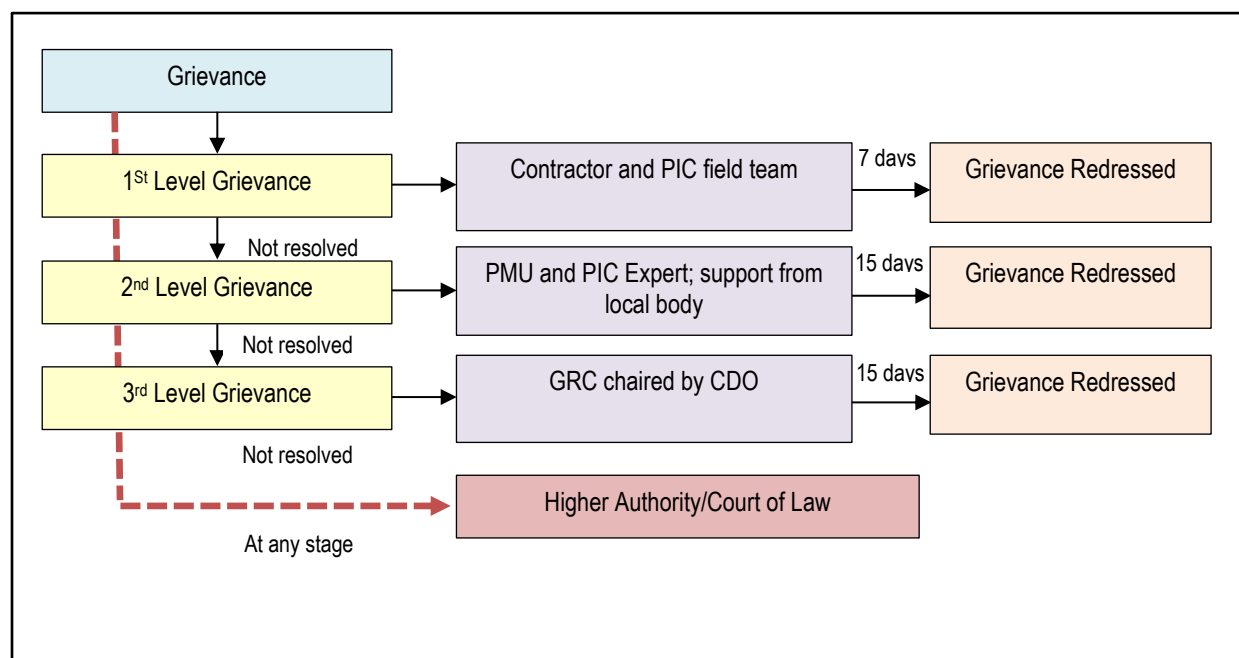
71. DWRI through its field offices will coordinate with local bodies at the project influence area to resolve grievances related with the project activities. A grievance redress committee (GRC) will be established at district administration office chaired by the chief district officer and representatives from ward and municipality, district revenue office, and district survey office as members. The field office chief will be the member secretary. The GRM will provide applicants with a culturally sensitive and inclusive mechanism. Submitted grievance will be addressed in timely and amicable resolution of the grievances, preferably at the project level (1<sup>st</sup> level of grievance handling). For any grievance filed by a marginalized or vulnerable person, such as an indigenous or poor person, extra attention will be paid to ensuring the following: (i) complainant will be aided in recording their grievance (field offices to write up verbal complaint verbatim), (ii) complainant can be represented and supported by a local leader (such as an indigenous leader), (iii) the GRC will use locally established grievance redress system if relevant (in the case of indigenous people) and (iv) the outcome of the grievance will be delivered in writing and in person by the field office person responsible, to ensure comprehension of the outcome and any follow up actions. All grievances shall be recorded in grievance register (including in Nepali or local language), and entire process shall be tracked and reported through quarterly and annual progress report and semi-annual social and environmental safeguards monitoring reports. Legal redress can be accessed at any stage in the GRM. The grievance redress process shall include the following stages:

72. **Level 1:** Aggrieved person/household shall file the complaint at subproject level. The receiving agent will be obliged to provide immediate written confirmation of receiving the complaint, and document that in GRM register. The grievance will be discussed with the affected person(s) and Safeguard Desk in the field office supported by the environment monitors to reach an agreement to settle the issue locally (within 15 days). If after 7 days the aggrieved person does not agree with grievance redressal proposal by the PIU, the complaint may be forwarded to PMU/PIU DHM seeking appropriate resolution.

73. **Level 2:** PMU/PIU DHM in consultation with aggrieved person and support from Local Body will try to solve the problem within 15 days of receipt of the complaint received in their office. If no amicable solution is reached at PMU/PIU DHM level within 15 days, the grievance shall be forwarded to GRC chaired by Chief District Officer.

74. **Level 3:** Project will form a GRC at district level chaired by the Chief District Officer, and representatives from the field office/PIU, concerned municipality, and the ward chair will be the member, and the field office chief will be the member secretary. The PIU chief supported by safeguard monitors will function the role of member secretary. The GRC will consult with the complainant and propose to resolve the issue. The GRC may invite concerned line agencies, and community group for discussion to find an amicable solution.

**Figure 5. Grievance Redress Mechanism**



CDO = Chief District Officer, GRC = Grievance Redress Committee, PIC = Project Implementation Consultant, PMU = Project Management Unit.

75. **Other dispute redress mechanisms.** The complainant, if not satisfied with the resolution through the GRM, can always have legal recourse to judicial processes at any stage of grievance redressal. In the ADB Accountability Mechanism, people adversely affected by ADB-financed projects can express their grievances; seek solutions; and report alleged violations of ADB's operational policies and procedures, including safeguards. This is a separate resolution mechanism from the GRM described above.

76. The Accountability Mechanism has two separate but related phases. First is problem solving, led by ADB's special project facilitator, to assist complainant in finding solutions to their problems. The second is the compliance review led by a three-member panel that investigates alleged violations of ADB's operational policies and procedures, including safeguard policies, that have already resulted in, or are likely to result in, direct adverse and material harm to Project-affected people. It recommends how to ensure Project compliance with these policies and procedures.

#### **D. Safeguard Implementation Arrangement**

77. **Project Management Unit.** The PMU will establish a "Central Safeguard Desk" (CSD) and comprise Safeguard Liaison Officer (SLO) supported by a senior environment cum safety consultant (SEC) accredited in OHS and senior social consultant (SSC) of PIC. The SLO will ensure full compliance with the overall environmental and social safeguards. The SLO will work

closely with environment and social development focal points and safeguards field monitors located in the field offices. The field offices shall work under the guidance of CSD and report to them. The safeguard focal person(s) will co-chair SLO meetings. They will be supported by a senior environment/OHS specialist mobilized through the project implementation consultant (PIC).

78. The SEC will support the PMU and the PIU to (i) ensure EMP/OHS requirements are included in BOQ and the specifications in the bidding document; (ii) support the PMU to work jointly with the field offices to ensure all required environmental safeguards clauses are included in the contract agreement; (iii) establish safeguards mechanism, develop an environmental safeguards management information system (e-MIS); prepare associated standard environmental and OHS monitoring checklist, and provide orientation to PMU/field offices/PIU staff, environment monitors and contractors in using them; (iii) prepare structure of environmental compliance reporting in quarterly and semi-annual monitoring reports covering PMU, field offices and PIU activities; (iv) facilitate PIUs in complying with all government rules regarding environmental clearances; (v) periodic field monitoring and provide guidance to the field offices/PIU in properly carrying out the environmental and OHS activities; (vi) review, monitor and recommend field offices to take timely corrective actions; (vii) consolidate monthly environmental monitoring reports received from field offices and prepare semi-annual monitoring reports, and share with PMU and PIU/DHM prior to forwarding to ADB; (viii) assist in meaningful consultation and setting up of GRM in each field office; (ix) regular review of compliance with safeguards covenants; and (x) organize periodic capacity building training to all project related stakeholders.

79. **Field Office and Project Implementation Unit (PIU).** Each field office will establish a Safeguard Desk, which will be chaired by safeguard focal person (Field Office Chief), who will be supported by safeguards field monitors under overall guidance of SEC and SSC. The Safeguard Desks will ensure the following: (i) the bidding document and contract agreement documents includes specific safeguard provisions, and ensure that EMP/OHS costs are sufficiently costed; (ii) ensure contractor submits site-specific EMP and OHS plan (integrated SEMP) before field mobilization; (iii) implement SEMP and document using standard checklists; (iv) involuntary resettlement and indigenous peoples screening and preparation of due diligence reports, as needed, to verify land use arrangements (including land donations and/or negotiated settlement), avoidance of involuntary resettlement impacts and meaningful consultation and information sharing with indigenous people; (v) comply with prohibition of child labor; (vi) ensure equal wage rate for similar work irrespective of gender; (vii) implement activities for prevention of sexually transmitted diseases and HIV/AIDS for workers and community; (viii) implement agreed rehabilitation and construction targets for indigenous people, women and other vulnerable groups; (ix) take timely corrective actions to ensure full compliance with social and environmental safeguards and OHS; (x) submit monthly environmental monitoring report to the senior environmental/OHS specialist at PMU and monthly social monitoring reports on the indigenous people and involuntary resettlement implementation progress to the Social Safeguard Focal in the CSD; (xi) assist field offices and PIU field team to conduct meaningful, culturally and gender sensitive consultation in the field; and (xii) establish a culturally sensitive GRM at field offices and address grievances in a timely manner for both field office and PIU work.

80. **Project Implementation Consultant.** The PIC SEC will support SLO in PMU and PIU/DHM. The SEC will have intermittent inputs of 9 months. The specialist will provide support to the PMU/field offices and PIU offices in maintaining overall environmental safeguards and OHS requirements in the project. The SEC will prepare an e-MIS and support the safeguard field monitors at field offices in monitoring environmental and OHS activities. The PIC will mobilize safeguard field monitors intermittently in each field office. They will work under the guidance of

SEC and SSC PMU. The monitors will also coordinate with the PIU/DHM field team implementing FFEWS and ensure safeguards in their work. They will support field offices and PIU field team in overall safeguards assurance monitoring, undertake corrective actions, and report to the senior environment/OHS specialist at PMU.

81. **Contractor.** The contractor supporting civil works under DWRI and FFEWS under DHM shall include cost for preparing and implementing site-specific environmental management and OHS plan (SEMP) along with mobilizing a full-time senior safeguard officer and a senior safety officer and includes the cost in their BOQ. Inclusion of sufficient cost for EMP and safeguard/OHS staff shall be verified and assured by the senior environment/OHS specialist at PMU. The integrated SEMP will be approved by the employer prior to their field mobilization. Contractor will submit the resume of the proposed senior safeguard officer and senior safety officer at least 15 days prior to their mobilization at site. The SEMP shall include (i) the proposed locations and specification of workers camp and associated facilities; (ii) operation of quarry; (iii) transport and storage of construction materials (aggregates, fabricated structural components, fuel, lubricants, paints etc.); (iv) spoil management and waste disposal site, (v) tree plantation plan; (vi) OHS and emergency plan; (vii) budget for SEMP/OHS implementation; and (viii) template of daily safeguards reporting checklist. No work shall commence prior to the approval of the integrated SEMP and resume of the senior safeguard officer and a senior safety officer by the Employer. The contractor will fill daily safeguard assurance checklist and report to the safeguard field monitors in the respective field offices. The contractor will furthermore compile and report on adherence to the involuntary resettlement and indigenous people safeguard engagements set out in this PAM and GESI action plan. The contractor will report to the field office Social Safeguard Focal Point through safeguard field monitors.

82. A copy of the approved SEMP will be kept at site at all time during construction. Non-compliance with, or any deviation from, the conditions set out in the SEMP shall constitute a failure in compliance and will require corrective actions. Prolonged non-compliance upon repeated notices to correct may lead to financial punishment through deducting agreed percentage of claim in the interim bills up to termination of contract, if required. Such provision shall be clearly stated in the contract agreement. Any non-compliance with the EMP would be a breach of the contract and trigger penalties associated with the breach, in accordance with the terms and conditions of contract.

83. **Capacity Building.** The SEC of PIC will provide training to the (i) PMU's safeguards focal persons (environment); (ii) PIU staff; (iii) field office staff and safeguard field monitors; and (iv) contractor's safeguard/OHS staff. Training modules will cover safeguards awareness and management, OHS plan implementation, and emergency plan for the project. The SEC and SSC will provide training to the (i) PIU staff and (ii) contractors about the project's environmental and social safeguard commitments and GESI action plan. ADB will provide the project staff and contractors with safeguard and GESI trainings in the request of PMU or ADB assessment during the implementation period.

84. **Prohibited investment activities.** Pursuant to ADB's SPS, ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at of the ADB's SPS.

## VIII. GENDER AND SOCIAL DIMENSIONS

85. **Poverty.** Nepal remains one of the poorest countries in the world despite considerable progress in poverty reduction in recent decades. About one-fourth of the population lives below the poverty, which is defined at NRs19,261 or about \$165 per capita per year according to the

Central Bureau of Statistics, Nepal, 2011. The Nepalese population are primarily rural and agrarian. About 80% of the population live in rural areas and 70% of the labor force depend on agriculture for livelihoods and subsistence.<sup>27</sup> The project is anticipated to protect about 3,300 ha of land and 16,000 people from flood impacts across the six river basins. Findings from the project's Poverty and Social Assessment highlight that beneficiary households experience food insecurity (60%), and earn their livelihood from daily wage work, agricultural labor, construction work, including small business. About 65% of the directly impacted population are from marginalized ethnic or caste groups. Vulnerability to flooding is an exacerbating factor of high poverty levels, particularly where marginalized communities are affected. Nepal is particularly prone to natural hazards and flooding poses a recurrent risk to large sections of the population especially for communities in the southern Terai region bordering India. This region covers some 17% of the national area and is home to about 50% of the country's population. Community consultations highlight that recurrent flooding affects farmland, crops and livestock and the livelihoods and property. Agricultural and residential lands frequently wash into the river canals causing landlessness and physical displacement. Children's school routines are disrupted during the monsoon season. Households abandon land plots for fear of flooding, despite that land is a critical livelihood asset. The affected communities, especially the women, are not adequately prepared to manage flood-induced risks. The project outputs will significantly benefit poor and marginalized groups. Project outputs will reduce (i) damage to property and infrastructure, (ii) losses of livestock, (iii) crop losses, (iv) medical and funeral costs and (v) coping costs (e.g. the cost of repairing damage to paddy fields and other on-farm infrastructure as well as to local roads and any temporary higher food costs). The positive impact to poor and marginalized groups is particularly significant given that the majority (84%) have rural-based agricultural livelihoods which are frequently affected by flooding.

86. **Gender.** The project is categorized as *effective gender mainstreaming*. Over 50 community consultations were held across the subproject areas; of the 1,595 total participants about 30% were women and girls from diverse ethnic and caste groups. During consultations, women and girls expressed the collective perception; they are disproportionately impacted by flooding events compared with men. Women are greatly burdened during flooding events and post-disaster recovery given their status as primary care givers. Women struggle to protect children and seniors during flooding events as they lack life-saving skills and wear traditional Nepali dresses for modesty reducing their mobility in a flood scenario. Women also struggle to feed their families when productive assets, cows, and food gardens, are washed away. In flood prone areas, there is a pertinent need to address Nepalese women's preparedness, responsiveness, and post-flooding recovery. The Project will actively support marginalized groups, including women, persons with disability and caste and ethnic minorities through the GESI action plan. The GESI action plan comprises 10 targets aimed at mainstreaming a gender sensitive and socially inclusive approach to all project activities. The project management unit's social safeguards focal will be responsible for overseeing the implementation, monitoring, and evaluation of the GESI action supported by the PIC GESI expert and DWRI Social Development Officers located at each subproject field office. The PMU Social Safeguards Focal will monitor and report on the implementation and budget of the GESI action plan in the QPRs and SMRs. GESI activities and time-bound responsibilities of different stakeholders are shown below in Table 17.

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<sup>27</sup> International Labour Organization. ILOSTAT. <https://www.ilo.org/global/statistics-and-databases/lang--en/index.htm>. The agriculture sector employment includes non-wage-based self-employment.



**Table 17: Gender Equality and Social Inclusion Action Plan**

Activities	Targets and indicators	Responsibility	Time
<b>Output 1: Flood protection infrastructure improved</b>			
1. Ensure that construction activities abide by core labor standards including OHS, prohibition of child labor and gender related aspects.	(i) Adequate facilities and separate women/men toilets exist in each construction site for labors. (ii) Orientation sessions on labor standards/ equal wages/OHS and awareness on HIV/AIDS, human trafficking, sexual harassment, exploitation and abuse targeting 10 sessions from PMU/field office staff/Contractors. <sup>a</sup>	PMU and Contractors.  DWRI Field Office Social Development Officers	1–5 years
2. Ensure participation of women and members from indigenous people, excluded and vulnerable households in rehabilitation and construction of flood control infrastructures including nature-based solutions for flood risk (such as bio-engineering and river embankment).	(i) Specific conditions included in contractors' bid document whereby at least 15% employment opportunities be given to women. (ii) At least 10% of those employed on flood infrastructure rehabilitation and construction works are indigenous peoples and Dalits, and 15% are women.	PMU and Contractors  DWRI Field Office Social Development Officers	2–5 years
3. Ensure participation of women and members from indigenous peoples, excluded and vulnerable households in safeguards related consultations.	(i) Men and women of affected households of 5 basins participated in safeguards related consultations (land use agreements, involuntary resettlement and indigenous peoples) and informed on process (data disaggregated by sex, caste, ethnicity and vulnerability. (basins baseline to be established during inception.)	PMU, Local Government and community representatives	1 year
<b>Output 3: Flood prevention and preparedness capacity improved</b>			
4. Increase institutional capacity of DWRI staff in flood risk management.	(i) At least 20% of trained DWRI staff and local government staff (at least 15% women) demonstrated skills in flood risk management	PMU  DWRI Field Office Social Development Officers	1–5 years

Activities	Targets and indicators	Responsibility	Time
5. Establish CDRMCs.	(i) Each CDRMC consists of 33% women members. Inclusion of at least one person with disability (PWD) and one from indigenous peoples group, as applicable.	PMU, DWRI, NGO, Local communities  DWRI Field Office Social Development Officers	1–5 years
6. Enhance capacity of community including women, vulnerable, indigenous peoples and persons with disability on flood risk management.	(i) At least 50% of women, members from vulnerable groups, indigenous people and PWD of CDRMC are trained community-based FFEWS. (ii) Community risk reduction plan identified risks for women, men, children, elderly, indigenous peoples, vulnerable groups, including any special needs of PWD for each subproject and the measures to address.	PMU, DWRI, NGO, CBDRMU  DWRI Field Office Social Development Officers	1–5 years
7. Prepare CBDRM plans and deliver a training program on CBDRM for local communities in flood prone areas of the subprojects.	(i) 6 gender-inclusive CBDRM plans (one for each river basin area) prepared by the community with at least 33% women participation and inclusion of at least one differently abled affected person and one from indigenous peoples group (ii) CBDRM training program incorporates identified risks to women, men, children, elderly, indigenous peoples, vulnerable groups, including any special needs of PWD differently abled persons. (iii) 10 CBDRM committee members per river basin area reported knowledge and skills on disaster preparedness including at least 33% women and proportionate number of indigenous peoples, excluded and vulnerable groups including persons with disability.	PMU, DWRI, NGO, CBDRMUs  DWRI Field Office Social Development Officers	1–2 years
8. GESI budget and training for project implementation, monitoring and reporting	(i) Adequate budget allocated for GESI action plan. (ii) GESI training for PMU staff, incl. all eligible women staff, conducted, with focus on GESI action plan implementation, monitoring and reporting (iii) implementation and quarterly progress reports submitted.	PMU, DWRI	1–5 years

Activities	Targets and indicators	Responsibility	Time
9. Maintain MIS at DWRI for project monitoring, reporting and evaluation.	(i) Maintained MIS includes sex, caste, ethnicity disaggregated data of all project activities (including data of vulnerable households including indigenous and differently-abled persons).	PMU, DWRI  DWRI Field Office Social Development Officers	1–5 years
10. Ensure participation of women and members from indigenous people, excluded and vulnerable households in construction of flood control infrastructures	(i) 48 gender-responsive flood shelters constructed - Design of Flood Shelters include separate toilets and washrooms for women and men, special ramp for the persons with disability and elderly persons, separate rooms for men and women.	PMU, DWRI, NGO, CBDRMU	

CBDRM = community-based disaster risk management; CBDRMU = community-based disaster risk management units; CDRMC = Community Disaster Risk Management Committee; DWRI = Department of Water Resources and Irrigation; FFEWS = flood forecasting and early warning system; GESI = Gender Equality and Social Inclusion; MIS = Management Information System; NGO = nongovernment organization; OHS = occupational health and safety; PMU = project management unit.

<sup>a</sup> At least one orientation in PMU and one in each Site office; and minimum 2 times over the project period to verify and ensure that conditions are met. The person in charge of giving the orientations sessions will be the GESI expert or an equivalent from the PIC.

## IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

### A. Project Design and Monitoring Framework

87. The Design and Monitoring Framework (DMF) of the project is in ATTACHMENT A.

### B. Monitoring

88. **Project performance monitoring.** The PMU, with the support of the PIU and field offices, will be responsible for monitoring and reporting on project performance. The basis for project performance monitoring will be the DMF, which identifies performance targets for the impact, outcomes, and outputs of the project. The PMU will collect the data, calculate the indicators, analyze the results, and prepare a brief report describing the extent to which the project is generating the intended outputs and outcomes. The PMU and PIU will (i) develop a project performance management system framework at the start of project implementation; (ii) confirm that targets are achievable; (iii) develop recording, monitoring, and reporting arrangements; and (iv) establish systems and procedures no later than 6 months after project inception.

89. **Compliance monitoring.** Compliance with covenants will be monitored through ADB's project administration missions—including project inception mission to discuss and confirm the timetable for compliance with the loan covenants; project review missions to assess the government's compliance with particular loan covenants and, where there is any noncompliance or delay, discuss proposed remedial measures with the government; and mid-term review mission, if necessary, to assess whether the covenants are still relevant or need to be changed, or waived due to changing circumstances.

90. **Safeguards monitoring.** The PMU is responsible for environmental and social safeguards monitoring. Within the PMU social and environmental experts that monitor and manage the safeguards. Starting from loan effectivity, PMU will prepare an (i) semi-annual environmental monitoring report (EMR, template provided in ATTACHMENT H) about the progress of the EMP implementation during construction and will reduce to annual during the operation and maintenance phase until the project completion report, and a (ii) semi-annual SMR detailing all social safeguards and due diligence implementation activities (template provided in

91. SI.	Position	Person month
<b>I.</b>	<b>International Key Expert</b>	
1	Team Leader cum River Engineer	12
2	Community Based Disaster Risk Management (CBDRM) Expert	3
3	Geotechnical/Design Engineer	1
	<b>International Key Expert Sub-Total</b>	<b>16</b>
<b>II.</b>	<b>National Key Expert</b>	
1	Deputy Team Leader cum Senior Contract Management Expert	34
2	Monitoring Expert	16
3	Design/Structural Engineering Expert	2

91.	SI.	Position	Person month
	4	Financial Management cum Training Expert	12
	5	Procurement Expert	1
	6	Gender Equality and Social Inclusion Expert	3
	7	Social Safeguard Expert	9
	8	Environmental Safeguard Expert	9
	9	Community Based Disaster Risk Management Expert	9
		<b>National Key Expert Sub-Total</b>	<b>95</b>
	<b>III.</b>	<b>National Non-Key Experts</b>	
	1	Construction Engineers (6 number x 36 months each)	216
	2	MIS Technician	36
	3	AutoCAD Expert	2
	4	Quantity Surveyor cum Estimator	6
	5	Survey and Mapping Expert	2
		<b>National Non-Key Expert Sub-Total</b>	<b>262</b>

**PART B–Detailed Design Preparation (Lump Sum)**

SI.	Position	Person month
<b>I.</b>	<b>International Key Expert</b>	
1	Team Leader cum River Engineer	3
2	Geotechnical/Design Engineer	3
	<b>International Key Expert Sub-Total</b>	<b>6</b>
<b>II.</b>	<b>National Key Expert</b>	
1	Deputy Team Leader cum Senior Design Engineer	6
2	Design/Structural Engineering Expert (2 numbers)	12
3	Hydraulic Modelling Expert	4
4	Procurement Expert	2
	<b>National Key Expert Sub-Total</b>	<b>24</b>
<b>III.</b>	<b>National Non-Key Experts</b>	
1	AutoCAD Expert (2 numbers)	12
2	Survey and Mapping Expert	4
	<b>National Non-Key Expert Sub-Total</b>	<b>16</b>

1. For mobilization and demobilization of all international, national key and non-key experts for deployment, one-month prior PMU's written approval shall be a prerequisite.
2. PMU can mobilize or demobilize the key as well as non-key experts on a short notice as and when deemed necessary.
3. **Expected Qualification Requirements and Tasks Assigned to the Key and Non-Key Experts:** The Consulting firm is expected to propose adequately qualified and experienced experts to undertake efficiently the assigned tasks and responsibilities. The tasks and responsibilities assigned and detailed educational qualification and experience requirement for the respective experts are reported below.

## **PART A—CONSTRUCTION SUPERVISION (Time-Based)**

### **I. International Consultants**

4. **Team Leader cum River Engineer (International):** The Team Leader cum River Engineer shall preferably have:
  - (i) a post-graduate degree (master's degree or above) in Civil Engineering with a specialty in River Engineering or equivalent;
  - (ii) an overall 15 years of working experience with 12 years of experience in river training works, canal/hydraulic structures, canal works projects; and experience in project development, processing management and implementation of river training works, particularly with ADB or World Bank projects shall have added advantage;
  - (iii) sound knowledge of ADB policies and procedures and team leadership experience, in particular on ADB projects is desirable.

**Reporting:** The position will report to the Project Director, PMU.

**Scope of Work:** The Team Leader cum River Engineer will have overall responsibility for the project implementation, consultants' coordination, and the timely delivery of all outputs.

**Expected Tasks:** As Team Leader, the main outputs include:

- (i) Under PMU, the Team Leader will be responsible for overall project management and administration, advice on ADB's procedures and policies;
- (ii) Coordinate all activities, including stakeholder participation where appropriate and coordination with DHM and the FFEWS consultants;
- (iii) Prepare a detailed work plan for the project implementation and get it approved by PM;
- (iv) Manage the consultant team members, both international and national;
- (v) Prepare the project preparation inception report;
- (vi) Prepare the project implementation schedule and detailed implementation plan for approval by PMU;

- (vii) Procurement and Bid process management, finalize bidding documents for CBDRM, ensure it complies with ADB standards and guidelines and obtain PMU and ADB approvals;
- (viii) Contract management, establishment of construction management and project performance monitoring system for various project activities;
- (ix) Manage effective construction supervision and quality control and monitoring,
- (x) Facilitate and support PMU/ADB during ADB missions;
- (xi) Organize and implement training to the executing and implementing agencies on project implementation and capacity building;
- (xii) Assist in resolving contractual issue;
- (xiii) Suggest innovative measures that can be adopted for the better implementation of the projects in hands.
- (xiv) Preparation of progress and other reports as required; and
- (xv) Ensures and develops a mechanism to see that all the staffs pay their 8-hour duty.

As River Engineer, the main tasks include:

- (i) Oversee the project design, review the designs and drawings and other documents, conduct due diligence;
- (ii) In collaboration with the Deputy Team Leader/ Senior Design Engineer (National), and contractor develop an operation and maintenance manual for the completed embankment, spurs and outlets.
- (iii) Work with the international and national experts in identifying locations and types of hydraulic structures for each of the balance sub-project, and in developing the engineering designs for the hydraulic structures required in each basin in the project;
- (iv) Using information from the hydrologist and river morphologists, work with the international and national engineer to produce detailed designs for hydraulic structures on river basins in a number of balanced sub-projects amounting;
- (v) Detailed engineering designs and cost estimates and specifications prior to tendering for procurement;
- (vi) Provide guidance to the team members on carrying out all those tasks that are required to provide quality works as well as quality documents;
- (vii) Guide the engineering survey team on the use of appropriate equipment to acquire the types of survey data required and how the survey data is to be recorded;
- (viii) Guide the engineering drafters to produce detailed CAD designs for all infrastructure;
- (ix) Review the work of the national design engineer to estimate the type and quantity of materials required to build each structure; and
- (x) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

5. **Geotechnical Engineer (International):** The expert shall preferably have:

- (i) A master's degree in Civil Engineering/Geotechnical Engineering;

- (ii) an overall 15 years of working experience with 10 years of experience in geotechnical engineering in water resources, river training projects and experience with GeoStudio or similar slope stability software; and
- (iii) experience in working in a similar geographical location.

**Reporting:** The position will report to the Team Leader and PMU.

**Scope of Work:** The Geotechnical Engineer will be responsible for all geotechnical tasks.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Review of contractors geotechnical and soil investigation and ensure its adequacy;
- (ii) Adherence to international and national best practices;
- (iii) Identify if any additional geotechnical investigations are required for the detailed designed projects and support PMU with the recruitment of suitable contractor;
- (iv) Supervise the work of the sub-contracted drilling sampling and testing services to ensure compliance with best geotechnical practice;
- (v) Review the available detailed design, stability and seismic hazard analyses, and comment on the various types of construction materials. If necessary, undertake additional stability analyses and improve the design for technical and/or financial reasons;
- (vi) Complete detailed design, stability and seismic hazard analyses, for remaining subprojects. Undertake stability analyses and improve the design for technical and/or financial reasons;
- (vii) Establish the need for foundation treatment measures as required and the availability of local construction materials and review the appropriate material parameters to be applied in the analysis and design of the works;
- (viii) Training of PIU staff on geotechnical aspect, if required; and
- (ix) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**6. Community Based Disaster Risk Management (CBDRM) Expert (International):** The expert shall preferably have:

- (i) a graduate degree, with post graduate degree in community development, social studies, governance, disaster risk mitigation/ management or related field;
- (ii) an overall 15 years of working experience with 12 years of experience in community- based disaster risk mitigation/management, development planning, disaster control administration or related field; and
- (iii) sound knowledge of ADB policies and procedures, and knowledge on Disaster Management Act of Nepal will be an advantage.

**Reporting:** The position will report to the Team Leader and PMU.



**Scope of Work:** The CBDRM Expert will be responsible for supporting the implementation, management and administration of CBDRM activities and supervise the performance of CBDRM consulting firm.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) The Community-Based Disaster Risk Management (CBDRM) Expert shall be responsible for stakeholder consultation and identification of the need for CBDRM activities at all three levels – national, provincial and local;
- (ii) Preparation of detailed implementation schedule for PMU's approval;
- (iii) Preparation of TOR, including training and small-scale mitigation works and livelihood requirements;
- (iv) Prepare the budget and RFP for the recruitment of one or more local NGOs/Community Based Organizations (CBOs) to implement CBDRM activities in accordance with the project proposal;
- (v) Assist the PMU in issuing EOI, RFP, addendum/corrigendum and clarifications to firms' queries;
- (vi) Assist the PMU in obtaining ADB's approval in all recruitment activities in accordance with the agreed procurement plan, government regulations and ADB's requirements;
- (vii) Support in proposal opening, evaluation of EOI, and Technical and Financial proposals, preparation of relevant submissions/reports, and obtaining ADB's no-objection for awarding of contract and signing of contract;
- (viii) Prepare contract documentation;
- (ix) Oversee the performance of CBDRM consulting firm and other local NGOs/CBOs to implement CBDRM activities;
- (x) Identify the potential risks and propose advance corrective action in time; and
- (xi) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks, and therefore, the candidate should possess good health and be physically able to undertake such field visits.

## **II. National Consultants**

**7. Deputy Team Leader cum Senior Contract Management Expert (National):** Deputy Team Leader cum Contract Management Expert shall preferably have:

- (i) a master's degree in Civil Engineering, with added qualification in River Engineering, Water Resources Management, Project or Construction Management or Hydraulics/Structural Engineering or related fields;
- (ii) overall 15 years of working experience with 12 years of experience as Project Manager/Assistant Project Manager and contract administration particularly related to river training works, canal/hydraulic structures, canal works projects; and
- (iii) experience in similar capacity and sound knowledge of ADB policies and procedures, small works contract conditions, contract management, arbitration and dispute management. Experience in working on externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Team Leader and PMU.

**Scope of Work:** Deputy Team Leader cum Contract Management Expert will be responsible for establishing coordination, overall project management, advice on ADB's policies and procedures, and contract administration.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Support in project management during design and construction stage;
- (ii) Coordination in data collection, design, construction supervision, quality control and monitoring;
- (iii) Coordination among various stakeholders and agencies viz. PMU, DHM, FFEWS Consultant, CBDRM Consultant, etc.;
- (iv) Establishment of effective construction management and project performance monitoring system;
- (v) Monitor activities and progress of various works contractors and consulting firms;
- (vi) Ensure adequate documentation on contract administration, progress, time and cost control, variations and change orders, billing and payments to the contractors;
- (vii) Exercise efficient contractual control on the contracts and minimize the cost over-run and time over-run; establish the 'S' curve and monitor the progress and proactively advice the contractor through PMU;
- (viii) Timely review and advise on the settlement of contractor's claims;
- (ix) Ensure safety at workplaces, progress of works, billing & payments to the contractors;
- (x) Preparation and maintenance of contractual correspondence and documentation;
- (xi) Provide inputs for managing and support in time and cost control;
- (xii) Assist in resolving contractual issue and dispute resolutions during implementation;
- (xiii) Ensure timely completion and delivery of monthly, quarterly, annual and Project Completion Reports;
- (xiv) Identification and developing related training programs and impart training as and when required;
- (xv) Ensure that all the staffs fulfill their daily minimum hour duty and
- (xvi) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.
- (xvii) Act as Team Leader in the absence of Team Leader.

8. **Monitoring Expert (National):** The expert shall preferably have:

- (i) a graduate degree in Civil Engineering, with added qualification in Construction/Project Management, Quality assurance or post-graduate (masters) degree in Civil/Hydraulics/Structural Engineering, Geotechnical Engineering or related fields;

- (ii) an overall 15 years of working experience with 12 years of experience in construction and supervision activities related to river training works, canal/hydraulic structures, canal works projects; and
- (iii) experience in similar capacity and sound knowledge of contract management and experience in small works contract conditions, experience in computer-based contract management tools shall be preferred. Experience in externally funded projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Construction Supervision cum Quality Control Expert will be responsible for the overall construction management, quality assurance/control and administration of multiple contracts and assist in coordinating with the FFEWS.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Diligently supervise the construction activity during the implementation of the work;
- (ii) Provide training on best practices in quality assurance and quality control (QA/QC) in construction activities;
- (iii) Assist in construction management, contract management and performance monitoring of various contractors;
- (iv) Support in preparing progress reports, as built drawings and provide necessary information from time to time;
- (v) Ensure adequate documentation on QA/QC, site data, variations, progress and other contractual matters;
- (vi) Ensure safety at works and compliance with ADB's safeguard policies and procedure, and applicable laws of Nepal;
- (vii) Assist in resolving contractual issues;
- (viii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

9. **Design/Structural Engineering Expert (National):** The expert shall preferably have:

- (i) a graduate degree in Civil Engineering, with added qualification of post-graduate(masters) degree in Structure Engineering;
- (ii) an overall 15 years of working experience with 10 years of experience in areas of engineering design of hydraulic structures, particularly that used for river control and flood protection; and
- (iii) experience in similar capacity and sound knowledge of design softwares, preparing detailed CAD drawings, estimating quantities of materials for construction of hydraulic structures, ADB policies and procedures, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Design/Structural Engineering Expert will be responsible for adequacy of overall structural designs for each structure to be constructed for the works packages under the civil works contracts as per feasibility study report, change orders and for the works required for community-based disaster risk management (CBDRM).

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Will be responsible for delivery of final detailed engineering designs for each structure to be constructed for the works packages under the civil works contracts as per feasibility study report and for the works required for CBDRM;
- (ii) The designs and engineering details/drawings shall be based on the best engineering practice and acceptable to ADB for inclusion in the bidding documents;
- (iii) Provide instruction and guide the engineering drafters to produce detailed CAD designs for all related structures;
- (iv) Assist the procurement expert and quantity surveyor in estimating the costs for each structure, obtain PMU approvals on the detailed engineering designs and cost estimates prior to commencement of bidding process;
- (v) Assist the procurement expert in finalizing the technical specifications;
- (vi) Address the design changes required during the implementation of the Project related to all ongoing packages and ensure timely delivery of modified designs;
- (vii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

10. **Financial Management cum Training Expert (National):** The expert shall preferably have:

- (i) a recognized professional accountancy qualification (e.g., CPA, CA or equivalent) or equivalent in related fields;
- (ii) an overall 15 years of working experience with 12 years of experience in financial management and training/capacity building on infrastructure investment projects; and
- (iii) experience in similar capacity and sound knowledge of ADB policies and procedures and experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The objective of the services is to strengthen the financial management capacity of the Department of Water Resources and Irrigation (DWRI) and Department of Hydrology and Meteorology (DHM) and the respective Project

management units (PMUs) in implementing ADB-assisted Priority River Basin Flood Risk Management Project to ensure:

- (i) all project funds are used for the intended purpose and with due attention to considerations of economy and efficiency; and
- (ii) full compliance with ADB's financial management and disbursement requirements as well the financial covenants of the loan and project agreement.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Provide support to the project's financial staff to ensure they are aware of their duties and the relevant sections of project documents including the (a) Loan and project agreements;(b) Project Administration Manual; (3) ADB's loan disbursement handbook; as well the (4) national and ADB's Anti-Corruption Policy and whistle blowing mechanisms;
- (ii) Provide capacity building to the PMUs in accounting and financial management and ADB's systems and procedures;
- (iii) Assist the PMU/PIUs in preparing annual budget estimates and in maintaining proper budget controls as well as in monitoring budget execution;
- (iv) Support the PMU/PIUs in ensuring compliance with the financial covenants outlined in the ADB loan/grant agreement;
- (v) Support the PMU/PIUs in implementing the Financial Management Action Plan (FMAP) as agreed with ADB and outlined in the Project Administration Manual;
- (vi) Review the adequacy and effectiveness of internal controls and make recommendations for improving systems and tools including the areas of accounting software; segregation of duties; level of authorization; written financial management procedures as well as monitoring and reporting;
- (vii) Support the PMU in ensuring that (a) all payments are duly prepared, reviewed, authorized, and recorded in the accounting system correctly and in a timely manner; and (b) all expenditure items meet the eligibility criteria as defined in the ADB financing agreement, and are supported by adequate documentation (invoice, contracts, evidence of payments etc..) as outlined in the ADB disbursement handbook;
- (viii) Conduct quarterly analysis of account balances in the General Ledger and verification of trial balance and advise the PMU on necessary corrections and adjusting entries (omissions, coding errors, double-counting, etc..) as required;
- (ix) Conduct periodic analysis and follow-up on outstanding advances;
- (x) Conduct an analysis of the financial execution of the approved budget (budget-to-actual by activity) as well as financial vs physical progress. Analyze and document any significant variations;
- (xi) Support the project in conducting quarterly reconciliation of the project disbursement records and ADB's disbursement data available in the LFMIS to ensure the correctness and completeness of the project records. Follow-up on any discrepancies to ensure these are resolved in a prompt manner;
- (xii) Support the PMUs in conducting monthly reconciliations of all project bank accounts including the advance accounts and subaccounts. Analyze and follow-up on all reconciliation items;
- (xiii) Support the PMU in maintaining an up-to-date fixed asset register covering all assets constructed and purchased under the project;

- (xiv) Assist the PMU in preparing withdrawal applications and in collection and filing of all supporting documentation in accordance with ADB loan disbursement handbook;
- (xv) Assist the PMU in: (a) preparing quarterly financial reports and project annual financial statements in the agreed format and in a timely fashion as well as (b) reconciling the project accounts with the ADB disbursement data to ensure that all funds disbursed by ADB are correctly reflected in the periodic financial reports and the project financial statements;
- (xvi) Support the PMU in ensuring that all financial records are orderly filed, physically stored in a safe location (flood and fireproof), and electronically backed-up daily/weekly on an external server or hard drive and updated regularly;
- (xvii) Support the project in the follow-up of internal and external audit recommendations to further improve the internal controls of the project; and
- (xviii) Assist the project in implementing financial recommendations as agreed between the project and ADB during review mission.

**11. Procurement Expert (National):** The expert shall preferably have:

- (i) a graduate degree in Civil Engineering, with added post-graduate in Law/ Financial Management/ Contract Management/ Civil Engineering/Hydraulics/Structural Engineering or related fields;
- (ii) an overall 15 years of working experience with 10 years of rich experience in contract procurement of works or goods or consulting services; and
- (iii) experience in similar capacity and sound knowledge of small works contracts, conditions of contract, arbitration and dispute management, ADB policies and procedures, and experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Procurement Expert will be responsible for the bid process management, procurement of the balanced civil works contracts and for the works required for community-based disaster risk management (CBDRM).

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Ensure adequate procurement process in compliance with ADB and Government rules and regulation;
- (ii) Preparation of bidding document for the balanced civil works contracts and for the works required for community-based disaster risk management (CBDRM);
- (iii) Assist PMU in obtaining ADB's no-objection;
- (iv) Assist in issuance of IFB, receiving and opening of bids and bid evaluation process;
- (v) Contribute towards bid evaluation under the supervision of PMU, and assist in finalization of bid evaluation report and obtaining ADB's no-objection;
- (vi) Ensure proper bid submission by the successful bidder and assist in contract award;

- (vii) The task of the expert envisages frequent field visits to works locations spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

12. **Gender Equality and Social Inclusion Expert (National):** The expert shall preferably have:

- (i) a master's degree or equivalent in social sciences, gender and development studies, gender and disaster risk management or another relevant discipline;
- (ii) an overall 12 years of working experience with 10 years of experience working on gender equality and social inclusion; experience undertaking gender assessment – including apply gender sensitive participatory methods for data collection, gender analysis and report writing in projects and programs; experience delivering gender sensitization training and monitoring and evaluation of gender equality and social inclusion targets;
- (iii) knowledge or experience of integrating gender equality and social inclusion activities in projects related to rural development, climate change and flood disaster;
- (iv) knowledge of ADB gender procedures/policies and/or experience working on gender in multi-lateral funded infrastructure projects shall have added advantage; and
- (v) The task of the expert envisages frequent field visits to works locations spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits. Women are encouraged to apply.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Gender Equality and Social Inclusion (GESI) Expert will be responsible for overseeing implementation, monitoring and evaluation of the project GESI Action Plan. The GESI Expert will ensure that all project data recorded in the MIS is sex-disaggregated and relevant socio-economic baseline database for tracking GESI indicators included. The GESI Expert will work closely with all project stakeholders, including the executing and implementing agencies, contractors and affected peoples to promote a culture of gender equality and social inclusion.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Review project commitments to gender equality and social inclusion within project documents. GESI commitments and intentions can be found in the project's (a) Project Administration Manual; (b) Poverty and Social Assessment; (c) Gender Equality and Social Inclusion Action Plan; (iv) Stakeholder Communications Strategy; and other;

- (ii) Establish GESI baseline and monitoring indicators. Ensure GESI indicators are integrated into the project's MIS. Ensure that all data collected about local stakeholders in MIS are sex disaggregated and participation of excluded and vulnerable people including indigenous people and differently abled are tracked;
- (iii) Implement and/or support the responsible party (PMU/Contractors/NGO) to implement all activities and targets in the GESI action plan;
- (iv) Monitor and report on GESI action plan activities in the project's quarterly progress reports (QPRs). Specifically, report on progress towards achieving GESI targets and any activities completed by the project that promote gender equality and social inclusion; and
- (v) Provide recommendations within the QPRs on how to better promote gender equality and social inclusion in all project activities.

**13. Social Safeguard Expert (National):** The expert shall preferably have:

a master's degree or equivalent in social sciences, development studies, social impact assessment or another relevant discipline;

- (i) an overall 12 years of working experience with 10 years of experience working on social impact management; specifically with respect to safeguarding project affected peoples' interest and rights as per the international safeguard policies on Involuntary Resettlement and Indigenous Peoples;
- (ii) knowledge of ADB's Safeguards Policy Statement (2009) Safeguard II: Involuntary Resettlement and Safeguard III Indigenous Peoples.
- (iii) knowledge and understanding of Nepal Indigenous Peoples and Land Acquisition regulatory framework, policies and procedures an advantage;
- (iv) experience producing and implementing safeguard plans and due diligence reports, including identifying corrective actions, monitoring and evaluating implementation in ADB/World Bank or any multi-lateral funded project in Nepal, preferably in rural areas.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Social Safeguard Expert will be responsible for overall implementation, monitoring and reporting on the project's adherence to ADB's Safeguard Policy Statement (SPS) on Involuntary Resettlement and Indigenous Peoples as well as adherence to the Government of Nepal's own land acquisition and indigenous peoples laws, policies, standards and guidelines. Social Safeguard Expert will ensure that all agreed actions and safeguards plans and/or reports are updated, implemented and monitored as per the project's commitment in the Project Administration Manual and loan covenants. The Expert will provide guidance and training to PMU on ADB SPS 2009 and Government of Nepal safeguard requirements and ensure contractors and other implementing stakeholders comply with agreed actions.

**Expected Tasks:** The main tasks related to the position shall include, but are not limited to:



- (i) Review all safeguards provisions that relate to involuntary resettlement and indigenous peoples safeguards within the project documents, including, but not limited to, the Project Administration Manual, Poverty and Social Assessment, Gender Equality and Social Inclusion action plan, social safeguards related frameworks, plans and/or due diligence reports.
- (ii) Ensure that all institutional arrangements for implementing the IR and IP safeguard measures are in place; including a functioning PMU/PIC, an established grievance redress mechanism (GRM), information pamphlets and other materials to support information sharing with affected persons and beneficiaries.
- (iii) Information sharing and meaningful consultation. Facilitate regular consultation sessions with the beneficiary communities, local leaders, proponents, and stakeholders including indigenous people (IPs) and potentially displaced people (DPs) and project staff (e.g. field engineers) so that DPs can voice concerns about the project design and ask questions. Ensure that project information is shared with DPs on a regular basis, including about the (a) project, (b) implementation schedule, (c) affected people's entitlements under the project, (d) how to access the GRM.
- (iv) Verify and update social safeguards plans/reports to reflect detailed design and the cadastral maps. Verify and update all safeguard plans per sub-basins based on the detailed design of each sub-basin. Work closely with the design engineers and government line agencies (land department, ward members and other authorities) to verify the affected persons. Undertake a census with 100% of displaced people based on final design of subprojects, to finalize inventory of losses, record percentage of economic losses and confirm vulnerable groups. Identify entitlements as described in ADB's SPS;
- (v) Implement safeguard plans/reports in consultation with affected people ahead of civil works. Support the PMU and PIUs to track the provision of entitlement packages and cash compensation (if any). As per ADB's requirement, compensations and/or mechanisms to deliver all assistance must be provided or in place ahead of civil works. Ensure that the mechanism for providing compensations/assistance is well documented, using third party verification for accountability.
- (vi) Support the PMU and PIUs to implement any corrective actions identified by the independent external party which is responsible for verifying that donation of land use is voluntary and that negotiated settlements and/or voluntary donations do not severely affect the living standards of the displaced persons and will benefit them directly.
- (vii) Conduct safeguards training for the executing and implementing agencies on implementation of the project's land acquisition/use and indigenous peoples plans/reports;
- (viii) Work with the PMU, PIUs and technical colleagues to ensure inclusive outcomes with IPs are attained for the CBDRM and flood shelter objectives. Assist the CBDRM NGO to assess land access options with local communities and prepare plans or due diligence reports for all subproject basins as per SPS 2009.
- (ix) Assist the PMU and PIUs in establishing effective grievance redress mechanisms for all project related grievances, including mechanisms to ensure that IPs have culturally appropriate mechanisms for reporting of complaints, follow-up actions, and results;

- (x) Assist the PMU and PIUs in establishing an internal monitoring and reporting system for safeguards implementation;
- (xi) Assist the PMU to monitor compliance with the safeguards plans/reports, assess key implementation issues, formulate remedial measures, and assist them in conducting follow-up actions;
- (xii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits; and
- (xiii) Complete other relevant tasks related to land access and IP requirements as directed by the Deputy Team Leader.

**14. Environmental Safeguard Expert (National):** The expert shall preferably have:

- (i) a graduate degree in Civil or Environmental Engineering/Science, with added qualification of post-graduate (masters) in Environmental Engineering/ science or related field;
- (ii) an overall 15 years of working experience with 10 years of experience in preparation or implementation of Environmental Management/Monitoring Plans. Demonstrated experience in Environmental Impact Assessment (EIA) including water infrastructure investment project and knowledge of best engineering practice and approaches and experience in similar capacity on river/canal/flood control projects and shall be of added advantage; and
- (iii) sound knowledge of ADB policies and procedures, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Environmental Safeguard Expert will be responsible for overall management and implementation of environmental management and monitoring plan, and organization of training seminars regarding the environmental requirements.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Conduct site visits, undertake and/or supervise the environmental monitoring and management plans;
- (ii) Prepare and implement/supervise the Environmental Safeguard Action Plan;
- (iii) Prepare detailed guidelines and procedures for compliance with IEE and/or Environmental Management Plan (EMP);
- (iv) Prepare due diligence reports;
- (v) Provide inputs on procurement and bidding process;
- (vi) Assist in construction supervision and compliance with the ADB Safeguard requirements;
- (vii) Coordinate among various stakeholders and agencies;
- (viii) Ensure timely submission of reports on safeguard compliance as per ADB Safeguard Policies, and assist in timely preparation and quality submission of various reports as per requirements;

- (ix) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**15. Community Based Disaster Risk Management (CBDRM) Expert (National):**The expert shall preferably have:

- (i) a graduate degree in Civil Engineering, with post-graduate degree in community development, social studies, governance, disaster risk mitigation/management or related field;
- (ii) an overall 15 years of experience with 12 years of experience in community-based disaster risk mitigation/management, development planning, disaster control administration or related field; and
- (iii) sound knowledge of ADB policies and procedures, Disaster Management Act of Nepal, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The CBDRM Expert will be under the guidance of international CBDRM Expert, the expert will be responsible for supporting in the implementation, management and administration of CBDRM activities and assist in supervising the performance of CBDRM consulting firm.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) The expert shall obtain guidance and advise from the international CBDRM expert and be responsible for stakeholder consultation and identification of the need for CBDRM activities;
- (ii) Under the supervision of international CBDRM expert, assist in preparation of detailed implementation schedule;
- (iii) Assist in preparation of TOR, including training and small-scale mitigation works and livelihood requirements;
- (iv) Prepare the budget and RFP for the recruitment of one or more local NGOs/CBOs to implement CBDRM activities in accordance with the project proposal;
- (v) Assist the PMU in issuing EOI and RFP, addendum/corrigendum and clarifications to firms' queries;
- (vi) Assist the PMU in obtaining ADB's approval in all recruitment activities in accordance with the agreed procurement plan, government regulations and ADB's requirements;
- (vii) Support in proposal opening, evaluation of EOI, and technical and financial proposals, preparation of relevant submissions/reports, and obtaining ADB's no-objection for awarding of contract and signing of contract;
- (viii) Assist in compilation and preparing contract documentation;
- (ix) Oversee the performance of CBDRM consulting firm and other local NGOs/CBOs to implement CBDRM activities;

- (x) Identify the potential risks and propose advance corrective action in time;
- (xi) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks, and therefore, the candidate should possess good health and be physically able to undertake such field visits.

16. **Construction Engineers (National Non-Key Experts):** The engineers shall preferably have:

- (i) a graduate degree in Civil Engineering; and
- (ii) an overall 10 years of working experience with 5 years of relevant experience in construction supervision/management, quality control, contract administration of infrastructure projects.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert, and to the Construction Supervision cum Quality Control Expert and respective PIU

**Scope of Work:** The Construction Engineers will ensure quality assurance/control (QA/QC) and supervise the construction activity diligently during the implementation of the work. They will be based in the field in each of the six PIU field offices.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Seek instructions from Monitoring Expert/DTL on construction supervision, quality assurance/control, and on ADB's safeguard policies and procedure.
- (ii) Supervise the construction activity diligently during the implementation of the work;
- (iii) Provide inputs for contract administration of multiple contracts;
- (iv) Provide inputs for preparing daily reports on construction progress and completion;
- (v) Provide inputs towards assistance in resolving contractual issue;
- (vi) Ensure safety at works and compliance;
- (vii) Hold community consultation meetings to inform local people about the embankment design and rational and to answer questions related to the technical aspects of the project.
- (viii) Verify the work-progress as per agreed Time schedule
- (ix) Conduct the laboratory test in personal and report the results to Monitoring Expert/DTL
- (x) Monitor the progress keeping in mind the time over-run and cost over-run.
- (xi) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

17. **AutoCAD Expert (National Non-Key Experts):** The expert shall preferably have:

- (i) a diploma/certificate in Civil Engineering or higher Engineering Degree with adequate certification/training in AutoCAD ; and

- (ii) an overall 10 years of working experience with 5 years of relevant experience in development of AutoCAD drawings of civil engineering

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The AutoCAD Expert, under the guidance of subject experts and the Deputy Team Leader cum Contract Management Expert, will prepare AutoCAD drawings for balanced civil works packages, shelter houses for putting into the balanced Bidding Documents for works, and prepare AutoCAD drawings for change orders as required.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Assist in development of AutoCAD drawings for the civil works packages as per detailed designs for balanced works contracts, and for the works required for community-based disaster risk management (CBDRM);
- (ii) The designs/drawings shall be produced on a CAD system and be suitable for tendering for construction of infrastructure works;
- (iii) Assist in preparation of Bidding documents; and
- (iv) Assist in the development of drawings during the construction stage, to manage design changes, change orders and variations.

18. **Survey and mapping experts (National Non-Key Expert):** The experts shall preferably have:

- (i) a graduate degree in Civil Engineering, with advance qualification in using sophisticated surveying equipment(LiDAR), data handling, 3D mapping etc;
- (ii) an overall 15 years of working experience with 12 years of experience in conducting survey related to rivers/canals/roads/railways etc; and
- (iii) experience in similar capacity and use of advance technologies and equipment (LiDAR), data handling, 3D mapping etc, data analysis and producing maps. Experience and sound knowledge of ADB policies and procedures, experience in river training works/hydraulic infrastructure projects will be an advantage.

**Reporting:** The position will report to the Team Leader cum River Engineer.

**Scope of Work:** Survey and mapping experts will be responsible for carrying out topographical/land surveying activities (3D), data analysis and producing mapping using advance technology. Guide national Survey and Mapping Expert in conducting surveys and mapping.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Carry out cadastral survey for reference and cross-checking;
- (ii) Carry out topographical survey in the basins and data analysis;
- (iii) Ensure safe keeping of survey data maps, flight index, survey reports, etc.;
- (iv) Compile data and report on the conditions of stations and benchmarks on the ground;

- (v) Provide inputs for design and implementation of FFEWS activities;
- (vi) Engage in various office activities such as submission of field records, digitization, plotting and printing of documents for field reference and fair drawing;
- (vii) Contribute inputs towards the finalization of designs for the remaining sub-projects; and
- (viii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

19. **Quantity Surveyor cum Estimator (National Non-Key Experts):** The Quantity Surveyor cum Estimator shall preferably have:

- (i) a graduate degree in Civil Engineering; and
- (ii) an overall 10 years of working experience with 5 years of relevant experience in quantity surveying, rate analysis, estimation and costing and finalization of Bill of Quantities (BOQ) of civil works contracts.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Quantity Surveyor cum Estimator, under the guidance of the Deputy Team Leader cum Contract Management Expert, will be responsible in preparing and finalizing the rate analysis, detailed estimate and Bill of Quantities for balanced civil works packages, shelter houses for putting into the balanced Bidding Documents for works, and. preparing detailed estimate for change orders as required.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Be responsible for quantity surveying, rate analysis, estimation and costing and finalizing of Bill of Quantities (BOQ) of balanced civil works packages as per detailed designs and drawings;
- (ii) Prepare quantity surveying, rate analysis, estimation for the works required for community-based disaster risk management (CBDRM);
- (iii) Ensure that the BOQ prepared shall be suitable for tendering for construction of infrastructure works;
- (iv) Assist Deputy Team Leader cum Contract Management Expert in preparing Bidding documents;
- (v) Assist in costing during the construction stage, manage design changes, change orders and variations.

20. **MIS Technician (National Non-Key Expert):** The technician shall preferably have:

- (i) a bachelor's degree in any discipline; and
- (ii) an overall 10 years of working experience with 7 years of relevant experience in MIS and GIS development, use and maintenance. Good knowledge of English is required.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The MIS Technician, under the guidance of Deputy Team Leader cum Contract Management Expert, will be responsible for data entry of selected parameters of the automated system and project implementation progress and document management in PMU and set-up a database of available information and set-up a system for easy retrieval.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Develop program management and tracking system, using commonly available computer software to schedule and monitor all aspects of activities including but not limited to construction activities, payment and disbursements;
- (ii) Assist in development and use of Information Technology (IT) based Project Performance Management Evaluation tool to monitor and evaluate implementation of the project;
- (iii) Data entry of selected parameters of the automated system and project implementation progress;
- (iv) Document management in PMU and set-up a database of available information and set-up a system for easy retrieval;
- (v) Conduct MIS training to PIUs;
- (vi) Computer hardware and software technical assistance to PIUs; and
- (vii) Provide troubleshooting for daily use of system.

21. **Support Staff:** The Consulting firm will be required to deploy suitably qualified and experienced additional secretarial/managerial/office staff as deemed fit for timely delivery of deliverables and for smooth operation of office function. As a minimum, the consulting firm shall deploy the following support staff:

- (i) One office secretary (for documentation and record keeping); and
- (ii) One coordinating assistant (for coordination and resource management for smooth functioning of PIC).

22. The consulting firm shall keep in mind that no separate payments shall be made for such staff and the cost of support staff shall be deemed covered in out-of-pocket expenses.

## **PART B–DETAILED DESIGN PREPARATION**

### **I. International Consultants**

23. The team of international Key Experts required for Part B: Detailed Design comprising i) Design Team Leader cum River Engineer and ii) Geotechnical/Design Engineer will remain the same as proposed for Part A: Construction Supervision.

24. However, there shall be two different teams of national Key Experts for Part A and Part B. National Key Experts proposed for Part A shall not be proposed for Part B. Any repetition will lead to disqualification of that Key Expert and his/her CV will be excluded from further evaluations.

## **II. National Consultants (Key)**

**25. Deputy Team Leader/ Senior Design Engineer (National):** The Deputy Team Leader/Design Engineer will preferably have:

- (i) a graduate degree in Civil Engineering, preferably with a post-graduate (masters) degree in civil/hydraulics/structural engineering or related fields;
- (ii) an overall 15 years of working experience with 12 years of experience as Project Manager/Deputy Project Manager and detailed design experience particularly related to river training works, canal/hydraulic structures, canal works projects; and
- (iii) experience in similar capacity and sound knowledge of ADB policies and procedures, small works contract conditions, and contract management. Experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Design Team Leader and PMU.

**Scope of Work:** The Deputy Team Leader cum Design Engineer will be responsible for establishing coordination, overall project management, advice on ADB's policies and procedures, and contract administration.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Support in project management during design stage;
- (ii) Coordinate in data collection, design, and monitoring of the whole task of producing quality design report and cost estimate;
- (iii) Coordinate among various stakeholders and agencies viz. PMU, DHM etc.;
- (iv) Monitor activities and progress of various design activities and surveys;
- (v) Provide inputs for managing and support in time and cost control;
- (vi) Ensure timely completion and delivery of monthly, quarterly, annual and Project Completion Reports;
- (vii) Support the international team leader/river engineer to develop an operation and maintenance manual for the completed embankment, spurs and outlets.
- (viii) Identify and develop related training programs and impart training as and when required;
- (ix) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**26. Design/Structural Engineering Expert (National):** The expert shall preferably have:

- (i) a graduate degree in Civil Engineering, with added qualification of post-graduate(masters) degree in Hydraulic Structure Engineering;



- (ii) an overall 15 years of working experience with 12 years of experience in areas of engineering design of hydraulic structures, particularly that used for river training and flood control ; and
- (iii) experience in similar capacity and sound knowledge of design softwares, preparing detailed CAD drawings, estimating quantities of materials for construction of hydraulic structures, ADB policies and procedures, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Design/Structural Engineering Expert will be responsible for adequacy of overall structural designs for each structure to be constructed for the works packages under the civil works contracts as per Feasibility study (FS) report, change orders and for the works required for community-based disaster risk management (CBDRM).

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Will be responsible for the delivery of final detailed engineering designs for each structure to be constructed for the works packages under the civil works contracts as per Feasibility study (FS) report and for the structural works required for community-based disaster risk management (CBDRM);
- (ii) The designs and engineering details/drawings shall be based on the best engineering practice and acceptable to PMU and ADB for inclusion in the Bidding documents;
- (iii) Provide instruction and guide the survey team to acquire necessary field data based on which the detailed engineering designs will be prepared, and instruct engineering drafters to produce detailed CAD designs for all related structure;
- (iv) Assist the Procurement Expert and Quantity Surveyor in estimating the costs for each structure, obtaining PMU/DWRI approvals on the detailed engineering designs and cost estimates prior to commencement of bidding process;
- (v) Assist the procurement expert in finalizing the technical specifications; and
- (vi) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits. /

27. **Hydraulic Modelling Expert (National):** The expert shall preferably have:

- (i) a graduate degree in Civil Engineering, with added qualification of post-graduate (masters) degree in Hydrology, Water Resources Engineering or related fields;
- (ii) an overall 15 years of working experience with 10 years of experience in areas of hydrological studies, modelling and estimating flows, detailed hydraulic designs, particularly that used for river control and flood protection; and
- (iii) experience in similar capacity and sound knowledge of design/modelling softwares, preparing hydraulic designs and running hydraulic models, estimating flows. Knowledge of ADB policies and procedures, experience

working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Design Deputy Team Leader cum Design Engineer.

**Scope of Work:** The Hydraulic Modelling Expert will be responsible for adequacy of hydraulic model, collecting data, and conducting analysis that will determine optimal types and locations of structures that will control and train a river to reduce the amount of soil loss and bank scouring.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Collect, process and analyze hydraulic data;
- (ii) Carry out hydrological studies and update the hydrological analysis and data in the Feasibility Study reports;
- (iii) In close coordination with the FFEWS Expert and DHM, facilitate and assist in determining optimum locations for installation of hydrological observational equipment;
- (iv) Assist and supervise the installation of hydrological observational equipment;
- (v) Review Feasibility Study Report and confirm design data based on catchment area.
- (vi) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

28. **Procurement Expert (National):** The expert shall preferably have:

- (i) a graduate degree in Civil Engineering, with added postgraduate in Law/ Financial Management/ Contract Management/Civil /Hydraulics/Structural Engineering or related fields;
- (ii) an overall 15 years of working experience with 12 years of rich experience in contract procurement of works or goods or consulting services; and
- (iii) experience in similar capacity and sound knowledge of small works contracts conditions of contract, arbitration and dispute management, ADB policies and procedures, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert and PMU

**Scope of Work:** The Procurement Expert will be responsible for bid process management, procurement of the balanced civil works contracts and for the works required for community-based disaster risk management (CBDRM).

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Ensure adequate procurement process in compliance with ADB and Government rules and regulation;

- (ii) Prepare bidding document for the balanced civil works contracts and the CBDRM works contract.
- (iii) Assist PMU in obtaining ADB's no-objection;
- (iv) Assist in issuance of IFB, receiving and opening of Bids and bid evaluation process
- (v) Contribute towards bid evaluation under the supervision of PMU, and assist in finalizing bid evaluation report for all the works undertaken by the PMU and obtaining ADB's no-objection;
- (vi) Ensure proper bid submissions by the successful bidder and assist in contract award.
- (vii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

### III. National (Non-Key Experts)

29. **AutoCAD Expert (National Non-Key Expert):** The expert shall preferably have:

- (i) a diploma/certificate in Civil Engineering or higher Engineering degree with adequate certification/training in AutoCAD ; and
- (ii) an overall 10 years of working experience with 5 years of relevant experience in development of AutoCAD civil engineering drawings.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The AutoCAD Expert, under the guidance of subject experts and the Deputy Team Leader cum Contract Management Expert, will prepare AutoCAD drawings for the balanced civil works packages, shelter houses for putting into the balanced Bidding Documents for works. Prepare AutoCAD drawings for change orders as required.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Assist in developing AutoCAD drawings for the civil works packages as per detailed designs for balanced works contracts, and for the works required for community-based disaster risk management (CBDRM);
- (ii) The designs/drawings shall be produced on a CAD system and be suitable for tendering for construction of infrastructure works;
- (iii) Assist in preparing Bidding documents;
- (iv) Assist in developing drawings during the construction stage, to manage design changes, change orders and variations.

30. **Survey and Mapping Experts (National Non-Key Experts):** The experts shall preferably have:

- (i) a graduate degree in Civil Engineering, with advance qualification in using sophisticated surveying equipment's (LiDAR), data handling, 3D mapping etc;

- (ii) an overall 15 years of working experience with 12 years of experience in conducting survey related to rivers/canals/roads/railways etc; and
- (iii) experience in similar capacity and use of advance technologies and equipment (LiDAR), data handling, 3D mapping etc, data analysis and producing maps. Experience and sound knowledge of ADB policies and procedures, experience in river training works/hydraulic infrastructure projects will be an advantage.

**Reporting:** The position will report to the Design Team Leader.

**Scope of Work:** The Survey and Mapping Experts will be responsible for carrying out topographical/land surveying activities (3D), data analysis and producing mapping using advance technology. Guide the national Survey and Mapping Expert in conducting surveys and mapping.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (i) Carry out cadastral survey for reference and cross-checking;
- (ii) Carry out topographical survey in the basins and data analysis;
- (iii) Ensure safe keeping of survey data maps, flight index, survey reports, etc.;
- (iv) Compile data and report on the conditions of stations and benchmarks on the ground;
- (v) Provide inputs for design and implementation of FFEWS activities;
- (vi) Engage in various office activities such as submission of field records, digitization, plotting and printing of documents for field reference and fair drawing;
- (vii) Contribute inputs towards the finalization of designs for the remaining sub-projects;
- (viii) Guide and impart training to national Survey and Mapping Expert in conducting surveys and mapping; and
- (ix) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

31. **Support Staff:** The Consulting firm will be required to deploy suitably qualified and experienced additional secretarial/managerial/office staff as deemed fit for timely delivery of deliverables and for smooth operation of office function. As a minimum, the consulting firm shall deploy the following support staff:

- (i) One office secretary (for documentation and record keeping); and
- (ii) One coordinating assistant (for coordination and resource management for smooth functioning of PIC).

32. The consulting firm shall keep in mind that no separate payments shall be made for the support staff and the cost shall be deemed covered in out-of-pocket expenses.

#### **A. Procurement of Additional Studies, Equipment and Training**

33. Consultants for additional studies will be recruited in accordance with ADB's Procurement Policy: Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time) and shall follow the Procurement Act/Regulations for ADB Borrowers (2017, as amended from time to time). Provisional sums have been included in the consultancy agreement for procurement of various requirements that will support the project. The PIC will be responsible for preparing the exact implementation arrangements, TORs, specifications, and detailed cost estimates of the procurement which will be approved by the Project Director before initiating procurement. The tentative scopes of provisional items are summarized in Table 2.

**Table 2: Indicative Provisional Items**

<b>Item</b>	<b>Description</b>
Surveys and Studies	Surveys and specific studies including topographic surveys, geotechnical investigations, laboratory tests, and socioeconomic surveys.
Office Equipment	Procurement of office equipment including computers, software, printers, photocopiers, GPS power inverter, etc. for field office using the shopping procurement method.
Meetings, workshops and training	For routine meetings, workshops and training sessions convened by the PIC or PIU.
Communication Materials	Publishing of communication materials and media including the video diary of the investment program and development and hosting of the website.

## **B. Reporting Requirements and Schedule of Deliverables**

34. During the performance of the services, the Consultant will prepare required reports in English for submission to the Client in electronic form and/or hard copies as per PMU instructions.

35. Unless otherwise agreed, all deliverables are to be submitted as drafts for review and comment by the PMU and ADB, and thereafter amended and submitted as final versions. Other occasional deliverables may be required from time to time on an informal basis. The Consulting firm shall assist PIU to maintain an electronic safe backup of all contract related documentation and submit one electronic version of every report listed in Table 2 below.

36. The reporting/submission format will be consistent with the requirements of ADB and Government of Nepal and will be agreed between the Consultant and PMU from time to time. The reporting formats shall further be subject to the amendment/modifications from time-to-time in consultation with the PMU and ADB. The consultant will submit at least the following reports at periods stated hereunder in **Table 3**.

**Table 3: List of Minimum Deliverables and Schedule**

<b>Reports</b>	<b>Number of Hard Copies</b>	<b>Time Schedule</b>
<b>PART A – CONSTRUCTION SUPERVISION</b>		

Reports	Number of Hard Copies	Time Schedule
<b><u>Inception Report:</u></b> demonstrating Consulting firm's understanding of the TOR and ensuring plan of action and timeline for various activities.	5	Within 30 days from the date of issuance of Notice to Proceed.
<b><u>Monthly Progress Reports:</u></b> covering a summary of the activities performed (including the Detailed design progress) and mobilization during the month, problems encountered, solutions proposed/adopted, corrective actions (if required) and the activities planned for the coming month.	5	Every month within 5 days of the commencement of next calendar month.
<b><u>Quarterly Progress Reports:</u></b> covering a summary of the activities performed and mobilization and disbursement during the quarter, problems encountered, solutions proposed/adopted, risks identified, corrective actions (if required) and the activities planned (and disbursement projected) for the coming quarter.	5	Every quarter within 10 days of commencement of next quarter.
<b><u>Annual Progress Report:</u></b> covering a summary of the activities performed, disbursement achieved and mobilization status during the year, problems encountered, solutions proposed/adopted, risks identified, corrective actions (if required) and the activities planned (and disbursement projected) for the coming year.	5	Every year within 15 days of commencement of next year.  For the purpose of Annual Progress Report the year shall mean and refer either to calendar year or other suitable period as the Client may decide in consultation with the Consultant.
<b><u>Mid Term Report:</u></b> covering a summary of the activities performed, disbursement achieved and mobilization status during the period, problems encountered, solutions proposed/ adopted, risks identified, corrective actions (if required) and the activities planned (and disbursement projected) for each coming quarter.	5	Within 30 days after 18 months of Consulting Services Assignment.
<b><u>Draft Completion Report:</u></b> The document shall comprise completion report of each packages and completion report of the project on the whole. Describing the project background, activities performed v/s committed timeline, problems encountered, risks identified, corrective actions taken, and lessons learnt.	5	Within 30 days of completion of Consulting Services Assignment.

Reports	Number of Hard Copies	Time Schedule
<b><u>Final Completion Report:</u></b> Incorporating the comments of the PMU and ADB, describing the project background, activities performed v/s committed timeline, problems encountered, risks identified, corrective actions taken, and lessons learnt.	5	Within 30 days of issuance of Client's comments on Draft Completion Report.
<b><u>Safeguard (Environmental, social and resettlement etc) Reports for the remaining subprojects:</u></b> As per ADB's procedure and format.	5	Starting from 3 months (and no longer than 6 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
<b><u>Survey reports</u></b>	5	Starting from 3 months (and no longer than 6 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
<b><u>Management Information System tool/PPMES:</u></b> Information Technology (IT) based Project Performance Management Evaluation tool capable of monitoring and implementation of the project; identify performance constraints; and formulate and implement practical measures to address shortcomings. This tool shall be capable of disclosing key project-related information, including costs, safeguards, procurement status and progress, amount of contract awarded, billing and disbursement, etc.	Soft copy only	Within 60 days from the date of issuance of Notice to Proceed.
<b><u>Project Completion Report:</u></b> In ADB format covering (i) a concise description and assessment of the project from identification to completion; (ii) evaluating the adequacy of preparation, design, appraisal, implementation arrangements, and performance of the DWRI, DHM and ADB, including how problems were handled, whether they were foreseen as potential risks, and the adequacy of the solutions adopted during implementation;	5	Within 3 months from the date of completion of the Project.

Reports	Number of Hard Copies	Time Schedule
(iii) a preliminary evaluation of initial operation, and achievement and sustainability of benefits; (iv) a preliminary evaluation of the extent of achievement of the outcome of the project and the project's contribution to achieving the expected impact; (v) suggest follow-up actions required during project operation; and (vi) makes recommendation - based on the evaluation and lessons - for future project implementation and operation, as well as improvements in related ADB procedures.		
<b>Any other reports</b>	As required	As and when required by the PMU/PIU/ADB.
<b>PART B – DETAILED DESIGN PREPARATION</b>		
Draft Detailed design and Drawings cost estimate and specification of the remaining subprojects	3	Starting from 2 months (and no longer than 4 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
Detailed design and Drawings of the remaining subprojects	5	Starting from 3 months (and no longer than 6 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
Maintenance manual	5	Within 9 months from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
<b>Draft Bidding documents</b> for the balance civil works contracts as per Detailed Report and for the works required for community-based disaster risk management (CBDRM): As per approved Master bidding document - based on ADB's SBD works (small) for Single-stage Two-envelope bidding procedure.	5	Starting from 6 months (and no longer than 9 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
<b>Final Bidding documents</b> for the balance Civil works contracts as per Detailed design and for the works required for	5	Within 9 months from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).



Reports	Number of Hard Copies	Time Schedule
community-based disaster risk management (CBDRM): Covering the Comments of PMU and ADB.		

37. Since the Services consist of and include the supervision of civil works, the following actions require prior approval by the Client:

**C. Client's Input and Counterpart Personnel**

**(i) Services, facilities and properties to be made available to the Consultant by the Client:**

- (a) The documents related to the ongoing works (already awarded) and those in the procurement stage shall be made available to the Consultant for performance of its obligations;
- (b) Office premises including its maintenance, electricity and water shall be provided by the Client free of cost;
- (c) Cost of necessary office furniture and office equipment shall be covered under Provisional Sums that shall be spent with prior approval of the PMU;
- (d) Cost of surveys and studies required to be conducted for resettlement activities shall be covered under the Provisional Sums (unallocated) and shall be spent only on the PMU's prior approval; and
- (e) Two 4WD vehicles will be provided by PMU/DWRI for national transport needs between project office, construction sites, and for meetings in Kathmandu. Six motorcycles will be supplied to support construction supervision activities between the project site office and construction sites.

38. The consulting firm shall price all cost direct or indirect that Consulting firm envisages to incurred for the performance of its services (except those stated above) in its Financial proposal. No additional payments shall be made for such expenses and the cost of shall be deemed covered in out of pocket expenses.

**(ii) Professional and support counterpart personnel to be assigned by the Client to the Consultant's team:** The Client shall provide the counterpart staff for supervision of works in the field as available; it will be discussed, agreed, and finalized during contract negotiations.

**D. The client will provide the following project data and reports to facilitate preparation of the Proposals:**

- (i) Copy of Procurement Plan (latest available);
- (ii) Copy of Feasibility Study (FS) Reports (as available);

- (iii) Copy of Detailed Design Reports of CW1 and CW2; and
- (iv) Copy of Project Administration Manual (PAM), if finalized between the Government of Nepal and ADB.

## 92. **ATTACHMENT G**

92. ). Specifically, the PMU will provide details about all due diligence activities undertaken to avoid involuntary land acquisition, physical and economic displacement. The PMU will furthermore outline details regarding project activities that ensure compliance with ADB's indigenous people safeguard policy, including with respect to ongoing and meaningful consultations and culturally appropriate benefit sharing. Finally, the PMU will include a brief review of safeguards related progress, issues and required mitigating measures or corrective actions will be reported in quarterly progress reports and shared with the ADB. The PMU will submit the EMR and SMR for ADB review within 45 days following the monitoring period. The EMR and SMR will be disclosed on the ADB website. If unanticipated impacts were found from EMRs warranting a revision of EMP, the EMP/IEE should be updated, reviewed by ADB, and disclosed on ADB's website. Based on this, the SEMP shall also be updated by contractor. The content will be disclosed with project beneficiaries through community consultations held at the field site of the six subprojects at least semi-annually.

93. **Gender Equality and Social Inclusion monitoring.** The PMU will monitor the GESI action plan progress, compliance, outstanding actions, and responsibility. The progress, issues, and required mitigating measures will be reported in the SMR and QPR.

## **C. Evaluation**

94. In addition to regular monitoring, project performance will be reviewed at least once a year jointly by ADB, DWRI, and DHM. The review will assess implementation performance and achievement of project outcomes and outputs, assess financial progress, identify issues and constraints affecting implementation, and work out a time-bound action plan for their resolution.

95. ADB will undertake annual project reviews during the project period. Additionally, ADB, DWRI, and DHM will undertake a midterm review of the project in 2023, covering all institutional, administrative, organizational, technical, environmental, social, poverty reduction, economic, financial, procurement, and other relevant aspects that may have an impact on the performance of the project and its continuing viability. The review will (i) examine the progress in implementing project outputs; (ii) evaluate environment, social, and poverty impact; (iii) ensure compliance with assurances in the loan agreement; and (iv) evaluate effectiveness of the implementation activities of the executing agency. The review shall also undertake a comprehensive review of potential loan savings, identify areas for reallocation of loan proceeds to increase outcome and impact results.

96. Within 6 months of physical completion of the project, DWRI will submit a project completion report to ADB.

## **D. Reporting**

97. DWRI will provide ADB with (i) QPRs in a format consistent with ADB's project performance reporting system (refer ATTACHMENT I); (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) updated procurement plan, and (d) updated implementation plan for the next 12 months; (iii) semi-annual EMR and SMR; and (iv) a project completion report within 6 months of physical completion of the project. To ensure that projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report, should be adequately reviewed.

## E. Stakeholder Communication Strategy

98. During the feasibility stage, social surveys, environmental surveys, and public consultation meetings have been conducted together with the field offices at each subproject involving the local community members and leaders (majority indigenous peoples) and ward representatives. During the consultations, the field offices explained various features of the project including design, environmental considerations, land use requirement and the process of voluntary land contribution and mitigation measures. A project information booklet in Nepali has been distributed to the communities during these consultation meetings. The targeted beneficiaries, including indigenous peoples, were consulted about, and informed of, the Project's social impacts, voluntary donation, and grievance redress procedures through the village-level consultation.

99. Beneficiary communities in the six sub-projects will receive gender and socially inclusive CBDRM training about how to respond in case a flood warning is received. Communities will be trained to make informed decisions and take action. It is essential that communities understand their risks; they must respect the warning service and should know how to react. Indigenous knowledge and practices relating to decision making and flood warning will be integrated into the CBDRM design; no specific practices were identified during feasibility stage consultation.

100. The PMU Stakeholder, Community & Public Relations Manager/Association Organizer Focal will prepare a stakeholder communication strategy and submit to ADB for review by the end of the first quarter after loan effectiveness. The strategy will follow ADB's Public Communications Policy 2011 and ensure that all project communications are accessible to women, differently abled, illiterate, and other vulnerable groups considering literacy, language and culture of beneficiary communities and existing local practices of warning. The stakeholder communication strategy will be based on a stakeholder analysis and will incorporate the following components:<sup>28</sup>

- (i) Compilation of stakeholder communication activities undertaken so far, including gender-disaggregated data on participants, minutes of meetings and photographs, role of the PMU, PIU and field offices in coordinating and communicating with government or institutional stakeholders;
- (ii) Public communication plan for disseminating project related information to the (a) general public, particularly those who may be impacted by the proposed projects; (b) indigenous peoples' groups who may be benefited or affected by the proposed projects; (c) communities facing loss of common property resources; and (d) vulnerable groups, particularly regarding the project's social inclusion policy and how to avail benefits under the project;
- (iii) Disclosure of social safeguards and environment monitoring reports and any updated resettlement plans and IEEs in the ADB and PMU websites and to affected persons and local non-government organizations/community-based organizations, in local language; and
- (iv) Other communication arrangements at the local community level including through notice boards, newspapers, local radio stations and cable television, etc.

<sup>28</sup> Guidance on the preparation of a Stakeholder Communication Strategy is available at the following link: <https://www.adb.org/sites/default/files/institutional-document/512211/stakeholder-communication-strategies-guidance-note.pdf>

## **X. ANTICORRUPTION POLICY**

101. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.<sup>29</sup> All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants, and other service providers. Individuals and/or entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.<sup>30</sup>

102. To support these efforts, relevant provisions are included in the loan agreement and the 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**

103. 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.<sup>31</sup>

## **XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL**

104. All revisions and/or updates during the course of implementation should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the PAM, including revision to contract awards and disbursement s-curves.

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<sup>29</sup> Anticorruption Policy: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

<sup>30</sup> ADB's Integrity Office web site: <http://www.adb.org/integrity/>

<sup>31</sup> Accountability Mechanism: <http://www.adb.org/Accountability-Mechanism/>.

**ATTACHMENT A: DESIGN AND MONITORING FRAMEWORK**

<b>Impact the Project is Aligned with</b> Social and economic losses due to water-induced disasters reduced (Nepal National Water Plan 2002–2027) <sup>a</sup>			
<b>Results Chain</b>	<b>Performance Indicators with Targets and Baselines</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Risks</b>
<b>Outcome</b> Resilience of communities to flood risks of selected river basins in the Terai region improved.	By 2028: a. 2,300 ha of agricultural land and 2,850 households protected from 1-in-50-year flood (2019 baseline: 0 ha agricultural lands, 0 households) (OP 3.2, OP 3.2.1). b. Daily river flow information of five sub-basins displayed on DHM river watch system, and flood risk bulletin based on FFEWS forecasts disseminated to communities and relevant agencies in line with Nepal's standard operating procedures (2020 baseline: 0 flood warnings). <sup>b</sup>	a. Project technical and progress reports.  b. Project technical and progress reports, FFEWS reports and bulletins.	Future climate change impact exceeds projections and results in extreme damage to properties and households.
<b>Outputs</b> 1. Flood protection infrastructure and maintenance system improved.	By 2026: 1a. 36,200 m of resilient flood embankments constructed, 430 spurs and 35 outlets constructed (2020 baseline: 0 m of flood embankment constructed, 0 spurs and 0 outlets) (OP 3.2.5).  1b. 24,000 m of resilient bio-engineered embankments piloted and recommendations for future rollout presented to DWRI (2020 baseline: 0) (OP 3.2.5). <sup>c</sup>  1c. Flood protection O&M plans, manuals and asset management databases developed for five river basins. (2020 baseline: NA) (OP 3.2.4). <sup>d</sup>  1d. At least 50% of DWRI staff (including 33% eligible women) reported knowledge on flood protection O&M and asset management (2019 baseline: 0) (OP 6.1.1).  1e. At least 10% of those employed on flood infrastructure rehabilitation and construction works are indigenous peoples and Dalits, and 15% are women (2019 baseline: 0).	1a–b. Project technical and progress reports.       1c. River basin planning documents, manuals, database reports, quarterly progress reports.   1d. Pre- and post-training assessment.   1e. Contractors' payroll.	Impact of ongoing federalization process or COVID-19 on supply chain delays implementation and capacity development activities.
2. Flood forecasting and response systems enhanced.	By 2027: 2a. Additional new 40 rain gauge stations and 30 hydrometeorological stations commissioned and operational (2019 baseline: 337 rain gauge stations, 175 hydrometeorological stations) (OP 5.1.1)  2b. Five FFEWS in priority river basins installed and made operational (2019 baseline: 0 FFEWS) (OP 5.1.1) <sup>e</sup>	2a–b. Project technical and progress reports.      2c. Copy of annual O&M plan	

	2c. Annual O&M plan and budget for five FFEWS prepared and submitted to DHM for endorsement (2019 baseline: Not applicable) (OP 3.2.4)	and budget submitted to DHM.	
3. Flood prevention and preparedness capacity improved.	<p>By 2027:</p> <p>3a. At least 20% of eligible DWRI and local government staff trained (including 15% eligible women), of which 80% reporting improved skills in flood risk management (2020 baseline: 0) (OP 6.1.1)</p> <p>3b. Six gender-inclusive CBDRM plans (one for each river basin area) prepared by the community with participation of at least 33% women and at least one representative from vulnerable groups (2019 baseline: 0)<sup>f</sup></p> <p>3c. 10 CBDRM committee members per river basin area (or total of 60 committee members, including 33% women and girls and at least one representative from vulnerable groups) trained, of which at least 50% reporting improved knowledge and skills on disaster preparedness (2019 baseline: 0) (OP 2.3, OP 3.2.2, OP 6.2.4)</p> <p>3d. 48 gender-responsive flood shelters constructed (2019 baseline: 0)<sup>g</sup> (OP 2.5.2)</p>	<p>3a. Pre- and post-training evaluation.</p> <p>3b. Approved CBDRM plan, progress reports.</p> <p>3c. Pre- and post- training assessment.</p> <p>3d. Approved CBDRM plan, progress reports.</p>	
<b>Key Activities with Milestones</b> <ol style="list-style-type: none"> <li><b>1. Flood protection infrastructure and maintenance system improved</b> <ol style="list-style-type: none"> <li>1.1 Advance contracting and procurement of works (CW-01 and CW-02) by Q4 2020</li> <li>1.2 Procure project implementation consulting services (CS-01) by Q1 2021</li> <li>1.3 Prepare detailed engineering designs and bid documents for CW-03–CW-06 by Q4 2022</li> <li>1.4 Procure works (CW-03, CW-04, and CW-05) by Q2 2022</li> <li>1.5 Complete construction of CW-01 and CW-02 by Q2 2023</li> <li>1.6 Complete construction of CW-03, CW-04, and CW-05 by Q2 2025.</li> <li>1.7 Prepare and disseminate O&amp;M manuals for hydraulic structures and monitor performance by Q2 2023 (CW-01 and CW-02) and by Q2 2026 (CW-03, CW-04, and CW-05)</li> <li>1.8 Hand over sites to DWRI (CW-01 and CW-02 by Q4 2023; CW-03, CW-04, and CW-05) by Q4 2026</li> </ol> </li> <li><b>2. Flood forecasting and response systems enhanced</b> <ol style="list-style-type: none"> <li>2.1 Procure FFEWS (FF-01) by Q4 2021</li> <li>2.2 Design, supply, and install FFEWS equipment (FF-01) by Q1 2022</li> <li>2.3 Verify flood forecast system by Q4 2024</li> <li>2.4 Develop decision support system for early warning system Q2 2026</li> <li>2.5 O&amp;M period under contract by Q4 2024</li> <li>2.6 FFEWS training and handover by Q2 2027</li> </ol> </li> <li><b>3. Flood prevention and preparedness capacity improved</b> <ol style="list-style-type: none"> <li>3.1 Procure nongovernment organization for implementation of CBDRM (CS-02) by Q3 2022</li> <li>3.2 Procure CW-06 flood shelter houses by Q3 2022</li> <li>3.3 Inception phase (identify target communities, baseline resilience survey, project plans) by Q2 2023</li> <li>3.4 Establish community disaster risk management and local disaster risk management committees and prepare plans by Q1 2025</li> <li>3.5 Construct flood shelters by Q3 2025</li> <li>3.6 Exit phase (end-line review, project evaluation) by Q2 2027</li> </ol> </li> </ol>			
<b>Project management activities</b>			

<ul style="list-style-type: none"> <li>• Establish steering committee and project implementation unit (Q4 2020).</li> <li>• Prepare annual work plans and ensure 100% of milestones are met (Q4 2020–Q2 2027).</li> <li>• Implement and monitor project activities (Q4 2020–Q2 2024).</li> <li>• Prepare semi-annual progress reports, including inception, midterm, and final reports (Q4 2020–Q4 2027).</li> </ul>
<b>Inputs</b> ADB: \$40.00 million (concessional loan) ADB: \$10.00 million (Asian Development Fund Disaster Risk Reduction grant) Government of Nepal: \$13.00 million Transaction technical assistance: \$500,000 Technical Assistance Special Fund (TASF 6) grant basis, \$750,000 Netherlands Trust Fund under the Water Financing Partnership Facility grant basis
<b>Assumptions for Partner Financing</b> Not Applicable

ADB = Asian Development Bank, CBDRM = community-based disaster risk management, COVID-19 = coronavirus disease, CS = consulting services package, CW = civil works packages, DHM = Department of Hydrology and Meteorology, DWRI = Department of Water Resources and Irrigation, FF = flood forecasting package, FFEWS = flood forecasting and early warning system, ha = hectare, m = meter, O&M = operation and maintenance, OP = operational priority, Q = quarter, TASF = Technical Assistance Special Fund

<sup>a</sup> Government of Nepal, Water and Energy Commission Secretariat. 2002. *Nepal National Water Plan, 2002–2027*. Kathmandu.

<sup>b</sup> Government of Nepal. 2018, Ministry of Energy, Water Resources and Irrigation; DHM. *Standard Operating Procedure (SOP) for Flood Early Warning System in Nepal*. Kathmandu. Flood information is disseminated via Internet, display boards and SMS when the water level crosses a specified flood watch mark. There are three warning levels: (i) flood watch: be prepared to act. (ii) flood warning: act in response to advisories and (iii) severe flood warning: Act in cooperation with others including emergency services.

<sup>c</sup> The bio-engineered embankments are a subset of the 36.2 km resilient embankments

<sup>d</sup> Attached Technical Assistance Report (accessible from the list of linked documents in Appendix 2 of the report and recommendation of the President).

<sup>e</sup> Only five subprojects will have a FFEWS as the West Rapti subproject has an existing FFEWS.

<sup>f</sup> Vulnerable groups include indigenous peoples, persons with disability, and excluded and vulnerable groups.

<sup>g</sup> Flood shelters are strong elevated structures that can be used by local residents for refuge during an extreme weather event. Design of flood shelters include separate toilets and washrooms for women and men, special ramps for persons with disability and elderly persons, and separate rooms for men and women.

### Contribution to Strategy 2020 Operational Priorities

- OP 2.3 Women represented in decision-making structures and processes (number). Target: 60 people (based on 60 CBDRM committees being formed).
- OP 2.5.2 Climate- and disaster-resilient infrastructure assets and/or services for women and girls established or improved Target: 48.
- OP 3.2 People with strengthened climate and disaster resilience. Target: 2,850 households (14,000 individuals).
- OP 3.2.1 Area with reduced flood risk (ha). Target: 2,300 ha.
- OP 3.2.2 Gender-inclusive climate and disaster resilience capacity development initiatives implemented (number). Target: 60 people (based on 60 CBDRM committees being formed).
- OP 3.2.4 National and subnational disaster risk reduction and/or management plans supported in implementation. Target: 10.
- OP 3.2.5 New and existing infrastructure assets made climate and disaster resilient (number). Target: 36,200 m of climate-resilient embankments.
- OP 5.1.1 Rural infrastructure assets established or improved (number). Target: 1.
- OP 6.1.1 Government officials with increased capacity to design, implement, monitor, and evaluate relevant measures. Target: 10.
- OP 6.2.4 Citizen engagement mechanisms adopted. Target: 1.

Source: ADB



## ATTACHMENT B: IMPLEMENTATION PROGRAM

Indicative Activities	2019	2020 (Mth/Qtr)	2021 (Mth/Qtr)	2022 (Mth/Qtr)	2023 (Mth/Qtr)	2024 (Mth/Qtr)	2025 (Mth/Qtr)	2026 (Mth/Qtr)	2027 (Mth/Qtr)
<b>Output 1: Flood Protection Infrastructure Improved<sup>32</sup></b>									
Activity 1.1: Advance Contracting - Procurement of works (CW-01 & CW-02) by Q4 2020.		●	●	●					
Activity 1.2: Procurement of consulting services (CS-01: Project Implementation Consultants) by Q1 2021.	●	●	●	●	●				
Activity 1.3: Prepare detailed engineering designs and bid documents for CW-03, CW-04, CW-05 & CW-06 by Q4 2022.			●	●	●	●	●		
Activity 1.4: Procurement of works (CW-03, CW-04 & CW-05) by Q2 2022.				●	●	●	●		
Activity 1.5: Construction completion of CW-01 & CW-02 by Q2 2023.			●	●	●	●	●	●	
Activity 1.6: Construction completion of CW-03, CW-04 & CW-05 by Q2 2025.					●	●	●	●	●
Activity 1.7: Prepare and disseminate O&M manuals for hydraulic structures and monitor performance by Q2 2023 (CW-01 & CW-02) and Q2 2025 (CW-03, CW-04 & CW-05).					●	●	●	●	
Activity 1.8: Handover of sites to DWRI (CW-01 & CW-02 by Q4 2023; CW-03, CW-04 & CW-05 by Q4 2025).					●	●	●	●	
<b>Output 2: Flood forecasting and response systems enhanced</b>									
Activity 2.1: Procurement of FFEWS (FF-01) by Q4 2021.		●	●	●	●	●			
Activity 2.2: Design, supply and installation of FFEWS equipment (FF-01) by Q4 2023.			●	●	●	●	●	●	
Activity 2.3: Verification of flood forecast system by Q4 2024.						●	●	●	●
Activity 2.4: Develop decision support system for early warning system by Q2 2026.							●	●	●

<sup>32</sup> Under Output 1 implementation is expected to be completed within 5 years.

[illegible]

Indicative Activities	2019		2020 (Mth/Qtr)			2021 (Mth/Qtr)			2022 (Mth/Qtr)			2023 (Mth/Qtr)			2024 (Mth/Qtr)			2025 (Mth/Qtr)			2026 (Mth/Qtr)			2027 (Mth/Qtr)		
Contract negotiation and award										●																
Consultant selection procedures																										
CS-01: PIC																										
Recruitment		●	●	●	●	●																				
Contract negotiation and award						●																				
Services						●	●	●	●	●	●	●	●	●	●	●	●	●								
CS-02: CBDRM NGO																										
Recruitment									●	●	●															
Contract negotiation and award											●															
Services												●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Others																										
Environment management plan key activities					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Gender action plan key activities					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Annual review and midterm review					●			●			●			●			●			●			●			
Project completion report (September 2028)																										

ADB = Asian Development Bank, CBDRM = community-based disaster risk management, CS = consulting services, CW = civil works, DMF = design and monitoring framework, DRM = disaster risk management, DWRI = Department of Water Resources and Irrigation, FFEWS = flood forecasting and early warning system, Mth = month, NGO = non-government organization, O&M = operation and maintenance, PIC = project implementation consultant, Qtr = quarter.

Source: Asian Development Bank.

## ATTACHMENT C: PROJECT STEERING COMMITTEE AND SUBPROJECT MANAGEMENT COMMITTEE

### Project Steering Committee

Ref	Designation / Organization
1	Chair – Secretary MEWRI
2	Joint Secretary MOF
3	Joint Secretary MEWRI
4	Director General DWRI
5	Director General DHM
6	National Planning Commission
7	Ministry of Home Affairs (MoHA)
8	Ministry of Federal Affairs and General Administration (MOFAGA)
9	Representative from the concerned Provincial Government
10	Project Director PMU

### Subproject Consultation Committee (in each basin)

Ref	Designation / Organization
1	Provincial Government Secretary (Physical Infrastructure and Development)
2	Municipality representative of concerned municipality/village municipality
3	Municipality engineer of concerned municipality
4	Provincial Government – Ministry of Physical Infrastructure and Development Engineers
5	DWRI field office chief
6	DWRI field office engineers

## ATTACHMENT D: PMU AND PIU STAFFING

### Project Management Unit (DWRI)

Ref	Position	Type
1	Project Director	Full time
2	Deputy Project Director (2 no's)	Full time
3	Project Accountant (Financial Manager)	Full time
4	Environmental Officer	Full time
5	Social Safeguards Focal	Full time
6	Community Based Disaster Risk Management and FFEWS Coordinator	Full time
7	Engineer (3 no's)	Full time
8	Sub – Engineers (3 no's)	Full time
9	Accountant	Full time
10	Office Clerks (2 no's)	Full time
11	Supervisors (4 no's)	Full time
12	Office Assistant (2 no's)	Full time
13	Driver (4 no's)	Full time

### Project Implementation Unit (DHM)

Ref	Position	Type
1	Project Manager - Senior Divisional Hydrologist	Full time
2	Senior Accountant	Full time
3	Accountant	Full time
4	Hydrologist 1	Full time
5	Hydrologist 2	Full time
6	Meteorologist 1	Full time
7	Meteorologist 2	Full time
8	Hydraulic Modelers	Full time
9	Hydraulic Modelers	Full time
10	Hydraulic Modelers	Full time
11	IT expert	Full time
12	IT expert	Full time
13	IT expert	Full time
14	Supervisor (2 no's)	Full time
15	Office Clerk (2 no's)	Full time
16	Office Assistant (2 no's)	Full time
17	Driver (2 no's)	Full time

**Field Office one for each subproject (DWRI)**

Ref	Position	Type	Jhapa CW01 MK	Kailali CW02 MR	Dang CW03 WR	Sarlahi CW04 LAK	Morang CW05 BK	Makwanpur East Rapti
<b>Technical</b>								
1	Project Manager - Senior Divisional Engineer	Fulltime	1	1	1	1	1	1
2	Senior Accountant	Fulltime	1	1	1	1	1	1
3	Stakeholder, Community & Public Relations Manager/ Association Organizer	Fulltime	1	1	1	1	1	1
4	Social Development Officer	Fulltime	1	1	1	1	1	1
5	Environmental/OH&S officer	Fulltime	1	1	1	1	1	1
6	Engineer	Fulltime	2	2	2	1	1	1
7	Civil Sub Engineer	Fulltime	2	2	2	1	1	1
8	Surveyor	Fulltime	2	2	2	1	1	
9	Assistant Surveyor/ CAD/GIS	Fulltime	1	1	1	1	1	
<b>Total</b>			<b>12</b>	<b>12</b>	<b>12</b>	<b>9</b>	<b>9</b>	<b>7</b>
<b>Non-technical</b>								
11	Office Clerk	Fulltime	1	1	1	1	1	1
12	Office Assistant	Fulltime	1	1	1	1	1	1
13	Driver	Fulltime	1	1	1	1	1	1

BK = Bakraha, CW = civil works, ER = East Rapti, LAK = Lakhandei, MK = Mohana Khutiya, MR = Mawa Ratuwa, WR = West Rapti.

## ATTACHMENT E: PROCUREMENT PLAN

### Basic Data

<b>Project Name:</b> Priority River Basins Flood Risk Management Project		
<b>Project Number:</b> 52195-001	<b>Approval Number:</b>	
<b>Country:</b> Nepal	<b>Executing Agency:</b> Ministry of Energy, Water Resources and Irrigation	
<b>Project Procurement Risk:</b> Medium	<b>Implementing Agency:</b> Department of Hydrology and Meteorology, Babarmahal Department of Irrigation, Kathmandu, Department of Water Resources and Irrigation formerly known as Department of Irrigation, Jawalakhel	
<b>Project Financing Amount:</b> US\$ 63,750,000 <b>ADB Financing:</b> US\$ 50,000,000 <b>Cofinancing (ADB Administered):</b> US\$ 750,000 <b>Non-ADB Financing:</b> US\$ 13,000,000	<b>Project Closing Date:</b> 30 September 2027	
<b>Date of First Procurement Plan:</b> 3 March 2020	<b>Date of this Procurement Plan:</b> 5 August 2020	
<b>Procurement Plan Duration (in months):</b> 18	<b>Advance Contracting:</b> Yes	<b>e-GP:</b> Yes <a href="http://www.bolpatra.gov.np">www.bolpatra.gov.np</a>

### 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, and consulting services.

Procurement of Goods and Works	
Method	Comments
Open Competitive Bidding (OCB) for Goods	International advertising for goods greater than \$2 million.  National advertising for goods less than \$2 million; adequate number of domestic suppliers available below \$2 million.
Request For Quotation for Goods	For goods less than \$100,000
Open Competitive Bidding (OCB) for Works	International advertising for works greater than \$5 million; local contractors have insufficient capacity to bid for works above \$5 million, international bidders or joint ventures would participate.  National advertising for works less than \$5 million; local contractors are competitive below \$5 million.
Request for Quotation for Works	For works less than \$100,000
Community Participation in Procurement for Works	Each contract up to US Dollar equivalent of NRs10,000,000 (Government of Nepal threshold for community contract). Small service contracts may be directly contracted. Works considered non-competitive in nature (i.e., excavation of small channels, earth shifting, turfing, tree planting, bio-engineering and other misc. works in adjoining areas).

Consulting Services	
Method	Comments
Quality- and Cost-Based Selection for Consulting Firm	Two consulting services packages required, and international advertising is warranted.
Competitive for Individual Consultant	International and national

**B. Lists of Active Procurement Packages (Contracts)**

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

<b>Goods and Works</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value (in US\$)</b>	<b>Procurement Method</b>	<b>Review</b>	<b>Bidding Procedure</b>	<b>Advertisement Date (quarter/year)</b>	<b>Comments</b>
CW-01	Flood Control Works at Mohana Khutiya River Basin in Terai of Nepal	9,840,000.00	OCB	Prior	1S2E	Q3 / 2020	Non-Consulting Services: No  Advertising: International  No. Of Contracts: 1  Prequalification of Bidders: No  Domestic Preference Applicable: Yes  Advance Contracting: Yes  Bidding Document: Small Works  High Risk Contract: No  e-GP: No
CW-02	Flood Control Works at Mawa Ratuwa River Basin in Terai of Nepal	11,470,000.00	OCB	Prior	1S2E	Q3 / 2020	Non-Consulting Services: No  Advertising: International  No. Of Contracts: 1  Prequalification of Bidders: No  Domestic Preference Applicable: Yes  Advance Contracting: Yes  Bidding Document: Small Works  High Risk Contract: No  e-GP: No
CW-03	Flood Control	13,930,000.00	OCB	Prior	1S2E	Q3 / 2021	Non-Consulting



	Works at West Rapti River Basin in Terai of Nepal						Services: No  Advertising: International  No. Of Contracts: 1  Prequalification of Bidders: No  Domestic Preference Applicable: Yes  Advance Contracting: No  Bidding Document: Small Works  High Risk Contract: No  e-GP: No
CW-07	Community Participation in Procurement for Works and Goods	250,000.00	CPP	Prior		Q3 / 2021	Non-Consulting Services: No  No. Of Contracts: 15  Advance Contracting: No  High Risk Contract: No  e-GP: No  Comments: Prior review for first 3 contracts; on sample basis for the rest. Direct contracting; no advertisement. Simplified format of bidding document as provided for in PAI 5.10, Appendices 2 and 3.
EQ-01	Vehicles	230,000.00	RFQ	Post (Sampling)		Q1 / 2021	Non-Consulting Services: No  No. Of Contracts: 11  Advance Contracting: No  High Risk Contract: No  e-GP: No  Comments: Multiple

							contracts (9 motorcycles, 2 4WD vehicles)
FF-01	Flood Forecasting Early Warning System	6,700,000.00	OCB	Prior	1S2E	Q4 / 2020	Non-Consulting Services: No  Advertising: International  No. Of Contracts: 1  Prequalification of Bidders: No  Domestic Preference Applicable: No  Advance Contracting: Yes  Bidding Document: Goods  High Risk Contract: No  e-GP: No  Comments: To be procured by DHM
OS-01	Regular office supplies and consumables	710,000.00	RFQ	Post (Sampling)		Q1 / 2021	Non-Consulting Services: No  No. Of Contracts: 8  Advance Contracting: No  High Risk Contract: No  e-GP: No  Comments: Multiple contracts (each below \$100,000).

Consulting Services							
Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter/year)	Comments
CS-01	Project Implementation Consultant	2,300,000.00	QCBS	Prior	FTP	Q4 / 2019	Non-Consulting Services: No  Type: Firm  Assignment: International

							Quality-Cost Ratio: 90:10  Advance Contracting: Yes  e-GP: No  Comments: Quality is critical to the assignment
CS-03	Various individual consultants as and when required	100,000.00	Competitive	Prior		Q2 / 2021	Non-Consulting Services: No  Type: Individual  Assignment: International  Expertise: Various  Advance Contracting: No  e-GP: No  Comments: Still to be determine. Various consultants as and when required.

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

The following table lists goods, works, non-consulting and consulting services contracts for which 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 duration).

Goods and Works						
Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Comments
CW-04	Flood Control Works at Lakhandei River Basin in Terai of Nepal	1,160,000.00	OCB	Prior	1S2E	Non-Consulting Services: No  Advertising Type: National  No. Of Contracts: 1  Prequalification of Bidders: No  Domestic Preference Applicable: No  Bidding Document: Small

						Works e-GP: Yes Comments: Q4/2021; e-GP
CW-05	Flood Control Works at Bakraha River Basin in Terai of Nepal	3,630,000.00	OCB	Prior	1S2E	Non-Consulting Services: No Advertising Type: National No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Bidding Document: Small Works e-GP: Yes Comments: Q1/2022; e-GP
CW-06	Construction of Shelter Houses in various River Basins	2,130,000.00	OCB	Prior	1S2E	Non-Consulting Services: No Advertising Type: National No. Of Contracts: 6 Prequalification of Bidders: No Domestic Preference Applicable: No Bidding Document: Small Works e-GP: Yes Comments: Q4/2022; e-GP
	Lot 1:	355,000.00				
	Lot 2:	355,000.00				
	Lot 3:	355,000.00				
	Lot 4:	355,000.00				
	Lot 5:	355,000.00				

	Lot 6:	355,000.00				
EQ-02	CBDRM Equipment	640,000.00	RFQ	Post (Sampling)		Non-Consulting Services: No  No. Of Contracts: 7  e-GP: No  Comments: Q1/2024; multiple contracts

Consulting Services						
Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Comments
CS-02	Community-Based Disaster Risk Management Consultant	948,000.00	QCBS	Prior	STP	Non-Consulting Services: No  Type: Firm  Advertising: International  Quality-Cost Ratio: 90:10  e-GP: No  Comments: Quality is critical to the assignment

## **ATTACHMENT F: TERMS OF REFERENCE AND SCOPE OF WORK FOR CONSULTANT PACKAGES**

### **F-1 Community-Based Disaster Risk Management (CBDRM) Consultants**

#### **A. Background**

1. Nepal is considered one of the most disaster-prone countries in the world. Alongside other natural hazards, such as earthquakes and landslides, flooding, river erosion, river shifting, and loss of lands pose a recurrent risk to large sections of the population. The Terai region of Nepal has approximately 17% of the country's total area and has a population of 50.3% of country's total population (CBS, 2012 and [www.kullabs.com](http://www.kullabs.com)) and agriculture in the Terai region is the basis of the economy in Nepal. Flooding and erosion is particularly significant in the Terai has a major impact on communities, livelihoods, agriculture and development.

2. Acknowledging the importance of the Terai region to Nepal, the Government, through the Ministry of Energy, Water Resources and Irrigation (MEWRI), is implementing the Priority River Basins Flood Risk Management Project in the Southern Nepal Terai region. The project is the continuation of the pre-feasibility study: Package 3: Flood Hazard Mapping and Risk Management Project (DWRI, 2016), which has identified six priority basins for the project: were selected and included in the cost-benefit analysis: (i) West Rapti, (ii) Mawa Ratuwa, (iii) Lakhandei, (iv) Mohana Khutiya, (v) East Rapti, (vi) Bakraha.

3. The interventions in the subprojects are designed to (i) reduce the incidence of severe floods; (ii) protect resident houses and public infrastructure, particularly in urban areas and market centers in the basins, from severe floods; (iii) protect agricultural land by reducing bank scouring and soil erosion, (iv) reduce the loss of life and injuries by implementing community based disaster risk management (CBDRM) project to be operational in the above six basins over a period of 5 years, including an advanced flood forecasting and early warning system (FFEWS).

#### **B. Project Scope**

4. The CBDRM project (the Project) has been developed within the context of the legal and policy framework of the Government and taking into account national best practices and lessons learned from the country's extensive experience in CBDRM over many years. The full details of the project are included in the CDBRM project design document.

5. Purpose: to compliment the structural components of the 'Priority River Basins Flood Risk Management Project'. Through a participatory, community-based approach, this project aims to: (i) reduce the loss of life, household and community assets, property and livelihoods from flood-related and other disasters; and (ii) strengthen community resilience and a create safer environment for economic and social development.

6. Component 1: Institutional DRM capacity building: focusses on strengthening capacities for DRM at municipality level, which will provide an important framework for supporting community-based DRM initiatives. It involves the establishment of institutional structures and plans, as well as the establishment of early warning systems and structural and non-structural preparedness measures.

7. Component 2: Community-based DRM capacity building: directly engages communities in understanding and managing the risks they face through enhancing community decision-

making and resource mobilization. It also encourages community participation in municipality-level DRM planning, to foster strong institutional linkages between the two levels and support the sustainability of the CDRMCs.

8. A maximum of 10 target communities will be identified in each of the six basins for the implementation of the CBDRM project based on a number of selection criteria identified in the CBDRM project design document, representing a maximum of 60 communities of approximately 100-200 households each, although the number of households may vary significantly depending on the site selection process.

9. Under the overall supervision of the Government's executing agency, the Ministry of Energy, Water Resource and Irrigation (MEWRI) and implementing agency, the Department of Water Resource and Irrigation (DWRI), the project will be guided by a Project Steering Committee comprising representatives from key Government ministries and departments and the Asian Development Bank.

10. A Project Implementation Consultant Team (PIC) will provide overall management support and oversight of all activities as well as technical support to relevant ministries/departments through FFEWS and preparedness infrastructure and CBDRM experts.

11. The local non-government organization (NGO), community-based organization (CBO) or consortium of NGOs/CBOs (the Consultants) selected for this project will provide management support and oversight of the community-based project activities described in these TORs within each basin.

### **C. Scope of Services**

12. The selected Consultants will work with and report to the PIC, PMU and, as required, the Project Steering Committee through the PMU. The Consultants must also maintain close coordination and review with ADB, and consultation with ADB on critical decisions is required, so that project preparation meets ADB quality and specific requirements.

13. The consulting services required for the project will include, but are not limited to, the services described in these terms of reference. These broadly encompass the activities of Component 2 of the project, with some additional input into some aspects of Component 1.

14. Resilience surveys: The Consultants will support the PIC to design and conduct baseline, midline and endline resilience surveys in all 60 identified target communities. The consultants will also engage with the community leaders will in developing of the resilience surveys. The surveys will involve a combination of household questionnaires, key informant interviews and focus group discussions and will be used to measure the impact of the project interventions on the perceptions of overall resilience of communities. The Consultant will recruit, train and manage a sufficient number of community mobilisers and volunteers to conduct the survey and will support the PIC in the compilation and analysis of the data collected.

15. **Establishment of community disaster risk management committees (CDRMC):** Through a process of inclusive community engagement, the Consultants will support municipalities to establish CDRMC in all target communities in accordance with through the existing framework for constituting committees at the municipal level, the process described in the CBDRM project design document, with a view to the CDRMCs being self-sustaining by the end of the project.

16. **Development of community disaster risk management plans (CDRMP):** The Consultants will support the CDRMCs to undertake a consultative process to develop CDRMPs which identify the highest priority risks and hazards facing each community and use a combination of local and traditional knowledge and national / international best practice to mitigate and better prepare for disasters. Suggested content is included in the CBDRM project design document.

17. **Establishment of community disaster response teams (CDRTs):** The Consultants will support the CDRMCs to establish CDRTs. These are comprised of 20-30 volunteers trained in immediate rapid response to emerging hazards and disasters, complementary to other response mechanisms at ward and municipality level. The Consultants will support the training of the volunteers in the core activities of (i) early warning and risk communication; (ii) First aid, search and rescue; and (iii) evacuation shelter management and relief distribution. The volunteers will be provided with necessary equipment and visibility materials to perform their tasks. The consultants will investigate how to partner with existing volunteer networks.

18. **Small scale disaster risk reduction measures and livelihood support:** Through a process of community engagement and Vulnerability and Capacity Assessments (VCAs), the Consultants will support the CDRMCs to identify, design and implement small scale risk reduction measures and support to better protect households and their livelihoods from the impact of floods and other relevant hazards in each target community. Livelihood support, through adaptation and risk reduction measures to enhance existing livelihood activities and diversifying sources of income, should primarily be targeted to women and female-headed households. Examples of such measures are provided in the CBDRM project design document.

19. **Technical support for other project components:** The Consultants will also work collaboratively with the PIC to provide local knowledge and technical support to ensure the engagement of communities and the community-level structures with municipality-level actions including: (i) the establishment of Local Disaster Risk Management Committees (LDRMC); (ii) the development of Local Disaster Risk Management Plans (LDRMP); (iii) Early warning communication systems; (iv) identification and management of flood evacuation shelters; and (v) participation in mock drills. These are described further in the CBDRM project design document.

#### **D. Expected timeframe**

20. The following provides an estimate of the timeframe for the project, assuming a total implementation time of 5 years.



Activity	Yr1	Yr2	Yr3	Yr4	Yr5
Inception phase (identification target communities, baseline resilience survey, detailed project plans)					
Establishment of Community DRM Committees					
Establishment of Local DRM Committees					
Development of Local DRM Plans					
Development of Community DRM Plans					
Flood forecasting and early warning systems					
Establishment of Disaster Response Teams and training					
Small scale mitigation measures and livelihoods					
Preparedness infrastructure and other measures					
Mid-term review (mid-line resilience survey, project evaluation and monitoring)					
Exit phase (end-line review, project evaluation)					

21. Specific tasks, reporting and deadlines will be agreed with the PIC and Project Steering Committee prior to the commencement of the project.

### E. Key Personnel Requirements

22. It is suggested that the consultant services require a minimum of 32 personnel (excluding volunteers), with 1,560 person-months of input from as shown in the table below.

No.	Position	Input	Person-Months
1	Project Manager	1 person x 5 years	60
2	Administration/Finance Manager	1 person x 5 years	60
3	Project Coordinators	6 persons x 4 years	288
4	Community Mobilisers	24 persons x 4 years	1,152

23. Suggested expertise and tasks for the personnel follows below.

#### **Position: Project Manager (60 person-months)**

**Expertise:** Preferably (i) postgraduate degree in social science, economics, disaster risk management, or other relevant field, or equivalent; (ii) 10 years' experience in project development, management and implementation in the disaster/development sector with a local NGO or international organization; (iii) experience in community-based programming; (iv) financial and reporting experience for large multi-stakeholder projects; and (v) team leadership experience.

**Reporting:** The position will report to the PIC.

**Scope of Work:** The project manager will have overall responsibilities for the consultant's project preparation, coordination and implementation, and the quality of all outputs.

**Expected Tasks:** Some key outputs include:

- (i) Coordinate all consulting activities, including engaging with key stakeholders;
- (ii) Prepare a project inception report;
- (iii) Prepare a detailed project workplan;
- (iv) Manage the consulting team members and provide guidance on project implementation, including through the development of key guidelines, training materials and other documents required for the successful delivery of the project; and
- (v) Oversee all project activities, administration and finance, and ensure the project is meeting deadlines, quality standards and reporting requirements.

**Position: Administration/Finance Manager (60 person-months)**

**Expertise:** Preferably (i) bachelor's degree in business, finance, accounting, or a related field; (ii) at least 7 years of overall professional experience, with at least 5 years of managerial experience in finance and administration; and (iii) experience working for a local NGO/ international organization.

**Scope of Work:** The administration/finance manager will be responsible for undertaking financial and administrative activities to support the implementation of the project.

**Reporting:** The position will report to the Project Manager.

**Expected Tasks:** Some key outputs include:

- (i) Support the project manager in the preparation of the project inception report, including the development of a plan and timeline to perform the key administrative/financial tasks of the project;
- (ii) Develop and maintain transparent financial and administrative procedures for the project;
- (iii) Monitor and manage project finances, including procurement, and ensure adherence to all relevant procedures including the preparation and maintenance of all financial records;
- (iv) Provide administration and financial support to project management and contribute to the preparation of required reports and auditing; and
- (v) Provide administrative/finance training and support to other team members as needed.

**Position: Project Coordinator (1 per river basin)**

**Expertise:** Preferably (i) bachelor or postgraduate degree in social science, economics, disaster risk management, or other relevant field, or equivalent; (ii) 5 years' experience in project development, management and implementation in the disaster/development sector with a local NGO or international organization; (iii) experience in community-based programming; (iv) financial management and reporting experience; and (v) team leadership experience.

**Reporting:** The position will report to the Project Manager.

**Scope of Work:** Project Coordinators are responsible for the local implementation of the project in each of the identified target river basins.

**Expected tasks:** Some key outputs include:

- (i) Provide technical inputs and manage the day-to-day implementation of the project in the target river basin, and engage with all relevant stakeholders, including oversight of the CDRMCs and CDRTs;
- (ii) Contribute to the development and contextual adaptation of project guidance, implementation plans, training materials and other relevant project management tools;
- (iii) Recruit, train and supervise the activities of community mobilisers;
- (iv) Develop relevant community training, information, education and communication materials and other project related products; and
- (v) Follow all administrative, financial and operational requirements and provide timely reports and record keeping of all project activities.

**Position: Community Mobiliser (4 per river basin)**

**Expertise:** Preferably (i) bachelor's degree in social science, economics, disaster risk management, or other relevant field, or equivalent; (ii) 3 years' experience in project implementation in the disaster/development sector with a local NGO or international organization; (iii) experience in community-based programming; (iv) financial management and reporting experience; and (v) team leadership experience.

**Reporting:** This position will report to the relevant Project Coordinator.

**Scope of Work:** Community Mobilisers are responsible for conducting community-based surveying, training and awareness on CBDRM and to support the work of the CDRMCs and CDRTs.

**Expected Tasks:** Some key outputs include:

- (i) Develop and maintain strong communication channels and linkages with communities;
- (ii) Conduct community surveys, training and awareness raising activities;
- (iii) Support the recruitment, training and activities of the CDRMCs and CDRTs; and
- (iv) Follow all administrative, financial and operational requirements and provide timely reports and record keeping of all project activities.

## **F. Cost Estimates**

24. The Consultants shall prepare estimates and a financing plan for the project as per ADB standards and guidelines (ADB's Guidelines for the Economic Analysis of Projects (1997), Financial Due Diligence Note (2009), and Note on Preparation and Presentation of Cost Estimates (2008, revised 2010).

## F-2 Project Implementation Consultants Terms of Reference

### E. Background

39. Nepal's low level of development and complex topography renders the country highly vulnerable to climate change impacts and prone to natural hazards.<sup>33</sup> During the monsoon season (June to September), Nepal receives 80% of the country's annual rainfall resulting in widespread inundation in low lying areas. Flooding is reported to account for about 12% of total deaths and 63% of total families affected by all types of natural hazard-induced disasters in the country. Development activities and increasing population have caused further vulnerability and pressure on already scarce land resources. The increasingly frequent flood events threaten the country's economic development and undermine the country's progress toward poverty reduction.

40. The Terai Region of Nepal is particularly vulnerable to flood events. The region lies at the foothills of the Siwalik and Mahabharata mountains, which are highly degraded and have a high rate of deforestation. The mountains' exposure to high-intensity precipitation extremes are projected to increase in frequency and intensity with climate change.<sup>34</sup> A network of rivers originating from the mountains carry significant sediment loads leading to deposition in the riverbeds, reducing the channel capacity, inundating riverbanks causing recurrent and severe flooding of the adjacent floodplains. Flooding causes significant damage to infrastructure, crops and erodes agricultural land affecting the lives and livelihoods of the population living in the area.

41. Communities vulnerable to floods in the Terai is increasing due to migration of people from the mountains and hills, in search of better livelihoods, to flood prone areas in the region. The region's climate-sensitive agriculture sector is dominated by small-scale farmers with the women contributing substantially in terms of farm labour and decision-making. Both farmers and communities are not fully prepared for flooding due to limited warnings of impending flood events. The region's inadequate investment in disaster risk management including flood protection affects the poor and marginalized, who are occupying the most hazard-exposed areas.

42. Flooding in the Terai can have a significant impact on the country. The region has only 17% of Nepal's total land area but accounts for 51% of the 2.64 million hectares (ha) of cultivable land. During heavy monsoon rainfall in August 2017, the southern Terai plains were critically affected, with an estimated \$340.3 million of damages to agriculture, irrigation and livestock. The total damage by the flooding was estimated at \$584.7 million, almost 3% of Nepal's gross domestic product.

43. Several government agencies are actively involved in flood risk management, employing structural measures such as river protection works, and non-structural measures such as early warning systems, district and village disaster risk management plans.<sup>35</sup> However, effective prioritization of disaster risk management at local level in the Terai Region remains challenging and consequently flood mitigation is less effective. This is primarily due to a lack of financial investment (both in construction and maintenance of assets), and limited technical capacity of the government agency with reactive interventions being a priority. The Department of Water Resources and Irrigation (DWRI) is responsible for all protection works for water induced disasters, however, there are no guidelines for prioritizing works requested by communities. This

<sup>33</sup> Nepal's human development index of 0.574, is below the average of 0.638 for countries in South Asia (UNDP, 2018. *Human Development Indices and Indicators: 2018 Statistical Update*).

<sup>34</sup> R. Karkiet al. 2017. Rising Precipitation Extremes Across Nepal. *Climate* 2017. 5(1).

<sup>35</sup> MoHA. 2011. Guidelines for Disaster Preparedness and Response Plan. Kathmandu; Ministry of Federal Affairs and Local Development. 2012. *Local Disaster Risk Management and Planning Guideline*. Kathmandu.

results in non-optimal construction of embankment works without consideration of impacts to other areas. Furthermore, there is a lack of flood forecasting, gaps in Nepal's hydro-meteorological stations and minimal communication strategies for effective early warning systems.

44. The Government of Nepal has requested the Asian Development Bank (ADB) to support the development of the Priority River Basins Flood Risk Management Project which focuses on seven priority river basins in the Terai Region: West Rapti, Mawa–Ratuwa, Lakhandei, Mohana, Khutiya, East Rapti, and Bakraha.<sup>36</sup> The project areas have minimal reactive embankment interventions which provide limited flood protection. Between 1991 and 2015, the priority river basins experienced 390 floods, of which: (i) 35 floods caused economic damage of at least NPR1 million; (ii) 37 floods caused a total of 440 deaths; and (iii) 79 floods caused total destruction of greater than 10 households. The flood risk is expected to increase as more people and assets locate in vulnerable areas in the Terai Region, which will be further exacerbated by climate change.<sup>37</sup> The project aims to reduce flood-related economic and social losses in the priority river basins by strengthening integrated disaster risk management approaches. The direct project beneficiaries include local communities within the project area, DWRI and the Department of Hydrology and Meteorology (DHM).

45. The flood management interventions in the sub-projects are designed to (i) reduce the damage caused by severe floods; (ii) protect resident houses and public infrastructure, particularly in urban areas and market centers in the basins, from severe floods; (iii) protect agricultural land by reducing river-bank scouring and soil erosion; (iv) reduce the loss of life and injuries by implementing an early warning system for floods and implementing a training program on CBDRM for at-risk communities in the project areas.

46. The project is expected to alleviate poverty by protecting resident property and incomes from flood events, and provide an increased range of livelihood opportunities, particularly on land that will be protected from floods. The project will mainstream opportunities for women by developing and implementing a gender action plan.

47. The consulting firm will provide services for project management, assistance in implementation and ensuring compliance with safeguards and financial requirements related to the project. In summary, the works comprise: (i) preparation of detailed designs and completion of preliminary designs for civil works for 3 river basins (Lakhandei, West Rapti, Bakraha); (ii) supervision of the implementation of civil works in 6 river basins (Mohana, Khutiya, Mawa–Ratuwa, Lakhandei, West Rapti and Bakraha); (iii) completion of detailed designs for 3 river basins (Mohana, Khutiya and Mawa–Ratuwa); and (iv) coordination of Flood Forecasting and Early Warning System (FFEWS) output with DHM and supervision of CBDRM activities for 7 river basins (Mohana, Khutiya, Mawa–Ratuwa, Lakhandei, East Rapti, West Rapti and Bakraha).

## **F. Implementation Arrangements**

48. The executing agency of the project is the Ministry of Energy, Water Resource and Irrigation (MEWRI) and the implementing agencies are DWRI and DHM.

<sup>36</sup> Priority rivers were selected from 25 river basins from ADB. 2016. *Flood Hazard Mapping and Preliminary Preparation of Flood Risk Management Projects: Final Report*. Manila. Factors such as likelihood/ magnitude of flood damage, poverty index, impact on human wellbeing, loss of life, as well as equitable distribution of projects between regions, were taken into consideration. The river basins were agreed during ADB (South Asia Department). 2016. Review Mission to Nepal: Water Resources Project Preparatory Facility (Aide Memoire). November 2016 (internal).

<sup>37</sup> S. Dhakal. 2013. *Flood Hazard in Nepal and New Approach of Risk Reduction*. Kathmandu.

49. The implementation of the Project will be monitored by the Project Steering Committee at MEWRI.

50. DWRI will establish a Project Management Unit (PMU) at Jawalakhel, Lalitpur. A Project Implementation Unit (PIU) will be formed in DHM to implement the flood forecasting and early warning system output. There will be PIUs in six People Embankment Program field offices located in the respective sub-project areas in the districts of Jhapa, Morang, Sarlahi, Makwanpur, Dang, Kailali for the sole purpose of implementing the Project. The PMU will be headed by a Project Manager (gazetted first class) and appropriately staffed. The PIC will report to the Project Director of PMU at central level and to the respective Project Managers at field level to support the PIU. **Attachment 1** indicates the overall implementation arrangements.

51. At central level, the PIC will assist the PMU and its other advisory sections comprising: (i) a committee that will review designs and documents, and advise as necessary; (ii) an environment safeguards and social monitoring and evaluation section that will monitor, evaluate and report on required safeguard and social activities; (iii) an Accounts and Finance Section (AFS) that will be responsible for effective accounts and financial management; (iv) a Communications Section who will lead communication activities; and (v) a Procurement Section that will be responsible for obtaining approvals and issuing bid documents, managing bidding processes and bid evaluation until package award, and contract management including review and approval of contract variations. At field level the PIC will support respective PIUs in execution of works contracts and implementation of FFEWS. The PIC shall support PIUs particularly in the areas of day-to-day activities viz. contract management, quality assurance and quality control, construction supervision in maintaining line levels as per approved design drawings, monitoring progress and ensure safeguard compliance. The respective Project Manager shall be playing the role of the “Employer” under the measurement based small works contract during implementation. The PIC will furnish relevant project-related information to the PIUs, PMU and its advisory sections. On the advice of the PMU, the PIC will correct, revise, update, and improve its services and outputs comprising this consulting assignment.

52. Local bodies will interact with respective PIUs at field level, and PIC shall assist respective PIUs in addressing the issues.

### **G. Objective of the Consulting Services**

53. The objective of the assignment is to assist the PMU, which shall be created under DWRI, and the PIU formed under DHM, in PRBFRMP-related activities, including but not limited to construction management, contract administration, construction supervision, quality assurance and quality control, procurement management, safeguards compliance, meeting disbursement targets, project management and monitoring, and coordination with other government authorities, non-governmental organizations (NGOs), etc., towards successful implementation of the Project.

54. The PIC is envisaged to support the PMU located in Lalitpur and PIUs located at respective sub-project areas in the districts of Jhapa, Morang, Sarlahi, Makwanpur, Banke, Dang, Kailali for a period of 48 months and the contract will be signed for the same period.

## H. Scope of Services, Tasks (Components) and Expected Deliverables

55. **Scope of Services.** The consulting firm will be an engineering and project management consulting firm which will provide all technical and management services, design, engineering, project management and construction supervision services, including, but not limited to:

56. **PART A – Construction Supervision:** Assist the client to (i) review detailed design and amend based on the geotechnical investigation; (ii) procurement, management, quality control and construction supervision of works under the small work contracts; (iii) contract administration; (iv) project management and monitoring; (v) ensure compliance with social and environmental safeguards, and, occupational health and safety aspects required for successful implementation of the project; (vi) prepare reporting requirements for PMU/PIU and ADB, as required; (vii) assist PMU/PIU with preparations and reporting for missions fielded by ADB, as necessary; and (viii) transfer knowledge to PMU and PIU staffs.

57. **PART B – Detailed Design Preparation:** (i) conduct surveys, studies and investigations; (ii) prepare detailed engineering design; (iii) review and confirm designs and assist the client to get the design, cost estimates and drawings approved by DWRI; (iv) prepare bidding document and provide support in the bidding process; and (v) provide support in procurement and contract award.

58. The Consultant shall work under the guidance of the PMU (intended to be established under the DWRI), and in close collaboration with the other consultants envisaged to be engaged under the project.<sup>38</sup> The overall responsibility to deliver the project outputs and deliverables required under this Terms of Reference (TOR) will rest with the consulting firm through the team leader. The Consultant shall ensure timely and quality delivery of the services and documents, establish coordination among all stakeholders and team members, schedule mobilization/demobilization of team members after receiving written approval from the PMU beforehand and interact with the PMU and PIU (jointly and severally hereinafter called “client”) on regular basis.

59. The international experts in particular shall be, in all the cases, based in Nepal. If proposed, the home-based inputs shall be converted to field based inputs and evaluated accordingly.

60. The scope of services covered under these TOR shall include, but not limited to, the following tasks:

## I. Detailed Outputs of the Assignment

61. The project will provide long-term sustainable solutions to two key causes of increasing flood vulnerability: (i) inadequate flood control infrastructure, and (ii) inadequate flood forecasting and early warning systems. Investments in infrastructure and early warning systems will be supplemented by CBDRM interventions and targeted capacity development. The project will have the following outputs:

- (i) **Output 1. Flood protection infrastructure improved.** Specifically, the project will reduce direct impacts from flooding through: (a) rehabilitation and construction of

<sup>38</sup> The Project envisages to recruit a number of additional consultants, including (i) the Flood Forecasting and Early Warning System (FFEWS) Consultant, (ii) the Community-Based Disaster Risk Management (CBDRM) Consultant, and (iii) an NGO may also be recruited for increased safeguard and community participation activities.

flood control infrastructure;<sup>39</sup> (b) demonstration of nature-based solutions for better flood risk management, such as bio-engineering river embankments with suitable flora/vegetation to prevent soil erosion;<sup>40</sup> and (c) development of flood protection infrastructure maintenance manuals and monitoring systems.

- (ii) **Output 2. Flood response capacity enhanced.** This project support government and communities in flood prone areas to improve early warnings systems through: (a) installation of hydro-meteorological stations and strengthening capacity for flood forecasting; (b) strengthening early warning communications system, possibly using sirens, mobile phone technology, to communicate advance flood warnings to local communities; and (c) flood forecasting and early warning system maintained.
- (iii) **Output 3. Flood prevention and preparedness capacity improved.** This will be delivered by (a) preparing and implementing a project stakeholder communication and outreach program; (b) undertaking organizational capacity-building program on flood risk management and infrastructure planning for DWRI; and (c) developing CBDRM plans in line with local development plans and budgets that integrate disaster risk information.<sup>41</sup>

62. These outputs shall result in the following outcome: resilience of communities to flood risks of selected river basins in the Terai Region improved. The project will be aligned with the following impacts: (i) social and economic losses due to flood-induced disasters reduced;<sup>42</sup> and (ii) assessment, identification, monitoring and early warning system on potential disasters strengthened.<sup>43</sup>

63. **Detailed Tasks (Components) and Expected Deliverables.** To ensure successful implementation of the Project, the consulting firm shall carry out the following tasks (but not limited to):

#### **PART A – Construction Supervision (Time-Based)**

- (i) **Project management, monitoring, supervision, quality control and financial assistance and reporting of all sub projects.** The PIC shall work under the PMU and PIU to ensure the effective and timely delivery of the project outputs to the highest standard. The PIC will assist with the overall project coordination and management through the relevant agencies at national, regional and local levels. The PIC shall maintain liaison with DWRI through PMU, PIU field units, DHM through PIU and with ADB through PMU. Other main activities related to project management will include, but not be limited to:

<sup>39</sup> The infrastructure could include (i) embankments to better control watercourses and prevent damage from flooding of land adjacent to a river; (ii) solid spurs or groynes, which are structures made to project flow from a river bank into a watercourse with the aim of deflecting the flow away from the side of the river on which the groyne is built; (iii) culverts with sluice-gates or flap gates; and (iv) check dams.

<sup>40</sup> For example: World Bank. 2017. *Implementing nature-based flood protection: Principles and implementation guidance*. Washington, DC; and United Nations World Water Assessment Programme.

<sup>41</sup> CBDRM includes developing community flood risk maps and supporting implementation of non-structural measures prioritized in community plans, especially measures related to strengthening livelihood resilience.

<sup>42</sup> Government of Nepal, Water and Energy Commission Secretariat. 2002. *National Water Plan, 2002–2027*. Kathmandu. pp. 37–38.

<sup>43</sup> Government of Nepal, MoHA. 2009. *National Strategy for Disaster Risk Management (NSDRM)*. Kathmandu.



- (a) Advise and support the PMU and PIU in overall strategic direction, planning, implementation, contract management, financial management, risk management, cost control, and scheduling;
- (b) Prepare and submit detailed work program in consultation with all stakeholders, including all pertinent activities and critical paths, responsibility and function of each team member, coordination mechanism and communication procedures between the consulting firm, contractor and the PMU; reporting system and the procedure etc. shall ensure orderly and uninterrupted progress of the works; ensure gender and inclusion issues are integrated. The mechanism and procedures set by the consulting firm shall be subject to the approval by the PMU;
- (c) Develop program management and tracking system, using commonly available computer software to schedule and monitor all aspects of activities including but not limited to construction activities, payment and disbursements;
- (d) Assist in development and use of Information Technology (IT) based Project Performance Management Evaluation tool to monitor and evaluate implementation of the project; identify performance constraints; and formulate and implement practical measures to address shortcomings. Frequent performance evaluations shall be carried out based on assessment of the project. The tool is capable of disclosing key project-related information, including costs, safeguards, procurement status and progress, amount of contract awarded, billing and disbursement, etc.;
- (e) Develop tools and assist in monitoring project financial disbursement and recommend ways to facilitate and streamline Government administrative procedures for disbursement, set up system for project financial book-keeping and financial accounts;
- (f) Support to implement mitigation measures to minimize risk elaborated in risk management plan for the project;
- (g) Identify all necessary approvals and permissions, etc. required during the implementation of the Contracts in accordance with the Government regulations and provisions of the Contracts;
- (h) Plan and assist the PMU in obtaining, in a timely manner, the required clearances, permits, approvals, sanctions or any other information from relevant competent authorities so that the project activities are not unduly delayed;
- (i) Establish document control and proper filing system for project offices, including official correspondence, drawings, site instructions, variation orders and site records. Establish channel and mode of communications;
- (j) Review, comment, and recommend, for PMU's approval, the contractor's proposed implementation schedule and programs, including time over-run aspect and cost over-run, if any. Monitor the schedule and proactively instruct

the contractors through PMU to take corrective action to complete the works in time;

- (k) Review and recommend on the contractor's statement for progress payments;
- (l) Assist in resolution of contractual issues including review, evaluation and confirmation of contract variation orders;
- (m) Review and examine the contractor's request for variation orders such as extra items, new rates, requests for time extension and extra payment, filed by the contractor etc. and submit recommendations for approval, if appropriate;
- (n) Assist constructively and submit recommendations in resolving any potential difficulty, conflicts or dispute that may arise between the contractors and the PIU.
- (o) Assist the PIU in certification of substantial and completion of the works in accordance with the provisions of the Contracts, including stage certification and final acceptance test;
- (p) Assist on liaison with local authorities, government agencies and ADB. Assist the PMU/PIU in reporting to these agencies;
- (q) Assist the PMU/PIU in meeting its obligations and reporting;
- (r) Prepare essential documents including quick report on progress, quality, disbursement or any other relevant matter as may be required by the PMU or ADB;
- (s) Assist the PMU/PIU in conducting regular meetings with contractors, government entities and all other stakeholders etc., to discuss progress and issues related to implementation, and prepare minutes for recording and circulation;
- (t) Establish all necessary records and the procedures of maintaining/updating such records for each package and for the entire project;
- (u) Develop and implement procedure for timely payments to the contractors and monitor for compliance;
- (v) Assist the PMU in ensuring compliance with all loan covenants during project implementation;
- (w) Provide project management support and capacity building for the PMU in planning and managing the project cycle (design, procurement, construction, commissioning stages, and defect liability period);

- (x) Prepare a realistic project schedule (design, approval, tendering, construction, commissioning, handover) and corresponding projected cash flow in conjunction with the PMU;
- (y) Establish and help PMU maintain an effective management system in accordance with the design and monitoring framework to monitor progress and project performance against key targets and indicators, including project performance management system (PPMS) to ensure timely, and high-quality implementation and completion;
- (z) Integrate indicators related Gender action plan in the PPMS;
- (aa) Review Quality Assurance Plan (QAP), prepare periodic reports, briefing materials, provide other information time-to-time as necessary;
- (bb) Develop uniform working procedures, quality assurance and control system for the smooth implementation of all contracts;
- (cc) Support to ensure compliance with all reporting requirements of the Project;
- (dd) Assist PMU in planning, monitoring and reporting of project financial disbursement;
- (ee) Make recommendations to facilitate and streamline Government administrative procedures for disbursement;
- (ff) Develop operational guidelines on project financial matters using Government procedures in compliance with ADB requirements;
- (gg) Set up procedures and maintain the project financial book-keeping and financial accounts at the PMU level;
- (hh) Provide inputs to the cost estimation process;
- (ii) Assist/Conduct relevant training/consultation/social survey and workshop as per client's approval and requirements.
- (jj) Assist PMU in, maintaining, operating an IT based Management Information System (MIS) of preparing and reporting project financial statements periodically;
- (kk) Capacity building of the PMU in accounting and financial management;
- (ll) Perform PMU and PIU-related training and capacity building;
- (mm) Prepare and produce monthly, quarterly, yearly progress and achievement report and project completion report or any other report required or requested by the PMU. The monthly progress report should also include the weekly output of the key as well as non-key experts (document produced, field visit report etc.); and

- (nn) Acquire prior written approval from the PMU before leaving the workstation in case of experts deployed at the central level.

**(ii) Survey, investigations, and general data collection.**

- (a) Conduct surveys and investigations as necessary, such as topographical surveys, geotechnical surveys, hydrological surveys, borehole investigations or other investigations to identify and/or to confirm the input data to proceed with detail design engineering and drawings;
- (b) Supervise and control site investigation surveys and instruct contractors to abide to specified requirements;
- (c) Conduct and document meaningful consultation and information sessions with project beneficiaries (local communities) and directly affected persons;
- (d) Collect MoUs for voluntary land donation and certification from relevant land revenue and survey offices for finalization of detailed design and also in case of modifications required in detailed design due to change in river flow pattern.

**(iii) Construction supervision, quality control and contract administration.** The Consulting firm shall assist and be responsible to carry out the tasks appended hereunder. The tasks appended hereunder are neither limited nor conclusive; the consulting firm is obliged to support the PMU in performing their tasks and responsibilities.

- (a) Coordinate with the Contractor, DWRI, DHM and other stakeholders viz CBDRM Consultant (NGO) and other contractors for construction of shelter houses, etc., to achieve timely completion of contractual obligations on the part of contractor and the Client;
- (b) Establish a data transfer system for all documents between Contractor, DWRI, DHM and other stakeholders viz CBDRM Consultant (NGO) and other contractors for construction of shelter houses, etc;
- (c) Support and assist the PIUs in performing its duties as “Engineer” under measurement-based small works contract;
- (d) Support and assist the PIU in contract administration, undertake day-to- day construction supervision and monitoring, provide sound and timely advice to resolve problems that arise during construction and ensure compliance with contractual conditions;
- (e) Review construction contracts/documents and conduct site visit of entire area covered under the project and identify (a) potential initial activities to be complied with by the construction contractors; and (b) the obligations of the PMU, if any. Bring to the attention of the PMU any potential contractual issue and construction problem that warrants their early attention;

- (f) The Consulting firm shall maintain sufficient site-based staff, with clear allocation of duties, to supervise day-to-day construction activities;
- (g) Ensure that the works/contractual deliverables comply with the approved engineering designs and technical specifications mentioned in the Contract, agreed schedule of payment and timelines, and terms of conditions of the Contract;
- (h) Review construction drawings and design/drawing changes as prepared and submitted by the contractor during the construction stage and as-built drawings;
- (i) Ensure compliance with standard international engineering practices by the contractors;
- (j) Support and assist the PMU in taking engineering decisions;
- (k) Develop quality assurance and quality enhancement system, quality control plan, prepare quality compliance reports and progress reports;
- (l) Assist the PMU in forecasting the progress of works and finalization of periodic targets for the expenditure and disbursement;
- (m) Assist the PIU in reviewing and approving the Contractor's monthly Interim Payment Certificates;
- (n) Review the Contractor's construction methodology, method statements, work proposal and construction drawings to the extent required by respective contract. Submit comment on requirement of modifications, if any, and recommend for approval as appropriate;
- (o) Proof checking of the Contractors' drawings, designs and recommend to the PMU for approval of contractors' design and drawings for execution as required;
- (p) Examine, check, comment and recommend for necessary action on the Contractor's proposals, plans, detailed designs, drawings, request for change, if any. Monitor and report on physical progress of the works and financial disbursements, environmental and social compliance reports;
- (q) Ensure required instructions received and complied with the requirements of the contract;
- (r) Be responsible for management and supervision of construction contracts under the current law of the Employer's country;
- (s) Check the adequacy and quality of Contractor's input in terms of material, equipment and machinery, workers and safety requirement prior to commencement of the works and time-to-time during construction activity;

- (t) Facilitate in setting out the works and ensure its correctness during the implementation;
- (u) Checking the line level, layout and workmanship of the construction to ensure conformity with the contract, proposal for approval of any changes in the plans that may be deemed necessary, duly indicating the effects due to the change on contract and preparation of variation orders accordingly;
- (v) Inspect and supervise the day-to-day operations and activities of the contractors to ensure that the works follow the approved drawings and specifications of relevant construction contracts;
- (w) Monitor the contractor's compliance with safety requirements during and prior to the commencement of construction activity. Assist in preparation of accident report in the event of unfortunate occurrence of any accident on the site;
- (x) Monitor and report the engagement of child labour by the contractor, if any. Ensure the compliance by the contractor of the labour protection clause in the Contract or required by the regulatory authority including all relevant statutory provisions on labour- equal pay for equal work, health, safety, welfare, sanitation and working conditions;
- (y) Ensure the compliance by the Contractor of the Environmental Monitoring/Environmental Management Plan in the Contract or required by the regulatory authority and ADB;
- (z) Ensure the compliance by the Contractor of the ADB's safeguard policy and requirements;
- (aa) Ensure that the Labour Camps are complying with regulations and take steps to conduct frequent health camps, HIV awareness, etc. in the labour camps. Ensure the facilities are provided separately for women in the labour camps;
- (bb) Maintain at site or at project office, all duplicates of the Contracts, technical drawings, catalogues and drawings, and specifications, survey notes, quality control documents and any other documents, as necessary;
- (cc) Ensure that the Contractor is setting up all labs, testing facilities as per contract conditions and the equipment are calibrated;
- (dd) Assist the PMU and the Contractor to develop alternative methods to overcome unexpected obstacles which may affect the execution of the works;
- (ee) Assist the PMU in identification and documentation of underground utilities and removal designs, as required;
- (ff) Cooperate, facilitate and report on all removal/relocation of on-site activities pertaining to ground or underground utilities;

- (gg) Review the aspect of traffic management in the Contractor's programs and, ensure and facilitate its compliance by the Contractors during the execution of construction activity and removal/relocation of utilities;
- (hh) Examine and ensure the completion drawings/as-built drawings/ operation and maintenance manual if any, prepared and submitted by the Contractor (hard and soft copies), submit recommendations in the event of change or correction is required therein prior to acceptance by the PMU;
- (ii) Ensure maintenance of documentations on the quality control and quality assurance, test reports, logbooks, etc. by the Contractors in an acceptable manner;
- (jj) Check internal quality management system of the contractors- documentation, quality management method, quality control reporting, quality control staffing. Submit its recommendation for any change, if warranted/deemed necessary. Periodically audit contractor's compliance with quality control/quality assurance requirements and submit report to the PMU;
- (kk) In case of any new items or modifications of works, prepare specifications, carry out rate analysis (with supporting documents) for justifying/negotiating the rates quoted by the Contractors and furnish these to the PMU for their approval. Check to ensure that type and frequency of test requirements for material on site and in laboratory comply with technical specifications as required in the contract. Test equipment to be used or installed prior to its incorporation in the works;
- (ll) Carry out, witness and supervise testing of materials and all equipment to be incorporated in the works at site, laboratory, at source of materials and equipment or any other location. Check testing results to ensure compliance with the provisions of the contract;
- (mm) Ensure contracts are progressing in time and for any deviation recommend for initiation of imposing fine, Liquidation Damage etc.;
- (nn) Ensure that all the required insurances are available and up to date with the Contractor;
- (oo) Ensure that no additional claims (both for quantity as well as additional scope) shall be admitted without the prior written approval of the PMU;
- (pp) Store all records and documents related to quality assurance/quality control at safe custody and make available when required;
- (qq) In case of such of those works where measurements are hidden after completion as in the case of foundations, reinforcements in Reinforced Cement Concrete (RCC) structures etc., measurements and check measurements are to be carried out immediately and pictorial evidences are recorded after each activity is completed;

- (rr) Check the laboratory and field tests carried out by the Contractors and to develop a mechanism in consultation with the PMU in carrying out independent tests, if necessary, other than the regular testing done;
- (ss) Recommend PMU to order special tests of materials and/or, completed works, and/or order removal and substitution of improper materials and/or works as required;
- (tt) Maintain daily notes/site order book/diary of manpower, material and machines used by the contractor to execution progress for each construction activity on site as well as notes of arising potential problem on site that may affect the execution progress or require change or variation;
- (uu) Attend periodic meetings with PMU/PIU, the contractors and other stakeholders to discuss, approve the execution progress, remaining progress, difficulties, and any potential problem anticipated that may affect execution, progress, propose constructive solutions/remedies to overcome problem and difficulties for smooth operations of execution progress;
- (vv) Attend, facilitate constructively and report all feedback/complaints of community related to execution of works;
- (ww) Record measurements of works executed at site from beginning to completion of project; sector experts will ensure that works are carried out as per the approved design/drawings and specification and shall supervise pre-construction, construction activities and commissioning tests at works;
- (xx) Endorsement/certification that quality is confirming to all relevant specifications and drawings;
- (yy) Measurement and endorsement/certification of the works completed and for certifying and recommending payments to the contractors;
- (zz) Convey approvals and/or issue construction drawings including variations thereof, in this connection, give instructions to the Contractor; verify and get corrected the "as-built drawings" supplied by the Contractor and certify the same;
- (aaa) Assist the PMU in taking over of completed works from the Contractors in particular by preparing list of defects to be corrected by the contractor;
- (bbb) Prepare specific engineering reports when required, which shall include an analysis of the problems encountered and proposed solutions;
- (ccc) Identify and assist PMU to agree with the Contractors on measures necessary to remedy unsatisfactory performance in order to remain within the cost and time period of the contract;
- (ddd) The Consulting firm shall carry out their assignment in accordance with the working schedule of the Contractor, including late working hours, weekends and holidays etc., when warranted.



**(iv) Social, environmental, occupational health and safety aspects**

- (a) Ensure compliance with ADB safeguard requirement and project safeguard frameworks (Environmental Assessment Review Framework and Resettlement Framework). Provide guidance on safeguards and issue instructions to the contractors and monitor compliance;
- (b) Assist in obtaining all necessary relevant permissions and complying with statutory requirements;
- (c) Prepare stakeholder consultation strategy and plan for creating positive ownership on project activities and outputs;
- (d) Conduct consultation with all stakeholders and affected persons, collect MoUs for voluntary land donation and certification from relevant Land Revenue and Survey offices for finalization of detailed design and also in case of modifications required in detailed design due to change in river flow pattern.
- (e) Review and update the Initial Environmental Examination (IEE) report, Environmental and Resettlement Framework (EARF) in respect of future packages prepared for the project; and prepare/update IEE accordingly; carry out disclosure as necessary during and after detailed designs;
- (f) Support in establishing grievance redress mechanism acceptable to ADB under the project through following activities; (a) prepare a project specific guideline on complaint handling and conflict resolution; (b) maintain and regularly update a complaint/resolution data base; and (c) monitor complaint, handling, to ensure follow up resolution efforts at levels;
- (g) Assist in obtaining all necessary permissions and complying with statutory requirements as required prior to construction;
- (h) Prepare a periodic safeguard monitoring report for PMU and submit to ADB;
- (i) Ensure that all bidding documents and contract documents contain the Environmental Management Plan (EMP) and such items are included in bill of quantities (BOQ); also monitor the implementation of the EMP during construction and pre-phases;
- (j) Update the EMP as necessary;
- (k) Review the Contractor's Environmental Management Plan (CEMP) for adequacy in terms of compliance with the requirements of the EMP and instruct amendments and additions as necessary;
- (l) Prepare or update the environmental monitoring plan and report format to reflect detailed design and the CEMP. Monitor and ensure compliance with implementation of the EMP during the construction phase;

- (m) Ensure and control the compliance by the Contractor to the Environmental Monitoring/EMP, the relevant Occupational Health and Safety (OHS) regulations as stipulated in the contract or required by the country law or by the regulatory authority and submit regular monitoring reports on the format and to the frequency set out in the EMP;
- (n) In compliance with the EMP, develop a strategy to overcome potentially arising difficulties of construction/traffic management and also prepare, in due consultation with the contractor and PMU, detailed traffic plans during works; propose and implementation mechanism for coordination among all stakeholders such as traffic police, roads department, user committees, etc., for smooth construction execution;
- (o) As part of the EMP, prepare a project focused OHS Plan to be adopted by the PMU and the Contractor; and
- (p) Ensure that relevant provisions in contracts on OHS are abided by the Contractors during the construction works.
- (q) Ensure fair working condition to workers through implementing following activities:
  1. provide awareness raising programs for workers at construction sites informing them about their opportunities, rights and duties;
  2. ensure that workers are fully aware of the insurance facilities provided under the contract and facilitate claims arising out of injuries, disabilities and death;
  3. enforce strictly the provisions of use of labor cards;
  4. provision of equal pay for both the men and women for equal volume of works performed;
  5. provide training on OHS, environmental impacts and mitigation measures to the Contractors including contractors' workers.
- (r) Confirm the involuntary resettlement/indigenous peoples impacts based on detailed design and prepare or update social safeguards reports as required. Monitor and ensure compliance with the agreed principles of voluntary land donation;
- (s) Assist the PMU and PIU to establish the project's grievance redress mechanism, including GRM register and ensure that the mechanism is widely publicized and available to displaced people, project beneficiaries, indigenous peoples and workers in a language and form that is appropriate for them;
- (t) Monitor safeguards implementation and identify corrective actions as needed; and

- (u) Monitor and ensure gender equality and social inclusion (GESI) targets are achieved and approaches in stakeholder participation and consultation.

**PART B – Detailed Design Preparation of Lakhandehi, Bakhara and West Rapti subprojects**

- (ii) **Project management, monitoring and financial assistance.** The PIC will work under the PMU and PIU to ensure the effective and timely delivery of the project outputs to the highest standard. The PIC will assist with the overall project coordination and management through the relevant agencies at national, regional and local levels. The PIC will maintain liaison with DWRI through PMU, DHM through PIU and with ADB. Other main activities related to project management will include, but not be limited to:
  - (a) Prepare and submit detailed work program, including all pertinent activities and critical paths, responsibility and function of each team member, co-ordination mechanism and communication procedures between the consulting firm, and the PMU; reporting system and the procedure etc. shall ensure orderly and uninterrupted progress of the works. The mechanism and procedures set by the consulting firm shall be subject to the prior approval by the PMU;
  - (b) Prepare a realistic project schedule (design, approval, tendering, construction, commissioning, handover) and corresponding projected cash flow in conjunction with the PMU;
  - (c) Provide inputs to the cost estimation process;
- (iii) **Survey and investigations, detail design engineering, develop specifications and detailed design drawings, quantity estimate and costing for the balanced civil works contracts as per feasibility study report and for the works required for CBDRM**
  - (a) Conduct surveys and investigations as necessary, such as topographical surveys, geotechnical surveys, hydrological surveys, borehole Investigations or other Investigations to identify and/or to confirm the input data to proceed with detail engineering design, cost estimation, specifications and drawings;
  - (b) Conduct consultation with all stakeholders and affected persons, collect MOUs for voluntary land donation and certification from relevant land revenue and survey offices for finalization of detailed design and also in case of modifications required in detailed design due to change in river flow pattern;
  - (c) Preparation of detailed design engineering, technical specifications and detailed design drawings, detailed quantity estimate and costing for future civil works contracts in line with CW-01 and CW-02 detailed design; the regulatory requirements, and best engineering practice;
  - (d) Liaise with PMU and all relevant stakeholders including affected households to finalize the designs and drawings prior to finalizing the BOQ and estimates;
  - (e) Ensure findings in the safeguard documents are appropriately addressed in the designs/drawings and estimates/BOQ;
  - (f) Prepare detailed designs including construction drawings in accordance with sound and established engineering practices;
  - (g) Compile bill of quantity and specify equipment;

- (h) Assist PMU to get all the cost estimates and detailed engineering design and drawings approved by the DWRI. Make changes and incorporate the comments as many times as required until the cost estimate as well as the design and drawings are approved by the DWRI.
  - (i) Prepare documents required for statutory and other clearances;
  - (j) Assess land requirement, preparation of land acquisition documents if required as consequence of detailed design; and
  - (k) Assess environmental aspects for detailed designs.
- (iv) Detailed engineering design, estimation of works, bidding process management, procurement and contract award for the civil works contracts as per feasibility study report for Bakhara, Lakhandei, and West Rapti and for the works required for all sub basin CBDRM**
  - (a) Review the proposed engineering designs, drawings, specifications, quantities and cost estimation for the new civil works as provided in the feasibility study and other reports;
  - (b) Conduct a workshop on the three basins and agree on the process for detailed design with DWRI and ADB;
  - (c) Prepare, in close collaboration with the PMU and PIU, the detailed engineering design, detailed design drawings, technical specifications, quantities and cost estimation for the new civil works based on the feasibility study report and in-line with the detailed design methodology adopted for the first two subprojects;
  - (d) Prepare measurement-based bidding documents (complete in all respect) for balance civil works (as per feasibility study report) including technical specifications, assist PMU in issuance of bidding document and bid process management evaluation and report writing as required;
  - (e) Ensure the bidding documents comply with safeguard requirements as approved by ADB;
  - (f) Assist in obtaining ADB's no-objection at various stages of procurement and construction activities; and
  - (g) Prepare the necessary documentation on procurement for future audit by the DWRI, Government regulatory authorities or ADB.
- (v) Preparation of bidding documents, bid process management, procurement and contract award for the civil works contracts as per feasibility study report and detailed design and for the works required for CBDRM**
  - (a) Prepare the bidding documents following ADB Procurement Policy - Goods, Works, non-consulting and consulting Services" and "Procurement regulations for ADB Borrowers – Goods, Works, Non-consulting and Consulting Services" amended time to time, and support PMU in all aspects of procurement;
  - (b) Assist PMU in bidding process management and all procurement activities in accordance with agreed procurement plan, Government regulations and ADB's requirements;
  - (c) Assist PMU in issuing invitation for bids, addendum/corrigendum, and clarifications to bidders' queries;

- (d) If required, assist in bid opening, bid evaluation and preparation of Bid Evaluation Reports and obtain ADB's no-objection, award of contract and signing of contract;
- (e) Prepare contract documentation to include letter of invitation, conditions of contract, specifications and requirements, design parameters; bills of quantities, safeguard documents, etc. in close coordination with the PMU;
- (f) Prepare the TOR, Budget and RFP for recruitment of potential consultants following "ADB Procurement Policy - Goods, Works, non-consulting and consulting Services" and "Procurement regulations for ADB Borrowers – Goods, Works, Non-consulting and Consulting Services" amended time to time, and support PMU in all aspects of recruitment;
- (g) Assist PMU in obtaining ADB's approval and all recruitment activities in accordance with agreed procurement plan, Government regulations and ADB's requirements;
- (h) Assist PMU in issuing Expression of Interest (EOI) and Request for Proposal (RFP) for CBDRM, addendum/corrigendum, and clarifications to firms' queries;
- (i) Assist in proposal opening, evaluation of EOI and Technical and Financial proposals, preparation of relevant submissions/reports and obtain ADB's no-objection, award of contract and signing of contract; and
- (j) Prepare a detailed implementation schedule and management plan covering all stages of the procurement and implementation process right from field survey and investigations to acceptance of finished work.

**(vi) Social, environmental, occupational health and safety aspects**

- (a) Ensure compliance with ADB safeguard requirement and project safeguard frameworks (Environmental Assessment Review Framework and Resettlement Framework)<sup>44</sup>
- (b) Prepare necessary safeguard documents for the construction works proposed in feasibility study report. Ensure necessary safeguard documents are included in the bidding documents;
- (c) Prepare stakeholder consultation strategy and plan for creating positive ownership on project activities and outputs;
- (d) Conduct consultation with all stakeholders and affected persons, collect MoUs for voluntary land donation and certification from relevant land revenue and survey offices for finalization of detailed design;
- (e) Review and update the Initial Environmental Examination (IEE) report, Environmental and Resettlement Framework (EARF) in respect of future packages prepared for the project; and prepare/update IEE accordingly; carry out disclosure as necessary during and after detailed designs;
- (f) Update the Environmental Management Plan (EMP) as necessary;
- (g) Assist in obtaining all necessary permissions and complying with statutory requirements as required prior to construction;
- (h) Ensure that all bidding documents and contract documents contain the EMP and such items are included in BOQ;
- (i) Prepare OHS Plan to be adopted for the project;

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<sup>44</sup> Asian Development Bank Safeguards Policy Statement (2009).

- (j) Provide technical inputs to ensuring GESI targets and approaches in stakeholder participation and consultation; and
- (k) Confirm the involuntary resettlement/indigenous peoples impacts based on detailed design and prepare or update social safeguards reports as required. Monitor and ensure compliance with the agreed principles of voluntary land donation.

**J. Team Composition and Qualification Requirements for the Key Experts (which will be used for evaluating the Key Experts under Data Sheet 21.1 of the ITC)**

64. **Team composition with estimated inputs.** The consulting firm's team will include two sub-teams: **Part A** – three International Key Experts (16 person-months), nine National Key Experts (95 person-months) and ten National non-Key Experts (262 person-months excluding those required for consultant's administrative, clerical and office staff) and **Part B** – two International Key Experts (6 person-months), five National Key Experts (24 person-months) and three national Non-Key Experts (16 person-months). The consulting firm will be engaged for a period of four years. The expert positions and their estimated inputs are provided in **Table 1** below. The Client expects proposals to be based on person-months estimated by the Client as specified in the RFP. Any other staff deemed necessary to fulfil the consultant's obligations shall be provided by the Consultant at its own cost. Only key experts will be evaluated during the proposal evaluation stage, but the Consultant is required to submit the CVs of non-key experts meeting the qualification requirements in the RFP for the Client's approval before concluding the contract.

**Table 1: Team Composition with Estimated Inputs**

**PART A–Construction Supervision (Time-Based)**

SI.	Position	Person month
<b>I.</b>	<b>International Key Expert</b>	
1	Team Leader cum River Engineer	12
2	Community Based Disaster Risk Management (CBDRM) Expert	3
3	Geotechnical/Design Engineer	1
	<b>International Key Expert Sub-Total</b>	<b>16</b>
<b>II.</b>	<b>National Key Expert</b>	
1	Deputy Team Leader cum Senior Contract Management Expert	34
2	Monitoring Expert	16
3	Design/Structural Engineering Expert	2
4	Financial Management cum Training Expert	12
5	Procurement Expert	1
6	Gender Equality and Social Inclusion Expert	3
7	Social Safeguard Expert	9
8	Environmental Safeguard Expert	9

Sl.	Position	Person month
9	Community Based Disaster Risk Management Expert	9
	<b>National Key Expert Sub-Total</b>	<b>95</b>
<b>III.</b>	<b>National Non-Key Experts</b>	
1	Construction Engineers (6 number x 36 months each)	216
2	MIS Technician	36
3	AutoCAD Expert	2
4	Quantity Surveyor cum Estimator	6
5	Survey and Mapping Expert	2
	<b>National Non-Key Expert Sub-Total</b>	<b>262</b>

**PART B–Detailed Design Preparation (Lump Sum)**

Sl.	Position	Person month
<b>I.</b>	<b>International Key Expert</b>	
1	Team Leader cum River Engineer	3
2	Geotechnical/Design Engineer	3
	<b>International Key Expert Sub-Total</b>	<b>6</b>
<b>II.</b>	<b>National Key Expert</b>	
1	Deputy Team Leader cum Senior Design Engineer	6
2	Design/Structural Engineering Expert (2 numbers)	12
3	Hydraulic Modelling Expert	4
4	Procurement Expert	2
	<b>National Key Expert Sub-Total</b>	<b>24</b>
<b>III.</b>	<b>National Non-Key Experts</b>	
1	AutoCAD Expert (2 numbers)	12
2	Survey and Mapping Expert	4
	<b>National Non-Key Expert Sub-Total</b>	<b>16</b>

65. For mobilization and demobilization of all international, national key and non-key experts for deployment, one-month prior PMU's written approval shall be a prerequisite.

66. PMU can mobilize or demobilize the key as well as non-key experts on a short notice as and when deemed necessary.

67. **Expected Qualification Requirements and Tasks Assigned to the Key and Non-Key Experts:** The Consulting firm is expected to propose adequately qualified and experienced

experts to undertake efficiently the assigned tasks and responsibilities. The tasks and responsibilities assigned and detailed educational qualification and experience requirement for the respective experts are reported below.

## **PART A–CONSTRUCTION SUPERVISION (Time-Based)**

### **I. International Consultants**

**68. Team Leader cum River Engineer (International):** The Team Leader cum River Engineer shall preferably have:

- (i) a post-graduate degree (master's degree or above) in Civil Engineering with a specialty in River Engineering or equivalent;
- (ii) an overall 15 years of working experience with 12 years of experience in river training works, canal/hydraulic structures, canal works projects; and experience in project development, processing management and implementation of river training works, particularly with ADB or World Bank projects shall have added advantage;
- (iii) sound knowledge of ADB policies and procedures and team leadership experience, in particular on ADB projects is desirable.

**Reporting:** The position will report to the Project Director, PMU.

**Scope of Work:** The Team Leader cum River Engineer will have overall responsibility for the project implementation, consultants' coordination, and the timely delivery of all outputs.

**Expected Tasks:** As Team Leader, the main outputs include:

- (xvi) Under PMU, the Team Leader will be responsible for overall project management and administration, advice on ADB's procedures and policies;
- (xvii) Coordinate all activities, including stakeholder participation where appropriate and coordination with DHM and the FFEWS consultants;
- (xviii) Prepare a detailed work plan for the project implementation and get it approved by PM;
- (xix) Manage the consultant team members, both international and national;
- (xx) Prepare the project preparation inception report;
- (xxi) Prepare the project implementation schedule and detailed implementation plan for approval by PMU;
- (xxii) Procurement and Bid process management, finalize bidding documents for CBDRM, ensure it complies with ADB standards and guidelines and obtain PMU and ADB approvals;
- (xxiii) Contract management, establishment of construction management and project performance monitoring system for various project activities;
- (xxiv) Manage effective construction supervision and quality control and monitoring,
- (xxv) Facilitate and support PMU/ADB during ADB missions;
- (xxvi) Organize and implement training to the executing and implementing agencies on project implementation and capacity building;
- (xxvii) Assist in resolving contractual issue;



- (xxviii) Suggest innovative measures that can be adopted for the better implementation of the projects in hands.
- (xxix) Preparation of progress and other reports as required; and
- (xxx) Ensures and develops a mechanism to see that all the staffs pay their 8-hour duty.

As River Engineer, the main tasks include:

- (xi) Oversee the project design, review the designs and drawings and other documents, conduct due diligence;
- (xii) In collaboration with the Deputy Team Leader/ Senior Design Engineer (National), and contractor develop an operation and maintenance manual for the completed embankment, spurs and outlets.
- (xiii) Work with the international and national experts in identifying locations and types of hydraulic structures for each of the balance sub-project, and in developing the engineering designs for the hydraulic structures required in each basin in the project;
- (xiv) Using information from the hydrologist and river morphologists, work with the international and national engineer to produce detailed designs for hydraulic structures on river basins in a number of balanced sub-projects amounting;
- (xv) Detailed engineering designs and cost estimates and specifications prior to tendering for procurement;
- (xvi) Provide guidance to the team members on carrying out all those tasks that are required to provide quality works as well as quality documents;
- (xvii) Guide the engineering survey team on the use of appropriate equipment to acquire the types of survey data required and how the survey data is to be recorded;
- (xviii) Guide the engineering drafters to produce detailed CAD designs for all infrastructure;
- (xix) Review the work of the national design engineer to estimate the type and quantity of materials required to build each structure; and
- (xx) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

69. **Geotechnical Engineer (International):** The expert shall preferably have:

- (iv) A master's degree in Civil Engineering/Geotechnical Engineering;
- (v) an overall 15 years of working experience with 10 years of experience in geotechnical engineering in water resources, river training projects and experience with GeoStudio or similar slope stability software; and
- (vi) experience in working in a similar geographical location.

**Reporting:** The position will report to the Team Leader and PMU.

**Scope of Work:** The Geotechnical Engineer will be responsible for all geotechnical tasks.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (x) Review of contractors geotechnical and soil investigation and ensure its adequacy;
- (xi) Adherence to international and national best practices;
- (xii) Identify if any additional geotechnical investigations are required for the detailed designed projects and support PMU with the recruitment of suitable contractor;
- (xiii) Supervise the work of the sub-contracted drilling sampling and testing services to ensure compliance with best geotechnical practice;
- (xiv) Review the available detailed design, stability and seismic hazard analyses, and comment on the various types of construction materials. If necessary, undertake additional stability analyses and improve the design for technical and/or financial reasons;
- (xv) Complete detailed design, stability and seismic hazard analyses, for remaining subprojects. Undertake stability analyses and improve the design for technical and/or financial reasons;
- (xvi) Establish the need for foundation treatment measures as required and the availability of local construction materials and review the appropriate material parameters to be applied in the analysis and design of the works;
- (xvii) Training of PIU staff on geotechnical aspect, if required; and
- (xviii) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**70. Community Based Disaster Risk Management (CBDRM) Expert (International):**The expert shall preferably have:

- (iv) a graduate degree, with post graduate degree in community development, social studies, governance, disaster risk mitigation/ management or related field;
- (v) an overall 15 years of working experience with 12 years of experience in community- based disaster risk mitigation/management, development planning, disaster control administration or related field; and
- (vi) sound knowledge of ADB policies and procedures, and knowledge on Disaster Management Act of Nepal will be an advantage.

**Reporting:** The position will report to the Team Leader and PMU.

**Scope of Work:** The CBDRM Expert will be responsible for supporting the implementation, management and administration of CBDRM activities and supervise the performance of CBDRM consulting firm.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (xii) The Community-Based Disaster Risk Management (CBDRM) Expert shall be responsible for stakeholder consultation and identification of the need for CBDRM activities at all three levels – national, provincial and local;
- (xiii) Preparation of detailed implementation schedule for PMU's approval;

- (xiv) Preparation of TOR, including training and small-scale mitigation works and livelihood requirements;
- (xv) Prepare the budget and RFP for the recruitment of one or more local NGOs/Community Based Organizations (CBOs) to implement CBDRM activities in accordance with the project proposal;
- (xvi) Assist the PMU in issuing EOI, RFP, addendum/corrigendum and clarifications to firms' queries;
- (xvii) Assist the PMU in obtaining ADB's approval in all recruitment activities in accordance with the agreed procurement plan, government regulations and ADB's requirements;
- (xviii) Support in proposal opening, evaluation of EOI, and Technical and Financial proposals, preparation of relevant submissions/reports, and obtaining ADB's no-objection for awarding of contract and signing of contract;
- (xix) Prepare contract documentation;
- (xx) Oversee the performance of CBDRM consulting firm and other local NGOs/CBOs to implement CBDRM activities;
- (xxi) Identify the potential risks and propose advance corrective action in time; and
- (xxii) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks, and therefore, the candidate should possess good health and be physically able to undertake such field visits.

## II. National Consultants

71. **Deputy Team Leader cum Senior Contract Management Expert (National):** Deputy Team Leader cum Contract Management Expert shall preferably have:

- (iv) a master's degree in Civil Engineering, with added qualification in River Engineering, Water Resources Management, Project or Construction Management or Hydraulics/Structural Engineering or related fields;
- (v) overall 15 years of working experience with 12 years of experience as Project Manager/Assistant Project Manager and contract administration particularly related to river training works, canal/hydraulic structures, canal works projects; and
- (vi) experience in similar capacity and sound knowledge of ADB policies and procedures, small works contract conditions, contract management, arbitration and dispute management. Experience in working on externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Team Leader and PMU.

**Scope of Work:** Deputy Team Leader cum Contract Management Expert will be responsible for establishing coordination, overall project management, advice on ADB's policies and procedures, and contract administration.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (xviii) Support in project management during design and construction stage;

- (xix) Coordination in data collection, design, construction supervision, quality control and monitoring;
- (xx) Coordination among various stakeholders and agencies viz. PMU, DHM, FFEWS Consultant, CBDRM Consultant, etc.;
- (xxi) Establishment of effective construction management and project performance monitoring system;
- (xxii) Monitor activities and progress of various works contractors and consulting firms;
- (xxiii) Ensure adequate documentation on contract administration, progress, time and cost control, variations and change orders, billing and payments to the contractors;
- (xxiv) Exercise efficient contractual control on the contracts and minimize the cost over-run and time over-run; establish the 'S' curve and monitor the progress and proactively advise the contractor through PMU;
- (xxv) Timely review and advise on the settlement of contractor's claims;
- (xxvi) Ensure safety at workplaces, progress of works, billing & payments to the contractors;
- (xxvii) Preparation and maintenance of contractual correspondence and documentation;
- (xxviii) Provide inputs for managing and support in time and cost control;
- (xxix) Assist in resolving contractual issue and dispute resolutions during implementation;
- (xxx) Ensure timely completion and delivery of monthly, quarterly, annual and Project Completion Reports;
- (xxxi) Identification and developing related training programs and impart training as and when required;
- (xxxii) Ensure that all the staffs fulfill their daily minimum hour duty and
- (xxxiii) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.
- (xxxiv) Act as Team Leader in the absence of Team Leader.

**72. Monitoring Expert (National):** The expert shall preferably have:

- (iv) a graduate degree in Civil Engineering, with added qualification in Construction/Project Management, Quality assurance or post-graduate (masters) degree in Civil/Hydraulics/Structural Engineering, Geotechnical Engineering or related fields;
- (v) an overall 15 years of working experience with 12 years of experience in construction and supervision activities related to river training works, canal/hydraulic structures, canal works projects; and
- (vi) experience in similar capacity and sound knowledge of contract management and experience in small works contract conditions, experience in computer-based contract management tools shall be preferred. Experience in externally funded projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Construction Supervision cum Quality Control Expert will be responsible for the overall construction management, quality assurance/control and administration of multiple contracts and assist in coordinating with the FFEWS.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (ix) Diligently supervise the construction activity during the implementation of the work;
- (x) Provide training on best practices in quality assurance and quality control (QA/QC) in construction activities;
- (xi) Assist in construction management, contract management and performance monitoring of various contractors;
- (xii) Support in preparing progress reports, as built drawings and provide necessary information from time to time;
- (xiii) Ensure adequate documentation on QA/QC, site data, variations, progress and other contractual matters;
- (xiv) Ensure safety at works and compliance with ADB's safeguard policies and procedure, and applicable laws of Nepal;
- (xv) Assist in resolving contractual issues;
- (xvi) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**73. Design/Structural Engineering Expert (National):** The expert shall preferably have:

- (iv) a graduate degree in Civil Engineering, with added qualification of post-graduate(masters) degree in Structure Engineering;
- (v) an overall 15 years of working experience with 10 years of experience in areas of engineering design of hydraulic structures, particularly that used for river control and flood protection; and
- (vi) experience in similar capacity and sound knowledge of design softwares, preparing detailed CAD drawings, estimating quantities of materials for construction of hydraulic structures, ADB policies and procedures, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Design/Structural Engineering Expert will be responsible for adequacy of overall structural designs for each structure to be constructed for the works packages under the civil works contracts as per feasibility study report, change orders and for the works required for community-based disaster risk management (CBDRM).

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (viii) Will be responsible for delivery of final detailed engineering designs for each structure to be constructed for the works packages under the civil works contracts as per feasibility study report and for the works required for CBDRM;
- (ix) The designs and engineering details/drawings shall be based on the best engineering practice and acceptable to ADB for inclusion in the bidding documents;
- (x) Provide instruction and guide the engineering drafters to produce detailed CAD designs for all related structures;
- (xi) Assist the procurement expert and quantity surveyor in estimating the costs for each structure, obtain PMU approvals on the detailed engineering designs and cost estimates prior to commencement of bidding process;
- (xii) Assist the procurement expert in finalizing the technical specifications;
- (xiii) Address the design changes required during the implementation of the Project related to all ongoing packages and ensure timely delivery of modified designs;
- (xiv) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**74. Financial Management cum Training Expert (National):** The expert shall preferably have:

- (iv) a recognized professional accountancy qualification (e.g., CPA, CA or equivalent) or equivalent in related fields;
- (v) an overall 15 years of working experience with 12 years of experience in financial management and training/capacity building on infrastructure investment projects; and
- (vi) experience in similar capacity and sound knowledge of ADB policies and procedures and experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The objective of the services is to strengthen the financial management capacity of the Department of Water Resources and Irrigation (DWRI) and Department of Hydrology and Meteorology (DHM) and the respective Project management units (PMUs) in implementing ADB-assisted Priority River Basin Flood Risk Management Project to ensure:

- (iii) all project funds are used for the intended purpose and with due attention to considerations of economy and efficiency; and
- (iv) full compliance with ADB's financial management and disbursement requirements as well the financial covenants of the loan and project agreement.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (xix) Provide support to the project's financial staff to ensure they are aware of their duties and the relevant sections of project documents including the (a) Loan and project agreements;(b) Project Administration Manual; (3) ADB's loan disbursement handbook; as well the (4) national and ADB's Anti-Corruption Policy and whistle blowing mechanisms;
- (xx) Provide capacity building to the PMUs in accounting and financial management and ADB's systems and procedures;
- (xxi) Assist the PMU/PIUs in preparing annual budget estimates and in maintaining proper budget controls as well as in monitoring budget execution;
- (xxii) Support the PMU/PIUs in ensuring compliance with the financial covenants outlined in the ADB loan/grant agreement;
- (xxiii) Support the PMU/PIUs in implementing the Financial Management Action Plan (FMAP) as agreed with ADB and outlined in the Project Administration Manual;
- (xxiv) Review the adequacy and effectiveness of internal controls and make recommendations for improving systems and tools including the areas of accounting software; segregation of duties; level of authorization; written financial management procedures as well as monitoring and reporting;
- (xxv) Support the PMU in ensuring that (a) all payments are duly prepared, reviewed, authorized, and recorded in the accounting system correctly and in a timely manner; and (b) all expenditure items meet the eligibility criteria as defined in the ADB financing agreement, and are supported by adequate documentation (invoice, contracts, evidence of payments etc..) as outlined in the ADB disbursement handbook;
- (xxvi) Conduct quarterly analysis of account balances in the General Ledger and verification of trial balance and advise the PMU on necessary corrections and adjusting entries (omissions, coding errors, double-counting, etc.) as required;
- (xxvii) Conduct periodic analysis and follow-up on outstanding advances;
- (xxviii) Conduct an analysis of the financial execution of the approved budget (budget-to-actual by activity) as well as financial vs physical progress. Analyze and document any significant variations;
- (xxix) Support the project in conducting quarterly reconciliation of the project disbursement records and ADB's disbursement data available in the LFMIS to ensure the correctness and completeness of the project records. Follow-up on any discrepancies to ensure these are resolved in a prompt manner;
- (xxx) Support the PMUs in conducting monthly reconciliations of all project bank accounts including the advance accounts and subaccounts. Analyze and follow-up on all reconciliation items;
- (xxxi) Support the PMU in maintaining an up-to-date fixed asset register covering all assets constructed and purchased under the project;
- (xxxii) Assist the PMU in preparing withdrawal applications and in collection and filing of all supporting documentation in accordance with ADB loan disbursement handbook;
- (xxxiii) Assist the PMU in: (a) preparing quarterly financial reports and project annual financial statements in the agreed format and in a timely fashion as well as (b) reconciling the project accounts with the ADB disbursement data to ensure that all funds disbursed by ADB are correctly reflected in the periodic financial reports and the project financial statements;
- (xxxiv) Support the PMU in ensuring that all financial records are orderly filed, physically stored in a safe location (flood and fireproof), and electronically

backed-up daily/weekly on an external server or hard drive and updated regularly;

- (xxxv) Support the project in the follow-up of internal and external audit recommendations to further improve the internal controls of the project; and
- (xxxvi) Assist the project in implementing financial recommendations as agreed between the project and ADB during review mission.

**75. Procurement Expert (National):** The expert shall preferably have:

- (iv) a graduate degree in Civil Engineering, with added post-graduate in Law/ Financial Management/ Contract Management/ Civil Engineering/Hydraulics/Structural Engineering or related fields;
- (v) an overall 15 years of working experience with 10 years of rich experience in contract procurement of works or goods or consulting services; and
- (vi) experience in similar capacity and sound knowledge of small works contracts, conditions of contract, arbitration and dispute management, ADB policies and procedures, and experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Procurement Expert will be responsible for the bid process management, procurement of the balanced civil works contracts and for the works required for community-based disaster risk management (CBDRM).

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (viii) Ensure adequate procurement process in compliance with ADB and Government rules and regulation;
- (ix) Preparation of bidding document for the balanced civil works contracts and for the works required for community-based disaster risk management (CBDRM);
- (x) Assist PMU in obtaining ADB's no-objection;
- (xi) Assist in issuance of IFB, receiving and opening of bids and bid evaluation process;
- (xii) Contribute towards bid evaluation under the supervision of PMU, and assist in finalization of bid evaluation report and obtaining ADB's no-objection;
- (xiii) Ensure proper bid submission by the successful bidder and assist in contract award;
- (xiv) The task of the expert envisages frequent field visits to works locations spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**76. Gender Equality and Social Inclusion Expert (National):** The expert shall preferably have:

- (vi) a master's degree or equivalent in social sciences, gender and development studies, gender and disaster risk management or another relevant discipline;



- (vii) an overall 12 years of working experience with 10 years of experience working on gender equality and social inclusion; experience undertaking gender assessment – including apply gender sensitive participatory methods for data collection, gender analysis and report writing in projects and programs; experience delivering gender sensitization training and monitoring and evaluation of gender equality and social inclusion targets;
- (viii) knowledge or experience of integrating gender equality and social inclusion activities in projects related to rural development, climate change and flood disaster;
- (ix) knowledge of ADB gender procedures/policies and/or experience working on gender in multi-lateral funded infrastructure projects shall have added advantage; and
- (x) The task of the expert envisages frequent field visits to works locations spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits. Women are encouraged to apply.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Gender Equality and Social Inclusion (GESI) Expert will be responsible for overseeing implementation, monitoring and evaluation of the project GESI Action Plan. The GESI Expert will ensure that all project data recorded in the MIS is sex-disaggregated and relevant socio-economic baseline database for tracking GESI indicators included. The GESI Expert will work closely with all project stakeholders, including the executing and implementing agencies, contractors and affected peoples to promote a culture of gender equality and social inclusion.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (vi) Review project commitments to gender equality and social inclusion within project documents. GESI commitments and intentions can be found in the project's (a) Project Administration Manual; (b) Poverty and Social Assessment; (c) Gender Equality and Social Inclusion Action Plan; (iv) Stakeholder Communications Strategy; and other;
- (vii) Establish GESI baseline and monitoring indicators. Ensure GESI indicators are integrated into the project's MIS. Ensure that all data collected about local stakeholders in MIS are sex disaggregated and participation of excluded and vulnerable people including indigenous people and differently abled are tracked;
- (viii) Implement and/or support the responsible party (PMU/Contractors/NGO) to implement all activities and targets in the GESI action plan;
- (ix) Monitor and report on GESI action plan activities in the project's quarterly progress reports (QPRs). Specifically, report on progress towards achieving GESI targets and any activities completed by the project that promote gender equality and social inclusion; and
- (x) Provide recommendations within the QPRs on how to better promote gender equality and social inclusion in all project activities.

**77. Social Safeguard Expert (National):** The expert shall preferably have:

a master's degree or equivalent in social sciences, development studies, social impact assessment or another relevant discipline;

- (v) an overall 12 years of working experience with 10 years of experience working on social impact management; specifically with respect to safeguarding project affected peoples' interest and rights as per the international safeguard policies on Involuntary Resettlement and Indigenous Peoples;
- (vi) knowledge of ADB's Safeguards Policy Statement (2009) Safeguard II: Involuntary Resettlement and Safeguard III Indigenous Peoples.
- (vii) knowledge and understanding of Nepal Indigenous Peoples and Land Acquisition regulatory framework, policies and procedures an advantage;
- (viii) experience producing and implementing safeguard plans and due diligence reports, including identifying corrective actions, monitoring and evaluating implementation in ADB/World Bank or any multi-lateral funded project in Nepal, preferably in rural areas.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Social Safeguard Expert will be responsible for overall implementation, monitoring and reporting on the project's adherence to ADB's Safeguard Policy Statement (SPS) on Involuntary Resettlement and Indigenous Peoples as well as adherence to the Government of Nepal's own land acquisition and indigenous peoples laws, policies, standards and guidelines. Social Safeguard Expert will ensure that all agreed actions and safeguards plans and/or reports are updated, implemented and monitored as per the project's commitment in the Project Administration Manual and loan covenants. The Expert will provide guidance and training to PMU on ADB SPS 2009 and Government of Nepal safeguard requirements and ensure contractors and other implementing stakeholders comply with agreed actions.

**Expected Tasks:** The main tasks related to the position shall include, but are not limited to:

- (xiv) Review all safeguards provisions that relate to involuntary resettlement and indigenous peoples safeguards within the project documents, including, but not limited to, the Project Administration Manual, Poverty and Social Assessment, Gender Equality and Social Inclusion action plan, social safeguards related frameworks, plans and/or due diligence reports.
- (xv) Ensure that all institutional arrangements for implementing the IR and IP safeguard measures are in place; including a functioning PMU/PIC, an established grievance redress mechanism (GRM), information pamphlets and other materials to support information sharing with affected persons and beneficiaries.
- (xvi) Information sharing and meaningful consultation. Facilitate regular consultation sessions with the beneficiary communities, local leaders,

proponents, and stakeholders including indigenous people (IPs) and potentially displaced people (DPs) and project staff (e.g. field engineers) so that DPs can voice concerns about the project design and ask questions. Ensure that project information is shared with DPs on a regular basis, including about the (a) project, (b) implementation schedule, (c) affected people's entitlements under the project, (d) how to access the GRM.

- (xvii) Verify and update social safeguards plans/reports to reflect detailed design and the cadastral maps. Verify and update all safeguard plans per sub-basins based on the detailed design of each sub-basin. Work closely with the design engineers and government line agencies (land department, ward members and other authorities) to verify the affected persons. Undertake a census with 100% of displaced people based on final design of subprojects, to finalize inventory of losses, record percentage of economic losses and confirm vulnerable groups. Identify entitlements as described in ADB's SPS;
- (xviii) Implement safeguard plans/reports in consultation with affected people ahead of civil works. Support the PMU and PIUs to track the provision of entitlement packages and cash compensation (if any). As per ADB's requirement, compensations and/or mechanisms to deliver all assistance must be provided or in place ahead of civil works. Ensure that the mechanism for providing compensations/assistance is well documented, using third party verification for accountability.
- (xix) Support the PMU and PIUs to implement any corrective actions identified by the independent external party which is responsible for verifying that donation of land use is voluntary and that negotiated settlements and/or voluntary donations do not severely affect the living standards of the displaced persons and will benefit them directly.
- (xx) Conduct safeguards training for the executing and implementing agencies on implementation of the project's land acquisition/use and indigenous peoples plans/reports;
- (xxi) Work with the PMU, PIUs and technical colleagues to ensure inclusive outcomes with IPs are attained for the CBDRM and flood shelter objectives. Assist the CBDRM NGO to assess land access options with local communities and prepare plans or due diligence reports for all subproject basins as per SPS 2009.
- (xxii) Assist the PMU and PIUs in establishing effective grievance redress mechanisms for all project related grievances, including mechanisms to ensure that IPs have culturally appropriate mechanisms for reporting of complaints, follow-up actions, and results;
- (xxiii) Assist the PMU and PIUs in establishing an internal monitoring and reporting system for safeguards implementation;
- (xxiv) Assist the PMU to monitor compliance with the safeguards plans/reports, assess key implementation issues, formulate remedial measures, and assist them in conducting follow-up actions;
- (xxv) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits; and
- (xxvi) Complete other relevant tasks related to land access and IP requirements as directed by the Deputy Team Leader.

78. **Environmental Safeguard Expert (National):** The expert shall preferably have:

- (iv) a graduate degree in Civil or Environmental Engineering/Science, with added qualification of post-graduate (masters) in Environmental Engineering/ science or related field;
- (v) an overall 15 years of working experience with 10 years of experience in preparation or implementation of Environmental Management/Monitoring Plans. Demonstrated experience in Environmental Impact Assessment (EIA) including water infrastructure investment project and knowledge of best engineering practice and approaches and experience in similar capacity on river/canal/flood control projects and shall be of added advantage; and
- (vi) sound knowledge of ADB policies and procedures, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Environmental Safeguard Expert will be responsible for overall management and implementation of environmental management and monitoring plan, and organization of training seminars regarding the environmental requirements.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (x) Conduct site visits, undertake and/or supervise the environmental monitoring and management plans;
- (xi) Prepare and implement/supervise the Environmental Safeguard Action Plan;
- (xii) Prepare detailed guidelines and procedures for compliance with IEE and/or Environmental Management Plan (EMP);
- (xiii) Prepare due diligence reports;
- (xiv) Provide inputs on procurement and bidding process;
- (xv) Assist in construction supervision and compliance with the ADB Safeguard requirements;
- (xvi) Coordinate among various stakeholders and agencies;
- (xvii) Ensure timely submission of reports on safeguard compliance as per ADB Safeguard Policies, and assist in timely preparation and quality submission of various reports as per requirements;
- (xviii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**79. Community Based Disaster Risk Management (CBDRM) Expert (National):**The expert shall preferably have:

- (iv) a graduate degree in Civil Engineering, with post-graduate degree in community development, social studies, governance, disaster risk mitigation/management or related field;

- (v) an overall 15 years of experience with 12 years of experience in community-based disaster risk mitigation/management, development planning, disaster control administration or related field; and
- (vi) sound knowledge of ADB policies and procedures, Disaster Management Act of Nepal, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The CBDRM Expert will be under the guidance of international CBDRM Expert, the expert will be responsible for supporting in the implementation, management and administration of CBDRM activities and assist in supervising the performance of CBDRM consulting firm.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (xii) The expert shall obtain guidance and advise from the international CBDRM expert and be responsible for stakeholder consultation and identification of the need for CBDRM activities;
- (xiii) Under the supervision of international CBDRM expert, assist in preparation of detailed implementation schedule;
- (xiv) Assist in preparation of TOR, including training and small-scale mitigation works and livelihood requirements;
- (xv) Prepare the budget and RFP for the recruitment of one or more local NGOs/CBOs to implement CBDRM activities in accordance with the project proposal;
- (xvi) Assist the PMU in issuing EOI and RFP, addendum/corrigendum and clarifications to firms' queries;
- (xvii) Assist the PMU in obtaining ADB's approval in all recruitment activities in accordance with the agreed procurement plan, government regulations and ADB's requirements;
- (xviii) Support in proposal opening, evaluation of EOI, and technical and financial proposals, preparation of relevant submissions/reports, and obtaining ADB's no-objection for awarding of contract and signing of contract;
- (xix) Assist in compilation and preparing contract documentation;
- (xx) Oversee the performance of CBDRM consulting firm and other local NGOs/CBOs to implement CBDRM activities;
- (xxi) Identify the potential risks and propose advance corrective action in time;
- (xxii) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks, and therefore, the candidate should possess good health and be physically able to undertake such field visits.

80. **Construction Engineers (National Non-Key Experts):** The engineers shall preferably have:

- (iii) a graduate degree in Civil Engineering; and

- (iv) an overall 10 years of working experience with 5 years of relevant experience in construction supervision/management, quality control, contract administration of infrastructure projects.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert, and to the Construction Supervision cum Quality Control Expert and respective PIU

**Scope of Work:** The Construction Engineers will ensure quality assurance/control (QA/QC) and supervise the construction activity diligently during the implementation of the work. They will be based in the field in each of the six PIU field offices.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (xii) Seek instructions from Monitoring Expert/DTL on construction supervision, quality assurance/control, and on ADB's safeguard policies and procedure.
- (xiii) Supervise the construction activity diligently during the implementation of the work;
- (xiv) Provide inputs for contract administration of multiple contracts;
- (xv) Provide inputs for preparing daily reports on construction progress and completion;
- (xvi) Provide inputs towards assistance in resolving contractual issue;
- (xvii) Ensure safety at works and compliance;
- (xviii) Hold community consultation meetings to inform local people about the embankment design and rational and to answer questions related to the technical aspects of the project.
- (xix) Verify the work-progress as per agreed Time schedule
- (xx) Conduct the laboratory test in personal and report the results to Monitoring Expert/DTL
- (xxi) Monitor the progress keeping in mind the time over-run and cost over-run.
- (xxii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

81. **AutoCAD Expert (National Non-Key Experts):** The expert shall preferably have:

- (iii) a diploma/certificate in Civil Engineering or higher Engineering Degree with adequate certification/training in AutoCAD ; and
- (iv) an overall 10 years of working experience with 5 years of relevant experience in development of AutoCAD drawings of civil engineering

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The AutoCAD Expert, under the guidance of subject experts and the Deputy Team Leader cum Contract Management Expert, will prepare AutoCAD drawings for balanced civil works packages, shelter houses for putting into the balanced Bidding Documents for works, and prepare AutoCAD drawings for change orders as required.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (v) Assist in development of AutoCAD drawings for the civil works packages as per detailed designs for balanced works contracts, and for the works required for community-based disaster risk management (CBDRM);
- (vi) The designs/drawings shall be produced on a CAD system and be suitable for tendering for construction of infrastructure works;
- (vii) Assist in preparation of Bidding documents; and
- (viii) Assist in the development of drawings during the construction stage, to manage design changes, change orders and variations.

82. **Survey and mapping experts (National Non-Key Expert):** The experts shall preferably have:

- (iv) a graduate degree in Civil Engineering, with advance qualification in using sophisticated surveying equipment(LiDAR), data handling, 3D mapping etc;
- (v) an overall 15 years of working experience with 12 years of experience in conducting survey related to rivers/canals/roads/railways etc; and
- (vi) experience in similar capacity and use of advance technologies and equipment (LiDAR), data handling, 3D mapping etc, data analysis and producing maps. Experience and sound knowledge of ADB policies and procedures, experience in river training works/hydraulic infrastructure projects will be an advantage.

**Reporting:** The position will report to the Team Leader cum River Engineer.

**Scope of Work:** Survey and mapping experts will be responsible for carrying out topographical/land surveying activities (3D), data analysis and producing mapping using advance technology. Guide national Survey and Mapping Expert in conducting surveys and mapping.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (ix) Carry out cadastral survey for reference and cross-checking;
- (x) Carry out topographical survey in the basins and data analysis;
- (xi) Ensure safe keeping of survey data maps, flight index, survey reports, etc.;
- (xii) Compile data and report on the conditions of stations and benchmarks on the ground;
- (xiii) Provide inputs for design and implementation of FFEWS activities;
- (xiv) Engage in various office activities such as submission of field records, digitization, plotting and printing of documents for field reference and fair drawing;
- (xv) Contribute inputs towards the finalization of designs for the remaining sub-projects; and
- (xvi) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**83. Quantity Surveyor cum Estimator (National Non-Key Experts):** The Quantity Surveyor cum Estimator shall preferably have:

- (iii) a graduate degree in Civil Engineering; and
- (iv) an overall 10 years of working experience with 5 years of relevant experience in quantity surveying, rate analysis, estimation and costing and finalization of Bill of Quantities (BOQ) of civil works contracts.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Quantity Surveyor cum Estimator, under the guidance of the Deputy Team Leader cum Contract Management Expert, will be responsible in preparing and finalizing the rate analysis, detailed estimate and Bill of Quantities for balanced civil works packages, shelter houses for putting into the balanced Bidding Documents for works, and. preparing detailed estimate for change orders as required.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (vi) Be responsible for quantity surveying, rate analysis, estimation and costing and finalizing of Bill of Quantities (BOQ) of balanced civil works packages as per detailed designs and drawings;
- (vii) Prepare quantity surveying, rate analysis, estimation for the works required for community-based disaster risk management (CBDRM);
- (viii) Ensure that the BOQ prepared shall be suitable for tendering for construction of infrastructure works;
- (ix) Assist Deputy Team Leader cum Contract Management Expert in preparing Bidding documents;
- (x) Assist in costing during the construction stage, manage design changes, change orders and variations.

**84. MIS Technician (National Non-Key Expert):** The technician shall preferably have:

- (iii) a bachelor's degree in any discipline; and
- (iv) an overall 10 years of working experience with 7 years of relevant experience in MIS and GIS development, use and maintenance. Good knowledge of English is required.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The MIS Technician, under the guidance of Deputy Team Leader cum Contract Management Expert, will be responsible for data entry of selected parameters of the automated system and project implementation progress and document management in PMU and set-up a database of available information and set-up a system for easy retrieval.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:



- (viii) Develop program management and tracking system, using commonly available computer software to schedule and monitor all aspects of activities including but not limited to construction activities, payment and disbursements;
- (ix) Assist in development and use of Information Technology (IT) based Project Performance Management Evaluation tool to monitor and evaluate implementation of the project;
- (x) Data entry of selected parameters of the automated system and project implementation progress;
- (xi) Document management in PMU and set-up a database of available information and set-up a system for easy retrieval;
- (xii) Conduct MIS training to PIUs;
- (xiii) Computer hardware and software technical assistance to PIUs; and
- (xiv) Provide troubleshooting for daily use of system.

85. **Support Staff:** The Consulting firm will be required to deploy suitably qualified and experienced additional secretarial/managerial/office staff as deemed fit for timely delivery of deliverables and for smooth operation of office function. As a minimum, the consulting firm shall deploy the following support staff:

- (iii) One office secretary (for documentation and record keeping); and
- (iv) One coordinating assistant (for coordination and resource management for smooth functioning of PIC).

86. The consulting firm shall keep in mind that no separate payments shall be made for such staff and the cost of support staff shall be deemed covered in out-of-pocket expenses.

## **PART B–DETAILED DESIGN PREPARATION**

### **IV. International Consultants**

87. The team of international Key Experts required for Part B: Detailed Design comprising i) Design Team Leader cum River Engineer and ii) Geotechnical/Design Engineer will remain the same as proposed for Part A: Construction Supervision.

88. However, there shall be two different teams of national Key Experts for Part A and Part B. National Key Experts proposed for Part A shall not be proposed for Part B. Any repetition will lead to disqualification of that Key Expert and his/her CV will be excluded from further evaluations.

### **V. National Consultants (Key)**

89. **Deputy Team Leader/ Senior Design Engineer (National):** The Deputy Team Leader/Design Engineer will preferably have:

- (iv) a graduate degree in Civil Engineering, preferably with a post-graduate (masters) degree in civil/hydraulics/structural engineering or related fields;
- (v) an overall 15 years of working experience with 12 years of experience as Project Manager/Deputy Project Manager and detailed design experience particularly related to river training works, canal/hydraulic structures, canal works projects; and

- (vi) experience in similar capacity and sound knowledge of ADB policies and procedures, small works contract conditions, and contract management. Experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Design Team Leader and PMU.

**Scope of Work:** The Deputy Team Leader cum Design Engineer will be responsible for establishing coordination, overall project management, advice on ADB's policies and procedures, and contract administration.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (x) Support in project management during design stage;
- (xi) Coordinate in data collection, design, and monitoring of the whole task of producing quality design report and cost estimate;
- (xii) Coordinate among various stakeholders and agencies viz. PMU, DHM etc.;
- (xiii) Monitor activities and progress of various design activities and surveys;
- (xiv) Provide inputs for managing and support in time and cost control;
- (xv) Ensure timely completion and delivery of monthly, quarterly, annual and Project Completion Reports;
- (xvi) Support the international team leader/river engineer to develop an operation and maintenance manual for the completed embankment, spurs and outlets.
- (xvii) Identify and develop related training programs and impart training as and when required;
- (xviii) The expert is required to undertake frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

90. **Design/Structural Engineering Expert (National):** The expert shall preferably have:

- (iv) a graduate degree in Civil Engineering, with added qualification of post-graduate(masters) degree in Hydraulic Structure Engineering;
- (v) an overall 15 years of working experience with 12 years of experience in areas of engineering design of hydraulic structures, particularly that used for river training and flood control ; and
- (vi) experience in similar capacity and sound knowledge of design softwares, preparing detailed CAD drawings, estimating quantities of materials for construction of hydraulic structures, ADB policies and procedures, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The Design/Structural Engineering Expert will be responsible for adequacy of overall structural designs for each structure to be constructed for the works

packages under the civil works contracts as per Feasibility study (FS) report, change orders and for the works required for community-based disaster risk management (CBDRM).

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (vii) Will be responsible for the delivery of final detailed engineering designs for each structure to be constructed for the works packages under the civil works contracts as per Feasibility study (FS) report and for the structural works required for community-based disaster risk management (CBDRM);
- (viii) The designs and engineering details/drawings shall be based on the best engineering practice and acceptable to PMU and ADB for inclusion in the Bidding documents;
- (ix) Provide instruction and guide the survey team to acquire necessary field data based on which the detailed engineering designs will be prepared, and instruct engineering drafters to produce detailed CAD designs for all related structure;
- (x) Assist the Procurement Expert and Quantity Surveyor in estimating the costs for each structure, obtaining PMU/DWRI approvals on the detailed engineering designs and cost estimates prior to commencement of bidding process;
- (xi) Assist the procurement expert in finalizing the technical specifications; and
- (xii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits. /

**91. Hydraulic Modelling Expert (National):** The expert shall preferably have:

- (iv) a graduate degree in Civil Engineering, with added qualification of post-graduate (masters) degree in Hydrology, Water Resources Engineering or related fields;
- (v) an overall 15 years of working experience with 10 years of experience in areas of hydrological studies, modelling and estimating flows, detailed hydraulic designs, particularly that used for river control and flood protection; and
- (vi) experience in similar capacity and sound knowledge of design/modelling softwares, preparing hydraulic designs and running hydraulic models, estimating flows. Knowledge of ADB policies and procedures, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Design Deputy Team Leader cum Design Engineer.

**Scope of Work:** The Hydraulic Modelling Expert will be responsible for adequacy of hydraulic model, collecting data, and conducting analysis that will determine optimal types and locations of structures that will control and train a river to reduce the amount of soil loss and bank scouring.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (vii) Collect, process and analyze hydraulic data;
- (viii) Carry out hydrological studies and update the hydrological analysis and data in the Feasibility Study reports;

- (ix) In close coordination with the FFEWS Expert and DHM, facilitate and assist in determining optimum locations for installation of hydrological observational equipment;
- (x) Assist and supervise the installation of hydrological observational equipment;
- (xi) Review Feasibility Study Report and confirm design data based on catchment area.
- (xii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

**92. Procurement Expert (National):** The expert shall preferably have:

- (iv) a graduate degree in Civil Engineering, with added postgraduate in Law/ Financial Management/ Contract Management/Civil /Hydraulics/Structural Engineering or related fields;
- (v) an overall 15 years of working experience with 12 years of rich experience in contract procurement of works or goods or consulting services; and
- (vi) experience in similar capacity and sound knowledge of small works contracts conditions of contract, arbitration and dispute management, ADB policies and procedures, experience working in externally funded infrastructure projects shall have added advantage.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert and PMU

**Scope of Work:** The Procurement Expert will be responsible for bid process management, procurement of the balanced civil works contracts and for the works required for community-based disaster risk management (CBDRM).

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (viii) Ensure adequate procurement process in compliance with ADB and Government rules and regulation;
- (ix) Prepare bidding document for the balanced civil works contracts and the CBDRM works contract.
- (x) Assist PMU in obtaining ADB's no-objection;
- (xi) Assist in issuance of IFB, receiving and opening of Bids and bid evaluation process
- (xii) Contribute towards bid evaluation under the supervision of PMU, and assist in finalizing bid evaluation report for all the works undertaken by the PMU and obtaining ADB's no-objection;
- (xiii) Ensure proper bid submissions by the successful bidder and assist in contract award.
- (xiv) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

## VI. National (Non-Key Experts)

93. **AutoCAD Expert (National Non-Key Expert):** The expert shall preferably have:

- (iii) a diploma/certificate in Civil Engineering or higher Engineering degree with adequate certification/training in AutoCAD ; and
- (iv) an overall 10 years of working experience with 5 years of relevant experience in development of AutoCAD civil engineering drawings.

**Reporting:** The position will report to the Deputy Team Leader cum Contract Management Expert.

**Scope of Work:** The AutoCAD Expert, under the guidance of subject experts and the Deputy Team Leader cum Contract Management Expert, will prepare AutoCAD drawings for the balanced civil works packages, shelter houses for putting into the balanced Bidding Documents for works. Prepare AutoCAD drawings for change orders as required.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (v) Assist in developing AutoCAD drawings for the civil works packages as per detailed designs for balanced works contracts, and for the works required for community-based disaster risk management (CBDRM);
- (vi) The designs/drawings shall be produced on a CAD system and be suitable for tendering for construction of infrastructure works;
- (vii) Assist in preparing Bidding documents;
- (viii) Assist in developing drawings during the construction stage, to manage design changes, change orders and variations.

94. **Survey and Mapping Experts (National Non-Key Experts):** The experts shall preferably have:

- (iv) a graduate degree in Civil Engineering, with advance qualification in using sophisticated surveying equipment's (LiDAR), data handling, 3D mapping etc;
- (v) an overall 15 years of working experience with 12 years of experience in conducting survey related to rivers/canals/roads/railways etc; and
- (vi) experience in similar capacity and use of advance technologies and equipment (LiDAR), data handling, 3D mapping etc, data analysis and producing maps. Experience and sound knowledge of ADB policies and procedures, experience in river training works/hydraulic infrastructure projects will be an advantage.

**Reporting:** The position will report to the Design Team Leader.

**Scope of Work:** The Survey and Mapping Experts will be responsible for carrying out topographical/land surveying activities (3D), data analysis and producing mapping using advance technology. Guide the national Survey and Mapping Expert in conducting surveys and mapping.

**Expected Tasks:** The main tasks related to the position shall include but not limited to:

- (x) Carry out cadastral survey for reference and cross-checking;
- (xi) Carry out topographical survey in the basins and data analysis;
- (xii) Ensure safe keeping of survey data maps, flight index, survey reports, etc.;
- (xiii) Compile data and report on the conditions of stations and benchmarks on the ground;
- (xiv) Provide inputs for design and implementation of FFEWS activities;
- (xv) Engage in various office activities such as submission of field records, digitization, plotting and printing of documents for field reference and fair drawing;
- (xvi) Contribute inputs towards the finalization of designs for the remaining sub-projects;
- (xvii) Guide and impart training to national Survey and Mapping Expert in conducting surveys and mapping; and
- (xviii) The task of the expert envisages frequent field visits to works location spread across the widespread geographical areas of Terai and may require long walks and therefore the candidate should possess good health and be physically able to undertake such field visits.

95. **Support Staff:** The Consulting firm will be required to deploy suitably qualified and experienced additional secretarial/managerial/office staff as deemed fit for timely delivery of deliverables and for smooth operation of office function. As a minimum, the consulting firm shall deploy the following support staff:

- (iii) One office secretary (for documentation and record keeping); and
- (iv) One coordinating assistant (for coordination and resource management for smooth functioning of PIC).

96. The consulting firm shall keep in mind that no separate payments shall be made for the support staff and the cost shall be deemed covered in out-of-pocket expenses.

#### **K. Procurement of Additional Studies, Equipment and Training**

97. Consultants for additional studies will be recruited in accordance with ADB's Procurement Policy: Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time) and shall follow the Procurement Act/Regulations for ADB Borrowers (2017, as amended from time to time). Provisional sums have been included in the consultancy agreement for procurement of various requirements that will support the project. The PIC will be responsible for preparing the exact implementation arrangements, TORs, specifications, and detailed cost estimates of the procurement which will be approved by the Project Director before initiating procurement. The tentative scopes of provisional items are summarized in Table 2.

**Table 2: Indicative Provisional Items**

Item	Description
Surveys and Studies	Surveys and specific studies including topographic surveys, geotechnical investigations, laboratory tests, and socioeconomic surveys.

Item	Description
Office Equipment	Procurement of office equipment including computers, software, printers, photocopiers, GPS power inverter, etc. for field office using the shopping procurement method. <sup>45</sup>
Meetings, workshops and training	For routine meetings, workshops and training sessions convened by the PIC or PIU.
Communication Materials	Publishing of communication materials and media including the video diary of the investment program and development and hosting of the website.

## L. Reporting Requirements and Schedule of Deliverables

98. During the performance of the services, the Consultant will prepare required reports in English for submission to the Client in electronic form and/or hard copies as per PMU instructions.

99. Unless otherwise agreed, all deliverables are to be submitted as drafts for review and comment by the PMU and ADB, and thereafter amended and submitted as final versions. Other occasional deliverables may be required from time to time on an informal basis. The Consulting firm shall assist PIU to maintain an electronic safe backup of all contract related documentation and submit one electronic version of every report listed in Table 2 below.

100. The reporting/submission format will be consistent with the requirements of ADB and Government of Nepal and will be agreed between the Consultant and PMU from time to time. The reporting formats shall further be subject to the amendment/modifications from time-to-time in consultation with the PMU and ADB. The consultant will submit at least the following reports at periods stated hereunder in **Table 3**.

**Table 3: List of Minimum Deliverables and Schedule**

Reports	Number of Hard Copies	Time Schedule
<b>PART A – CONSTRUCTION SUPERVISION</b>		
<b>Inception Report:</b> demonstrating Consulting firm's understanding of the TOR and ensuring plan of action and timeline for various activities.	5	Within 30 days from the date of issuance of Notice to Proceed.
<b>Monthly Progress Reports:</b> covering a summary of the activities performed (including the Detailed design progress) and mobilization during the month, problems encountered, solutions proposed/adopted, corrective actions (if	5	Every month within 5 days of the commencement of next calendar month.

<sup>45</sup> All PIC key and non-key experts are responsible for providing their own computers or be supplied by the PIC firm. This provisional item is only for providing computers for the office support staff and providing general office IT equipment.

Reports	Number of Hard Copies	Time Schedule
required) and the activities planned for the coming month.		
<b>Quarterly Progress Reports:</b> covering a summary of the activities performed and mobilization and disbursement during the quarter, problems encountered, solutions proposed/adopted, risks identified, corrective actions (if required) and the activities planned (and disbursement projected) for the coming quarter.	5	Every quarter within 10 days of commencement of next quarter.
<b>Annual Progress Report:</b> covering a summary of the activities performed, disbursement achieved and mobilization status during the year, problems encountered, solutions proposed/adopted, risks identified, corrective actions (if required) and the activities planned (and disbursement projected) for the coming year.	5	Every year within 15 days of commencement of next year. For the purpose of Annual Progress Report the year shall mean and refer either to calendar year or other suitable period as the Client may decide in consultation with the Consultant.
<b>Mid Term Report:</b> covering a summary of the activities performed, disbursement achieved and mobilization status during the period, problems encountered, solutions proposed/ adopted, risks identified, corrective actions (if required) and the activities planned (and disbursement projected) for each coming quarter.	5	Within 30 days after 18 months of Consulting Services Assignment.
<b>Draft Completion Report:</b> The document shall comprise completion report of each packages and completion report of the project on the whole. Describing the project background, activities performed v/s committed timeline, problems encountered, risks identified, corrective actions taken, and lessons learnt.	5	Within 30 days of completion of Consulting Services Assignment.
<b>Final Completion Report:</b> Incorporating the comments of the PMU and ADB, describing the project background, activities performed v/s committed timeline, problems encountered, risks identified, corrective actions taken, and lessons learnt.	5	Within 30 days of issuance of Client's comments on Draft Completion Report.



Reports	Number of Hard Copies	Time Schedule
<p><b><u>Safeguard (Environmental, social and resettlement etc) Reports for the remaining subprojects:</u></b> As per ADB's procedure and format.</p>	5	Starting from 3 months (and no longer than 6 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
<p><b><u>Survey reports</u></b></p>	5	Starting from 3 months (and no longer than 6 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
<p><b><u>Management Information System tool/ PPMS:</u></b> Information Technology (IT) based Project Performance Management Evaluation tool capable of monitoring and implementation of the project; identify performance constraints; and formulate and implement practical measures to address shortcomings. This tool shall be capable of disclosing key project-related information, including costs, safeguards, procurement status and progress, amount of contract awarded, billing and disbursement, etc.</p>	Soft copy only	Within 60 days from the date of issuance of Notice to Proceed.
<p><b><u>Project Completion Report:</u></b> In ADB format covering</p> <ul style="list-style-type: none"> <li>(vii) a concise description and assessment of the project from identification to completion;</li> <li>(viii) evaluating the adequacy of preparation, design, appraisal, implementation arrangements, and performance of the DWRI, DHM and ADB, including how problems were handled, whether they were foreseen as potential risks, and the adequacy of the solutions adopted during implementation;</li> <li>(ix) a preliminary evaluation of initial operation, and achievement and sustainability of benefits;</li> <li>(x) a preliminary evaluation of the extent of achievement of the outcome of the project and the project's contribution to achieving the expected impact;</li> <li>(xi) suggest follow-up actions required during project operation; and</li> <li>(xii) makes recommendation - based on the evaluation and lessons - for future</li> </ul>	5	Within 3 months from the date of completion of the Project.

Reports	Number of Hard Copies	Time Schedule
project implementation and operation, as well as improvements in related ADB procedures.		
<b>Any other reports</b>	As required	As and when required by the PMU/PIU/ADB.
<b>PART B – DETAILED DESIGN PREPARATION</b>		
Draft Detailed design and Drawings cost estimate and specification of the remaining subprojects	3	Starting from 2 months (and no longer than 4 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
Detailed design and Drawings of the remaining subprojects	5	Starting from 3 months (and no longer than 6 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
Maintenance manual	5	Within 9 months from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
<b>Draft Bidding documents</b> for the balance civil works contracts as per Detailed Report and for the works required for community-based disaster risk management (CBDRM): As per approved Master bidding document - based on ADB's SBD works (small) for Single-stage Two-envelope bidding procedure.	5	Starting from 6 months (and no longer than 9 months) from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).
<b>Final Bidding documents</b> for the balance Civil works contracts as per Detailed design and for the works required for community-based disaster risk management (CBDRM): Covering the Comments of PMU and ADB.	5	Within 9 months from the date of issuance of Notice to Proceed (unless agreed otherwise during the Contract negotiation).

101. Since the Services consist of and include the supervision of civil works, the following actions require prior approval by the Client:

**M. Client's Input and Counterpart Personnel**

**(iii) Services, facilities and properties to be made available to the Consultant by the Client:**

- (f) The documents related to the ongoing works (already awarded) and those in the procurement stage shall be made available to the Consultant for performance of its obligations;
- (g) Office premises including its maintenance, electricity and water shall be provided by the Client free of cost;
- (h) Cost of necessary office furniture and office equipment shall be covered under Provisional Sums that shall be spent with prior approval of the PMU;
- (i) Cost of surveys and studies required to be conducted for resettlement activities shall be covered under the Provisional Sums (unallocated) and shall be spent only on the PMU's prior approval; and
- (j) Two 4WD vehicles will be provided by PMU/DWRI for national transport needs between project office, construction sites, and for meetings in Kathmandu. Six motorcycles will be supplied to support construction supervision activities between the project site office and construction sites.

102. The consulting firm shall price all cost direct or indirect that Consulting firm envisages to incurred for the performance of its services (except those stated above) in its Financial proposal. No additional payments shall be made for such expenses and the cost of shall be deemed covered in out of pocket expenses.

**(iv) Professional and support counterpart personnel to be assigned by the Client to the Consultant's team:** The Client shall provide the counterpart staff for supervision of works in the field as available; it will be discussed, agreed, and finalized during contract negotiations.

**N. The client will provide the following project data and reports to facilitate preparation of the Proposals:**

- (v) Copy of Procurement Plan (latest available);
- (vi) Copy of Feasibility Study (FS) Reports (as available);
- (vii) Copy of Detailed Design Reports of CW1 and CW2; and
- (viii) Copy of Project Administration Manual (PAM), if finalized between the Government of Nepal and ADB.

## ATTACHMENT G: OUTLINE OF SOCIAL SAFEGUARDS MONITORING REPORT

Following requirements of the ADB Safeguard Policy Statement (2009) and the *Operations Manual* section on safeguard policy (OM F1), borrowers/clients are required to establish and maintain procedures to monitor the status of implementation of safeguard plans and ensure progress is made toward the desired outcomes. For projects categorized as B in Involuntary Resettlement and/or Indigenous People, the Borrowers/clients are required to submit semiannual monitoring reports for ADB review. The level of detail and comprehensiveness of a monitoring report is commensurate with the complexity and significance of social safeguards impacts (IR and IP) and with the current status of project implementation phase.

This outline can be used for semiannual monitoring report and resettlement plan completion report to start the civil works in the impacted areas. A safeguard monitoring report may include the following elements:

### A. Executive Summary

This section provides a concise statement of project scope and impacts, key findings and recommended actions.

### B. Background of the Report and Project Description

This section provides a general description of the project, including:

- Background/context of the monitoring report which includes the information on the project, project components, safeguards categorizations and general scope of the social safeguards impacts.
- Information on the implementation progress of the project activities, scope of monitoring report and requirements, reporting period, including frequency of submission and changes in project scope and adjusted safeguard measures, if applicable
- Summary table of identified impacts and the mitigation actions.

### C. Scope of Impacts

This section outlines the detail of

- Scale and scopes of the project's safeguards impacts,
- Vulnerability status of the affected people/communities,
- Entitlements matrix and other rehabilitation measures, as applicable, as described in the approved final Resettlement Plans.

### D. Compensation and Rehabilitation<sup>46</sup>

This section describes the process and progress of the implementation of the safeguards plan and other required activities as determined in the plan. This includes:

- Payment of the affected assets compensation, allowances, loss of incomes, etc. to the entitled persons;
- Provisions of other types of entitlement as described in the matrix and implementation of livelihood rehabilitation activities as determined in the plan.

Quantitative as well as qualitative results of the monitoring parameters, as agreed in the plan, should be provided.

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<sup>46</sup> Depending on the status of the final detail design during the submission of the report this activity might not yet started. Provide the information on the expected date the activity to be conducted instead.

**E. Public participation and consultation**

This section describes public participation and consultations activities during the project implementation as agreed in the plan. This includes final consultations with APs during RP finalization after the completion of detail design; the numbers of activities conducted; issues raised during consultations and responses provided by the project team, implementing NGOs, project supervision consultants, contractors, etc.

**F. Grievance Redress Mechanism (GRM)**

This section described the implementation of project GRM as design in the approved RP. This includes evaluations of its effectiveness, procedures, complaints receive, timeliness to resolve issues/ complaints and resources provided to solve the complaints. Special attentions should be given if there are complaints received from the affected people or communities.

**G. Institutional Arrangement**

This section describes the actual implementation, or any adjustment made to the institutional arrangement for managing the social safeguards issues in the projects. This includes the establishment of safeguards unit/ team and appointment of staff in the EA/IA; implementation of the GRM and its committee; supervision and coordination between institutions involved in the management and monitoring of safeguards issues, the roles of NGO and women's groups in the monitoring and implementation of the plan, if any.

**H. Monitoring Results - Findings**

This section describes the summary and key findings of the monitoring activities. The results are compared against previously established benchmarks and compliance status (e.g., adequacy of IR compensation rates and timeliness of payments, budget for implementing EMP and RP timeliness and adequacy of capacity building, etc.). It also compared against the objectives of safeguards or desired outcomes documented (e.g. IR impacts avoided or minimized; livelihood restored or enhanced; IP's identity, human right, livelihood systems and cultural uniqueness fully respected; IP not suffer adverse impacts, environmental impacts avoided or minimized, etc.). If noncompliance or any major gaps identified, include the recommendation of corrective action plan.

**I. Compliance Status**

This section will summarize the compliance status of the project activities with the loan covenants, ADB SPS on SR 2 and the approved final RP(s).

**J. Follow up Actions, Recommendation and Disclosure**

This section describes recommendations and further actions or items to focus on for the remaining monitoring period. It also includes lesson learned for improvement for future safeguards monitoring activities. Disclosure dates of the monitoring report to the affected communities should also be included. A time-bound summary table for required actions should be included.

**Appendix 1**

- i. List of Affected Persons and Entitlements
- ii. Summary of RP with entitlement matrix

**Appendix 2**

- i. Copies of AP's certification of payment (signed by the APs)
- ii. Summary of minutes of meetings during public consultations  
Summary of complaints received and solution status

**ATTACHMENT H: OUTLINE SEMI-ANNUAL ENVIRONMENT MONITORING REPORT**

# Environmental Monitoring Report

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Reporting Period {From Month, Year to Month, Year}  
Date {Month, Year}

NEP: Priority River Basins Flood Risk Management  
Project

Subproject X – X Basin

Prepared by Department of Water Resources and Irrigation, and the Department of Hydrology and Meteorology, Ministry of Energy, Water Resources and Irrigation for the Asian Development Bank.

**CURRENCY EQUIVALENTS**(as of Day Month Year)

Currency unit	–	Nepalese rupee/s (NRe/NRs)
NRe1.00	=	\$0
\$1.00		NRs114.03000

{The date of the currency equivalents must be within 2 months from the date on the cover.}

**ABBREVIATIONS**

{AAA} – {spell out (capitalize only proper names)}  
 {BBB} – {spell out}

**WEIGHTS AND MEASURES**

{symbol 1 (full name 1)} – {Definition 1}

{symbol 2 (full name 2)} – {Definition 2}

{symbol 3 (full name 3)} – {Definition 3}

**GLOSSARY**

{Term 1} – {Definition 1}

{Term 2} – {Definition 2}

**NOTES**

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

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

## Table of Contents

Page No.

### Executive Summary

- Brief status of environmental compliance during the coverage period

### 1.0 Introduction

- 1.1 Brief Project Description
- 1.2 Project Progress Status and Implementation Schedule

### 2.0 Compliance to National Regulations

{These are just sample environmental regulations}

- 2.1 Environment Protection Act 1996
- 2.2 Environmental standards

### 3.0 Compliance to Relevant Environmental Requirements from the ADB Loan Agreement

- 3.1 Schedule 5 {prepare a matrix to show how compliance was achieved}

### 4.0 Compliance to Environmental Management Plan

{Refer to the EMP of the Project}

### 5.0 Safeguards Monitoring Results and Unanticipated Impacts

{Refer to the Environmental Monitoring Plan and document any exceedance to environmental standards (if any), or any unanticipated impact not included in the EMP and any correction action/measures taken}

### 6.0 Implementation of Grievance Redress Mechanism and Complaints Received from Stakeholders

{Summary of any complaint/grievance and the status of action taken}

### 7.0 Conclusion and Recommendations

{Any follow-up action required to be monitored for the next submission}



## **ATTACHMENT I: OUTLINE QUARTERLY PROGRESS REPORT**

### **A. Introduction and Basic Data**

Provide the following:

- a. ADB loan number, project title, borrower, executing agency(ies), implementing agency(ies);
- b. total estimated project cost and financing plan;
- c. status of project financing including availability of counterpart funds and cofinancing;
- d. dates of approval, signing, and effectiveness of ADB loan;
- e. original and revised (if applicable) ADB loan closing date and elapsed loan period based on original and revised (if applicable) loan closing dates; and
- f. date of last ADB review mission.

### **B. Utilization of Funds (ADB Loan, Cofinancing, and Counterpart Funds)**

Provide the following:

- (i) cumulative contract awards financed by the ADB loan, cofinancing, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
- (ii) cumulative disbursements from the ADB loan, cofinancing, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
- (iii) re-estimated costs to completion, need for reallocation within ADB loan categories, and whether an overall project cost overrun is likely.

*(sample Project Data Sheet and Loan/Grant Utilization table available at ADB Nepal Resident Mission [NRM])*

### **C. Project Purpose**

Provide the following:

- (i) status of project scope/implementation arrangements compared with those in the report and recommendation of the President, and whether major changes have occurred or will need to be made;
- (ii) an assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
- (iii) an assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
- (iv) other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives.

*(sample project results profile, safeguard matrix available at NRM))*

### **D. Implementation Progress**

Provide the following:

- (i) assessment of project implementation arrangements such as establishment, staffing, and funding of the PMO or PIU;

- (ii) information relating to other aspects of the EA's internal operations that may impact on the implementation arrangements or project progress;
- (iii) progress or achievements in implementation since the last progress report;
- (iv) assessment of the progress of each project component, such as,
  - a) Recruitment of consultants and their performance;
  - b) procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and
  - c) the performance of suppliers, manufacturers, and contractors for goods and works contracts;
- (v) assessment of progress in implementing the overall project to date in comparison with the original implementation schedule—quantifiable and monitorable target, (include simple charts such as bar or milestone to illustrate progress, a chart showing actual versus planned expenditure, S-curve graph showing the relationship between physical and financial performance, and actual progress in comparison with the original schedules and budgets); and
- (vi) an assessment of the validity of key assumptions and risks in achieving the quantifiable implementation targets.

*(sample procurement plan, physical/financial monitoring matrix table available at NRM)*  
*(Status on agreed action plan of last review mission)*

#### **E. Compliance with Covenants**

Provide the following:

- (i) the borrower's compliance with policy loan covenants such as sector reform initiatives and EA reforms, and the reasons for any noncompliance or delay in compliance;
- (ii) the borrower's and EA's compliance with financial loan covenants including the EA's financial management, and the provision of audited project accounts or audited agency financial statements; and
- (iii) the borrower's and EA's compliance with project-specific loan covenants associated with implementation, environment, and social dimensions (including GESI action plan).
  - (a) Status on the compliance of audit observation for FY audited project account

*(sample covenant matrix available at NRM)*

#### **F. Major Project Issues and Problems**

Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, safeguard and GESI compliance, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of loan proceeds).

*(sample matrix table available at NRM)*