

# Project Administration Manual

Project Number: 43448-014  
August 2019

Nepal: Additional Financing for the Bagmati River  
Basin Improvement Project

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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 executing and implementing agencies are wholly responsible for the implementation of ADB-financed projects, 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 executing and implementing agencies of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations the borrower and ADB shall agree to the PAM and ensure consistency with the loan agreement. 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 financing agreement, the provisions of the loan 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.

## **Abbreviations**

ADB	–	Asian Development Bank
BRB	–	Bagmati River basin
BRBIP	–	Bagmati River Basin Improvement project
CSO	–	civil society organization
DMF	–	design and monitoring framework
DOWRI	–	Department of Water Resources and Irrigation
EMP	–	environmental management plan
HPCIDBC	–	High Powered Committee for the Integrated Development of the Bagmati Civilization
IEE	–	initial environmental examination
IWRM	–	Integrated Water resources Management
MOUD	–	Ministry of Urban Development
NGO	–	nongovernment organization
OCB	–	open competitive bidding
PAM	–	project administration manual
PIU	–	project implementation unit
PCMU	–	project coordination and management unit
PMCS	–	project management construction and supervision consultant
RBO	–	river basin organization
RRP	–	Report and Recommendation of the President
SOE	–	statement of expenditure
SPS	–	Safeguard Policy Statement
TOR	–	terms of reference
WECS	–	Water and Energy Commission Secretariat
WWTP	–	wastewater treatment plant



## I. PROJECT DESCRIPTION

1. The Bagmati River Basin Improvement Project (current project) will improve river health and flood management in the Bagmati River basin (BRB). The additional financing is required to expand the current project, including (i) consolidation of water management institutions, (ii) expansion of riverbank beautification works, (iii) mobilization of the riverine community, and (iv) the design, building, and operation of a wastewater treatment plant (WWTP). The additional financing is also required to cover cost overruns associated with the current project,<sup>1</sup> the performance of which is on track.<sup>2</sup>

### A. Rationale

2. The BRB has important cultural and economic value for the people of Nepal. The water of the Bagmati River is considered holy and is used for cultural and ritual ceremonies practiced at the many significant riverbank temples. The river flows through Kathmandu Valley, which is the administrative and economic center of the country, and Nepal's gateway for tourism. The river provides most of the city's drinking water in its upper basin, with hydropower generation in the upper and middle basins, and large-scale irrigation in the lower basin.

3. The BRB is considered the most water-stressed river basin in Nepal. Kathmandu City's rapid and unplanned expansion has placed tremendous pressure on the upper river system. In the absence of appropriate solid waste and wastewater management, the river has become an open sewer with high fecal contamination, a heavy solid waste load, and physicochemical pollutants. The river pollution is further aggravated in the dry season when 80% of the river flow is withdrawn for drinking purposes. The condition of the riverbanks has been increasingly degraded by solid waste dumping, encroachment, and uncoordinated works by various government departments. The physical deterioration of the riverine environment has created a public health hazard, as well as the loss of cultural and recreational amenities for urban communities.

4. The Government of Nepal has long attempted to address the degradation of the BRB. In the 1990s efforts were made to improve river management through the creation of the High Powered Committee for Integrated Development of the Bagmati Civilization (HPCIDBC), and by embracing the principles of integrated water resources management (IWRM).<sup>3</sup> The Bagmati Action Plan approved by the government in 2009 formed the basis for Asian Development Bank (ADB) involvement in the BRB improvement effort. The current project supported further policy, legal, and institutional improvements by assisting in the development of a new Federal Integrated Water Resources Policy, which was finalized in late 2018 and is being considered for approval by the Cabinet. The policy provides the foundation for a new water act, which is under preparation and is expected to be submitted for approval by Parliament in 2019. Approval of the act will enable the long-term establishment of river basin organizations (RBOs), including the Bagmati RBO

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<sup>1</sup> Cost overruns resulted primarily from depreciation of special drawing rights vs. the United States dollar, which could not be predicted.

<sup>2</sup> Asian Development Bank (ADB). Nepal. [Bagmati River Basin Improvement Project](#). The current project is financed by an Asian Development Fund (ADF) loan of \$25.5 million equivalent (Loan 3057-NEP, which as of 1 January 2017 is a concessional loan from ADB's ordinary capital resources), an ADF grant of \$4.5 million (Grant 0367-NEP), and about \$0.5 million in cofinancing from the Multidonor Trust Fund under the Water Financing Partnership Facility. The project was declared effective in February 2014 and is expected to close by 29 February 2020.

<sup>3</sup> Government of Nepal. 2002. *Water Resources Strategy*. Kathmandu; and Government of Nepal. 2005. *National Water Plan*. Kathmandu.

which was established temporarily through an executive order approved by the cabinet on 19 January 2017.

5. **Asian Development Bank support to the BRB.** ADB approved the current project on 31 October 2013 to support government and civil society initiatives to improve water management and the river environment in the upper BRB (footnote 1). Output 1 of the current project supports the establishment of an RBO with adequate capacity and decision support systems to implement IWRM. Output 2 aims to improve the riverbank's environment in Kathmandu Valley through riverbed oxygenating weirs, riverbank beautification and community mobilization and awareness raising. Output 3 aims to increase water availability in the river during the dry season through the construction of upstream water storage, pilot groundwater recharge schemes and upstream watershed management. Output 4 provides a flood forecasting and early warning system to reduce flood impacts on riverine communities along the BRB. The current project is complemented by the Kathmandu Valley Wastewater Management Project which is financing the design construction and management of strategic WWTPs.<sup>4</sup>

6. **Performance of the current project.** The performance of the current project is considered satisfactory. The current project was rated *on-track* for the past 12 months and exceeds its contract awards and disbursement projections. The current project is due for closure on 29 February 2020. In terms of physical achievements, output 1 activities were completed in December 2018; output 2 activities should be completed by December 2019; output 3 activities should be completed by February 2020; and output 4 activities were completed in July 2018.<sup>5</sup>

7. **The need for continued support for the Bagmati River preservation.** Under the current project, civil society organizations (CSOs) were established and have become active stakeholders in the protection of sections of the upper Bagmati River in the Kathmandu Valley. The organizations need to be further strengthened, and their activities extended to other stretches of the river. Beautification works have used nature-based solutions which have renewed resident's appreciation of the Bagmati River, but these beautification works cover only about half of the urban area. Expanding their scope to include other culturally significant river stretches, including restoring riverine heritage buildings, would significantly increase the current project's impact. These historic buildings, which were severely damaged during the 2015 earthquakes are closely related to the river and have significant cultural importance for Kathmandu's citizens. River water availability will increase through the completion of upstream water storage under the current project, which will allow targeted releases of water during the dry season, but additional work is needed to capture and treat contaminated water to improve water for re-use in the main river branch. A flood forecasting and early warning system was developed, but more end-user training activities are needed to enhance communities response to flood warnings. The need to scale-up the current project scope was anticipated,<sup>6</sup> and feasibility studies, and preparation of detailed designs were undertaken under the current project for this purpose.

8. **Eligibility for additional financing.** The reasons for the additional financing are (i) to scale-up the current project; and (ii) finance cost overruns resulting mainly from depreciation of special drawing rights against the United States dollar which was not possible to forecast.

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<sup>4</sup> ADB. [Nepal: Kathmandu Valley Wastewater Management Project](#) (approved in 2013 for the amount of \$80 million).

<sup>5</sup> More details are provided in the Linked Document 4: Summary of Project Performance (accessible from the list of linked documents in Appendix 2).

<sup>6</sup> ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Grant and Administration of Technical Assistance Grant to Nepal for the Bagmati River Basin Improvement Project*. Manila.



9. The proposed additional financing project meets the eligibility criteria for additional financing. The overall project (i) remains technically feasible and economically viable; (ii) is accorded high priority by the government; (iii) is consistent with the project's development objectives; (iv) is consistent with ADB's country partnership strategy for Nepal, 2013–2017;<sup>7</sup> (v) is aligned with ADB's Strategy 2030 operational priorities on (a) making cities more livable; (b) tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability; and (c) strengthening governance and institutional capacity.<sup>8</sup> The additional financing project is included in ADB's country operation business plan, 2019–2021.<sup>9</sup>

10. The proposed additional financing will strengthen the current project achievements. It will ensure continuity in actions by the government and civil society to restore the Bagmati River.

11. **Impact and Outcome.** The project is aligned with the following impact: a clean, green and healthy Bagmati River system that is full of life and valued by all.<sup>10</sup> The project will have the following outcome: river health and flood management improved.<sup>11</sup>

12. **Outputs.** The additional financing has four key outputs, the same as the current project.

13. **Output 1: Systems and capacity for integrated and participatory river basin management established.** The additional financing will (i) construct and equip a new regional building for the Koshi River basin office, (ii) purchase information technology (IT) equipment for the Koshi River basin office and the Bagmati RBO to support river management; and (iii) provide capacity building to the Koshi River basin office and the Bagmati RBO staff through an attached transaction technical assistance (TA).

14. **Output 2: Riverbank environment in urban areas improved.** The additional financing will (i) finance cost overruns of the current project's river environment civil works; (ii) stabilize and beautify an additional 5.75 kilometers of riverbank, including landscaping and restoration of 23 historic cultural monuments located on the riverbanks; and (iii) mobilize, raise awareness, and build capacity of local government and communities for riverbank management and maintenance.

15. **Output 3: Water availability in the basin during dry season increased and watershed conservation improved.** The additional financing will construct and operate a WWTP to clean the polluted water of the Tukucha tributary, which flows into the Bagmati River. About 17 million liters of treated effluent will be released in the river daily and contribute to increased Bagmati River flow in the dry season. The WWTP will be built on the bank of the Bagmati River at the confluence with the Tukucha tributary. Located in a highly populated area, the WWTP will be odorless, and integrated into the riverbank landscape. A sludge digester will be built to produce electric power and reduce the plant's power and sludge disposal expenses. The additional

<sup>7</sup> ADB. 2013. *Country Partnership Strategy: Nepal, 2013–2017*. Manila. The country partnership strategy was extended until 2019. It supports Nepal's peace and development by promoting (a) broad-based and inclusive economic growth, (b) inclusive social development, (c) governance and capacity building, and (d) environmental sustainability.

<sup>8</sup> ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila.

<sup>9</sup> ADB. 2018. *Country Operation Business Plan: Nepal, 2019–2021*. Manila

<sup>10</sup> Government of Nepal, Water and Energy Secretariat. 2018. *Integrated River Basin Development and Management Plan*. Kathmandu. The document has not yet been approved by the Government of Nepal. The current impact was formulated following the previous design and monitoring framework guidelines. The overall impact was updated to align with the current policy: *Bagmati River Basin Integrated Development and Management Plan, 2018-2038*."

<sup>11</sup> The original and aggregate targets are in the revised design and monitoring framework (Appendix 1).

financing will also fund the civil works cost overruns and tree planting under for the environmental management plan for the upstream water storage being constructed under the current project.

16. **Output 4: Functioning flood forecasting and early warning system for the Bagmati River basin utilized.** The additional financing will provide funds for a civil society organization to train 18 communities along the Bagmati River downstream of Kathmandu in implementing a community-based flood early warning system. This system was designed and piloted in communities under the current project.

## II. IMPLEMENTATION PLANS

### A. Readiness Activities for Additional Financing

Indicative Activities	2018			2019												Responsible Agency(s)
	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
Advance contracting actions																HPCIDBC, ADB
Recruit and contract an engineering firm to assist HPCIDBC with construction monitoring and supervision	x	x	x	x	x	x	x	x	x	x						HPCIDBC, ADB. This activity began in May 2018.
Recruit and contract and NGO to implement a program in community participation and institutional development			x	x	x	x	x	x	x	x						HPCIDBC
Recruit and contract a construction firm to build landscaping on riverbanks.	x	x	x	x	x	x	x	x	x							HPCIDBC
Recruit and contract 3 construction firms to renovate or restore historic temples and monuments		x	x	x	x	x	x	x	x	x						HPCIDBC
Recruit and contract a firm to construct and operate a wastewater treatment plant at Tukucha under a DBO contract						x	x	x	x	x	x	x	x	x	x	HPCIDBC
Finalize ADB IEE		x														TA9337 consultant
Draft ADB IEE submitted to the Government of Nepal		x														ADB
Disclose IEE on project website										x						MOUD with support from PMDSC

Indicative Activities	2018			2019												Responsible Agency(s)
	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
Disclose ADB IEE								x								ADB
Complete resettlement actions, if required							x	x	x	x	x					TA 9337 MOUD, HPCIDBC
Loan negotiations										x						ADB, MOF
ADB Board approval												x				ADB, MOF
Government legal opinion provided													x			ADB, MOF
Loan signing															x	MOF
Government budget inclusion							x	x	x							MOF
Loan effectiveness															x	ADB

ADB = Asian Development Bank, IEE = initial environmental examination, HPCIDBC = High-Powered Committee for the Integrated Development of the Bagmati Civilization, MOFE = Ministry of Forests and Environment, MOF = Ministry of Finance, MOUD = Ministry of Urban Development, PMDSC = Project Management Design and Supervision Consultant, TA = technical assistance.

Source: Asian Development Bank.

## B. Implementation Plan for Additional Financing

Activity	2019		2020				2021				2022				2023				2024				2028	
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2
<b>A. Design and Monitoring Framework</b>																								
<b>Output 1: systems and capacity for integrated and participatory river basin management established</b>																								
1.1 Construct office building for Koshi River basin (Q2 2021–Q2 2022)																								
1.2 Purchase furniture for Koshi River basin office (Q1–Q3 2022)																								
1.3 Purchase IT equipment for Koshi River basin office to implement IWRM and the Bagmati RBO to implement decision support system (Q1–Q3 2022)																								
1.4 Recruit additional AF capacity building consultants (Q1–Q3 2020)																								
1.5 Consultant firm trains Koshi and Bagmati RBO and officials in IWRM (Q2 2020–Q2 2023)																								
<b>Output 2: riverbank environment in urban areas improved</b>																								
2.1 Construct landscaping along Bagmati Riverbanks (Q4 2019–Q2 2023)																								
2.2 Restore historic temples and monuments (Q3 2019–Q4 2024)																								
2.3 NGO implements social participation and community mobilization (Q4 2019–Q4 2023)																								
<b>Output 3: water availability in the basin during dry season increased and watershed conservation improved</b>																								
3.1 Prepare detailed design of WWTP for Tukucha River tributary (Q2–Q4 2020)																								
3.2 Build Tukucha WWTP (Q1 2021–Q2 2023)																								
3.3 Operate Tukucha WWTP (Q2 2023–Q2 2028)																								
3.4 Implement Dhap dam EMP tree plantations (Q1 2015–Q1 2022)																								
<b>Output 4: Functioning flood forecasting and early warning system for the Bagmati River Basin utilized</b>																								
4.1 Recruit NGO for communities' flood early warning training (Q4 2019–Q2 2020)																								
4.2 Implement community early warning trainings (Q2 2020–Q2 2022)																								
<b>B. Management Activities</b>																								
Establish project office space (Q3–Q4 2019)																								
Consultant engineering firm monitors and supervises construction (Q3 2019–Q2 2024)																								
Review (update if necessary) and implement procurement plan (Q3 2019–Q1 2020)																								
Review (update if necessary) project stakeholder communication strategy (Q4 2019–Q1 2020)																								
Implement IEE and GESI Action Plan (Q3 2019–Q2 2024)																								
Monitor project progress - including DMF, IEE, GESI Action Plan (Q3 2019–Q2 2024)																								
Submit semi-annual progress reports (including for safeguards)																								
Submit audited annual financial statements																								
Inception, midterm, final, and annual review missions																								
Project completion report																								

DMF = design and monitoring framework, EMP = environmental management plan, GESI = gender equality and social inclusion, HPCIDBC = High-Powered Committee for the Integrated Development of the Bagmati Civilization, IEE = initial environmental examination, IWRM = integrated water resources management, NGO = nongovernment organization, RBO = river basin organization, WWTP = wastewater treatment plant.

Sources: Asian Development Bank.

### III. PROJECT MANAGEMENT ARRANGEMENTS

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

**Table 1: Project Implementation Organizations**

Project implementation organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> <li>• <b>Executing Agency Ministry of Urban Development (MOUD)</b></li> </ul>	<ul style="list-style-type: none"> <li>• Chairs the Project Steering Committee (PSC)</li> <li>• Provides overall strategic planning, guidance and management support to the project</li> <li>• Coordinates with other ministries on matters on projects issues under their jurisdiction</li> <li>• Ensures adequate counterpart funding</li> <li>• Oversee implementation of the loan project</li> <li>• Monitor and ensure compliance of loan covenants and environmental and social safeguards and facilitate the implementation of corrective action</li> <li>• Procure international consultant(s) and contractor(s)</li> <li>• Oversee overall financial management including undertaking financial audits and implement recommended action</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Project Steering Committee (PSC)</b></li> </ul>	<ul style="list-style-type: none"> <li>• The PSC is chaired by the MOUD Secretary and includes members from the Ministry of Water Supply and Sewerage, High-Powered Committee for the Integrated Development of the Bagmati Civilization, Water and Energy Commission Secretariat, Ministry of Finance, Department of Water Resources and Irrigation, Kathmandu Valley Water Supply Management Board, Department of Hydrology and Meteorology, and Department of Archaeology, Municipalities of Kathmandu, Gokarna, Manohara and Patan. The PSC will meet at least once a year to: <ul style="list-style-type: none"> <li>• Oversee implementation of the project</li> <li>• Monitor progress of the project</li> <li>• Rectify issues hindering progress of the project</li> <li>• Guide the executing agency and the implementing agencies</li> <li>• Meet at least once each quarter</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Project Implementation Facilitation Committee</b></li> </ul>	<ul style="list-style-type: none"> <li>• The PIFC is chaired by BRBIP project director and includes chairpersons of project related wards of Gokarna, Gueshowri, Thapatali and Teku in Kathmandu and wards 10, 1, 2 of Lalitpur. The IFC will meet quarterly to: <ul style="list-style-type: none"> <li>• Ensure smooth coordination of project activities at ward level.</li> <li>• Monitor project progress in respective wards</li> <li>• Resolve difficulties that may affect project progress at ward level.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Implementing Agency 1 HPCIDBC</b></li> </ul>	<ul style="list-style-type: none"> <li>• Extend BRBIP Project Coordination and Management Unit which is responsible for day-to-day implementation of the subprojects</li> </ul>

Project implementation organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> <li>• Coordination of the two project implementation units, for budget planning, compliance of procurement, request for reimbursement, and direct payments</li> <li>• Submit withdrawal applications to the Asian Development Bank (ADB), retention of supporting documents, submit all reporting requirements, including the quarterly project progress reports and financial statements,</li> <li>• Maintain the advance account</li> <li>• Procure and supervise contractors for Bagmati River beautification and landscaping works</li> <li>• Procure and supervise contractors for restoration of historic temples and monuments</li> <li>• Procure and supervise contractors for construction and operation of Tukucha wastewater treatment plant</li> <li>• Procure and manage nongovernment organization (NGO) for community participation</li> <li>• Procure and manage engineering consultant firm for construction monitoring and supervision</li> <li>• Procure and manage tree plantation for Dhap dam environmental management plan (EMP)</li> <li>• Conduct and coordinate project review missions and consolidate implementation reports from the implementing agencies in preparation of quarterly progress report to ADB</li> <li>• Upgrade BRBIP project performance monitoring system and a website for disclosure</li> <li>• Prepare project completion report at the end of the project and submit to ADB</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Implementing Agency 2</b> <b>Water and Energy</b> <b>Commission Secretariat</b></li> </ul>	<ul style="list-style-type: none"> <li>• Procure and manage NGO for training communities in flood warning systems</li> <li>• Manage piggy backed TA consultant firm for training in integrated water resources management</li> <li>•</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Implementing Agency 3</b> <b>Department of Water</b> <b>Resources and Irrigation</b></li> </ul>	<ul style="list-style-type: none"> <li>• Manage international design &amp; build contractors for the Dhap dam and monitor contract defect liability period.</li> <li>•</li> </ul>
<ul style="list-style-type: none"> <li>• <b>ADB</b></li> </ul>	<ul style="list-style-type: none"> <li>• Conduct regular loan review missions</li> <li>• Review and issues no-objection to procurement and disbursement documents</li> <li>• Overall coordination and advisory support</li> </ul>

## B. Key Persons Involved in Implementation

### Executing Agency

Ministry of Urban Development  
(MOUD)

Dr. Ramesh Prasad Singh  
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**Implementing Agencies**

High-Powered Committee for the Integrated Development of the Bagmati Civilization  
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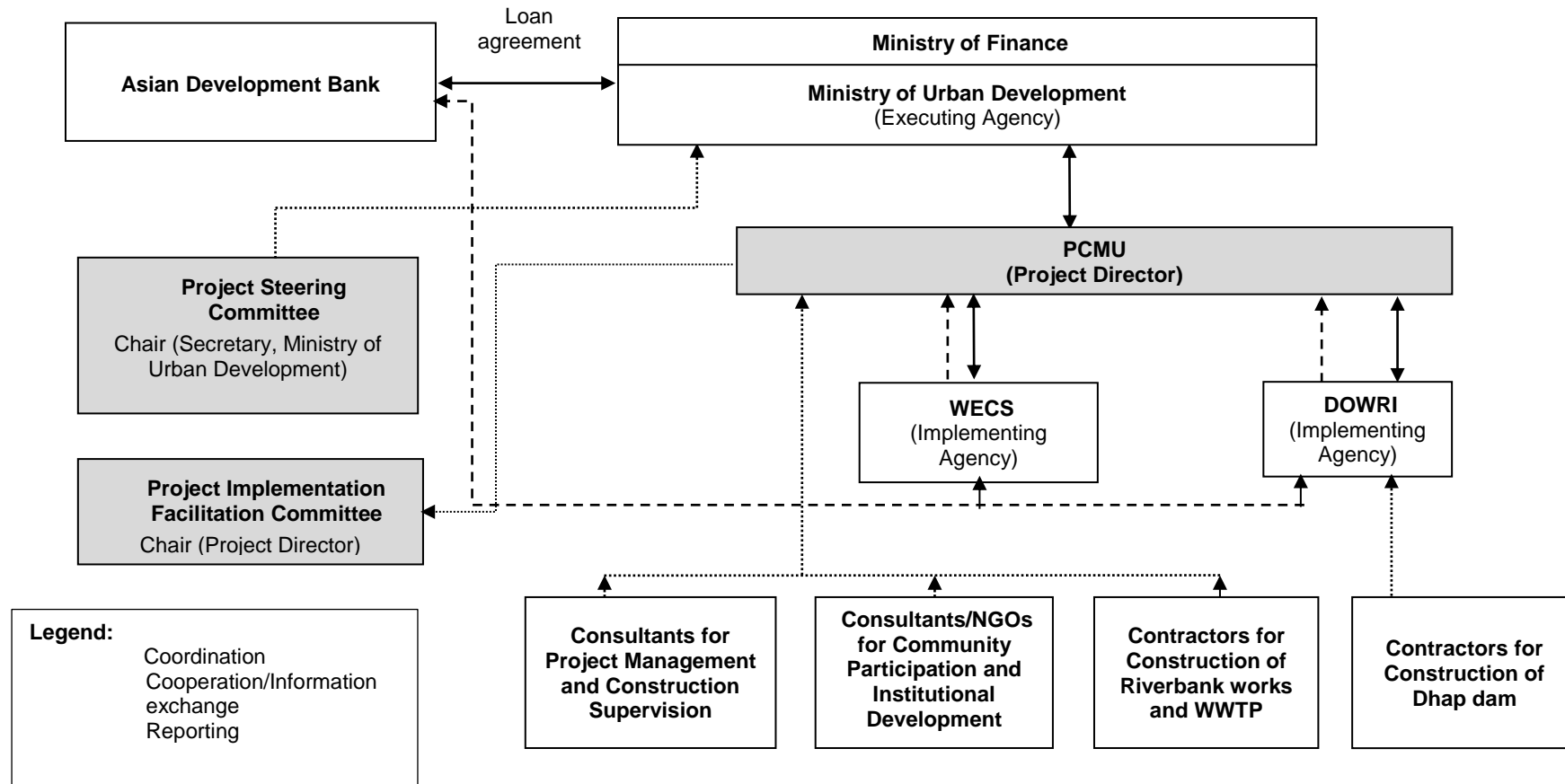
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### C. Project Organization Structure



DOWRI = Department of Water Resources and Irrigation, HPCIDBC = High-Powered Committee for Integrated Development of the Bagmati Civilization, PCMU = project coordination and management unit, WECS = Water and Energy Commission Secretariat.

#### **D. Implementing Agency Staff Involved in Implementation**

17. HPCIDBC will be the implementing agency for outputs 2, and 3 except for construction of the Dhap dam. HPCIDBC will continue to staff the PCMU with its own staff, staff deputed from other departments, or recruited from the market when specialities are not available within the government. The PCMU will have units for finance, procurement, river works planning, and decision support systems.

18. Staffing requirements for the PCMU are presented in the table below.

**Table 2: PCMU Staffing Requirements**

<b>Unit</b>	<b>Position</b>	<b>Class</b>
PCMU	Project Director	Class I officer
Finance	Senior Accountant	Class II officer
	Accountant	Class III officer
	Sub Accountant	Class I non-gazetted
Procurement	Procurement and Contracting Specialist – Engineer / Deputy Project Director	Class II officer
	Procurement and Contracting Specialist	Class III officer
Construction Supervision	Architect engineer	Class III officer
	Civil engineer (4 persons)	Class III officer
Decision Support System	Engineer	Class III officer
	Water quality specialist	Class III officer
	Database specialist	Class III officer
	Hydrologist	Class III officer
Safeguards	Environmental Specialist	Class III officer
	Sociologist	Class III officer
Administration Support	Senior Administration officer	Class III officer
	Secretary	Class I non-gazetted
	Office Assistant (4 persons)	
	Driver (4 persons)	Driver

19. WECS will be the implementing agency for outputs 1 and 4. WECS will work closely with the Department of Hydrology and Meteorology (DHM) for the updating and implementation of the community-based flood early warning system.

20. Staffing requirements for the WECS PIU are presented in the table below.

**Table 3: WECS PIU Staffing Requirements**

<b>Unit</b>	<b>Position</b>	<b>Class</b>
Head of PIU	Senior Divisional Engineer	Class II officer
	Engineer	Class III officer
	Engineer	Class III officer
Administration Support	Senior Administration officer	Class III officer
	Secretary	Class I non-gazetted
	Driver	Driver

21. DOWRI will be the implementing agency for the construction of Dhap dam in output 3.

22. Staffing requirements for the DOWRI PIU are presented in the table below. These will be maintained until successful completion of Dhap dam construction contract.

**Table 4: DOWRI PIU Staffing Requirements**

<b>Unit</b>	<b>Position</b>	<b>Class</b>
Head of PIU	Senior Divisional Engineer	Class II officer
Construction Supervision	Engineer	Class III officer
	Engineer geologist	Class III officer
	Sub engineer	Class I non-gazetted
Administration	Accounts officer	Class III officer
	Sub-accounts officer	Class I non-gazetted
	Administration officer	Class III officer
	Driver (two persons)	Driver
	Office Assistant (two persons)	

#### IV. COSTS AND FINANCING

23. The additional financing for the project is estimated to cost \$78.8 million (Table 5).

24. The government has requested a concessional loan for \$63.0 million. The loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per year during the grace period and 1.5% per year thereafter, and such other terms and conditions set forth in the draft loan agreement. Financial conditions for the loan are set forth in the draft loan agreement<sup>12</sup> and this project administration manual (PAM). The ADB loan, which is 80% of the total additional financing cost, will be used to finance all construction except for part of the restoration of historic temples and monuments, and part of the operation and maintenance (O&M) for the Tukucha WWTP; part of the unallocated amount; all goods and services; all consultants; and all financing charges. The ADB loan will also finance land acquisition and resettlement costs.

**Table 5: Summary Investment Costs (\$ million)**

Item	Current Amount <sup>a</sup>	Additional Financing <sup>b</sup>	Total
<b>A. Investment Cost<sup>c</sup></b>			
1. Systems and capacity for integrated and participatory river basin management established	2.2	0.2	2.4
2. Riverbank environment in urban areas improved	15.1	27.5	42.6
3. Water availability in the basin during dry season increased and watershed conservation improved	6.5	32.2	38.7
4. Functioning flood forecasting and early warning system for the Bagmati River basin utilized	0.5	0.2	0.7
5. Efficient project management with effective stakeholder communication established	3.7	0.0	3.7
<b>Subtotal (A)</b>	<b>28.0</b>	<b>60.2</b>	<b>88.2</b>
<b>B. Contingencies<sup>d</sup></b>	<b>7.3</b>	<b>17.0</b>	<b>24.3</b>
<b>C. Financing Charges During Implementation<sup>e</sup></b>	<b>0.7</b>	<b>1.6</b>	<b>2.3</b>
<b>Total (A+B+C)</b>	<b>36.0</b>	<b>78.8</b>	<b>114.8</b>

Note: Numbers may not sum precisely because of rounding.

<sup>a</sup> Refers to the original amount. Includes taxes and duties of \$6.0 million financed from government resources

<sup>b</sup> Includes total taxes and duties of \$7.9 million to be financed from cash government contributions.

<sup>c</sup> In 2019 prices as of April 2019.

<sup>d</sup> Physical contingencies computed at 10% for civil works, 5% for equipment, and 5% for other goods and services. Price contingencies computed on all costs except international and national consultants, based on annual cost escalation factors of 6.5% for 2019–2024 for local currency costs; 1.5% for 2019–2020 and 1.6% for 2021–2024 on annual foreign exchange costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>e</sup> The concessional ordinary capital resources loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per year during the grace period and 1.5% per year thereafter.

Source: Asian Development Bank estimates.

25. The financing plan is in Table 6. The government will provide a contribution of \$15.8 million for the additional financing. The government will pay (i) 50% of the costs of renovation of historical monuments; (ii) 80% of the O&M for the Tukucha WWTP; (iii) about \$1.62 million of the unallocated amount; (iv) all taxes and duties.

<sup>12</sup>Loan Agreement (accessible from the list of linked documents in Appendix 2 of the Report and Recommendations to the President).

**Table 6: Financing Plan**

Source	Current		Additional Financing		Total	
	Amount (\$ million)	Share of Total (%)	Additional Financing (\$ million)	Share of Total (%)	Amount (\$ million)	Share of Total (%)
<b>Asian Development Bank</b>	<b>30.0</b>	<b>83.3%</b>	<b>63.0</b>	<b>80.0%</b>	<b>93.0</b>	<b>81.0%</b>
OCR (concessional loan)	25.5	70.8%	63.0	80.0%	88.5	77.1%
Special funds - grant	4.5	12.5%	0.0	0.0%	4.5	3.9%
<b>Government</b>	<b>6.0</b>	<b>16.7%</b>	<b>15.8</b>	<b>20.0%</b>	<b>21.8</b>	<b>19.0%</b>
<b>Total</b>	<b>36.0</b>	<b>100.0%</b>	<b>78.8</b>	<b>100.0%</b>	<b>114.8</b>	<b>100.0%</b>

Note: Numbers may not sum precisely due to rounding.

OCR = ordinary capital resources.

Source: Asian Development Bank estimates.

## **A. Cost Estimates Preparation and Revisions**

26. Estimates of the cost of the construction contracts, consultants for the project management construction supervision, and consultants for community participation and institutional development were prepared by HPCIDBC and reviewed by ADB. Cost estimates for other consulting services, goods and services, resettlement costs, and financing charges during implementation were prepared by ADB in consultation with HPCIDBC. The cost estimate model was prepared using Microsoft Excel. It is available with the project team and the PCMU. During implementation, the PCMU will be responsible for updating cost estimates from the model.

## **B. Key Assumptions**

27. The following key assumptions underpin the cost estimates and financing plan:

- (i) Exchange rate: NRe110 = \$1.00 (as of April 2019)
- (ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

**Table 7: Escalation Rates for Price Contingency Calculation**

	2019	2020	2021	2022	2023	2024
Foreign rate of price inflation	1.5%	3.0%	4.7%	6.3%	8.0%	9.8%
Domestic Rate of price inflation	6.5%	13.4%	20.8%	28.6%	37.0%	45.9%

Source: Asian Development Bank estimates.

- (iii) The borrower will not provide in-kind contributions.

### C. Detailed Cost Estimates by Expenditure Category

Table 8: Detailed Cost Estimate by Expenditure Category (\$ million)

Item	Local Currency	Foreign Currency	Total	% of Total Base Cost
<b>A. Investment Costs</b>				
1 Civil Works				
1a Civil Works except 1b, 1c, 1d	14.43	0.00	14.43	24.0%
1b Construct Tukucha WWTP	15.51	12.69	28.21	46.9%
1c Restore historic temples and monuments	11.39	0.00	11.39	18.9%
1d O&M for Tukucha WWTP	0.77	0.63	1.41	2.3%
2 Goods and Services				
2a Equipment	0.11	0.00	0.11	0.2%
2b Other Goods and Services	0.01	0.00	0.01	0.0%
Subtotal Goods and Services	0.12	0.00	0.12	0.2%
3 Environmental and Social Mitigation <sup>a</sup>	0.27	0.00	0.27	0.4%
4 Community Participation	1.36	0.00	1.36	2.3%
5 Consulting Services	1.72	1.30	3.02	5.0%
<b>Subtotal A - Base Cost</b>	<b>45.57</b>	<b>14.62</b>	<b>60.2</b>	<b>100.0%</b>
<b>B. Contingencies</b>				
Physical	2.36	2.65	5.02	8.3%
Price	7.20	4.74	11.94	19.8%
<b>Subtotal B</b>	<b>9.56</b>	<b>7.39</b>	<b>16.95</b>	<b>28.2%</b>
<b>D. Financing Charges During Implementation</b>				
Interest Charges During Implementation	0.00	1.63	1.63	2.7%
<b>Total Project Cost (A+B+C)</b>	<b>55.13</b>	<b>23.65</b>	<b>78.78</b>	<b>130.9%</b>

O&M = operation and maintenance, WWTP = wastewater treatment plant.

<sup>a</sup> Includes land acquisition and resettlement cost.

Note: Numbers may not sum precisely due to rounding.

Source: Asian Development Bank estimates.

**D. Allocation and Withdrawal of Loan Proceeds**

<b>ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS</b>						
<b>Number</b>	<b>Item</b>	<b>Total Amount Allocated for ADB Financing WECS (\$)</b>	<b>Total Amount Allocated for ADB Financing DOWRI (\$)</b>	<b>Total Amount Allocated for ADB Financing HPCIDBC (\$)</b>	<b>Total Amount Allocated for ADB Financing (\$)</b>	<b>Percentage and Basis for Withdrawal from the Loan Account</b>
1	Civil works	107,407	775,790	41,866,547	42,749,744	
1a	Civil works except 1b, 1c, 1d	107,407	775,790	11,882,964	12,766,161	88.5% of total expenditure
1b	Construct Tukucha WWTP	0	0	24,006,557	24,006,557	85.1% of total expenditure
1c	Restore historic temples and monuments	0	0	5,695,906	5,695,906	50% of total expenditure
1d	O&M for Tukucha WWTP	0	0	281,120	281,120	20% of total expenditure
2	Goods and Services	107,720	0	0	107,720	88.5% of total expenditure
3	Environmental and Social Mitigation	0		267,495	267,495	100% of total expenditure
4	Community Participation	179,400	0	1,021,047	1,200,447	88.5% of total expenditure
5	Consulting Services	0	0	2,671,688	2,671,688	88.5% of total expenditure
	Unallocated Costs				14,373,079	
	Interest Charges During Implementation				1,629,827	
<b>Total</b>		<b>394,527</b>	<b>775,790</b>	<b>45,826,778</b>	<b>63,000,000</b>	

ADB = Asian Development Bank, DOWRI = Department of Water Resources and Irrigation, HPCIDBC = High-Powered Committee for the Integrated Development of the Bagmati Civilization, O&M = operation and maintenance, WECS = Water and Energy Commission Secretariat, WWTP = wastewater treatment plant.

Note: Numbers may not sum precisely due to rounding.

Source: Asian Development Bank estimates.

# E. Detailed Cost Estimate by Financier

**Table 9: Detailed Cost Estimate by Financier (\$ million)**

Item	ADB Loan		Government		Total	
	Amount	%	Amount	%	Amount	Taxes and Duties
<b>A. Investment Costs</b>						
1 Civil Works	42.75	77.1	12.68	22.9	55.43	5.51
1a Civil works except 1b, 1c, 1d	12.77	88.5	1.66	11.5	14.43	4.20
1b Construct Tukucha WWTP	24.01	85.1	4.20	14.9	28.21	1.31
1c Restore historic temples and monuments	5.70	50.0	5.70	50.0	11.39	1.31
1d O&M for Tukucha WWTP	0.28	20.0	1.12	80.0	1.41	0.00
2 Goods and Services						
2a Equipment	0.10	88.5	0.01	11.5	0.11	0.01
2b Other goods and services	0.01	88.5	0.00	11.5	0.01	0.00
Subtotal goods and services	0.11	88.5	0.01	11.5	0.12	0.01
3 Environmental and Social Mitigation	0.27	100.0	0.00	0.0	0.27	0.00
4 Community Participation	1.20	88.5	0.16	11.5	1.36	0.16
5 Consulting Services	2.67	88.5	0.35	11.5	3.02	0.35
<b>Subtotal A</b>	<b>47.0</b>	<b>78.1</b>	<b>13.2</b>	<b>21.9</b>	<b>60.2</b>	<b>11.54</b>
<b>B. Contingencies</b>						
Physical	2.44	48.6	2.58	51.4	5.02	0.00
Price	11.94	100.0	0.00	0.00	11.94	0.00
<b>Subtotal B</b>	<b>14.37</b>	<b>84.8</b>	<b>2.58</b>	<b>15.2</b>	<b>16.95</b>	<b>0.00</b>
<b>C. Financing Charges During Implementation</b>						
Interest Charges During Implementation	1.63	100.0	0.00	0.0	1.63	0.00
<b>Total Project Cost (A+B+C)</b>	<b>63.00</b>	<b>80.0</b>	<b>15.78</b>	<b>20.0</b>	<b>78.78</b>	<b>11.54</b>

O&M = operation and maintenance, WWTP = wastewater treatment plant.

Note: Numbers may not sum precisely due to rounding.

Source: Asian Development Bank estimates.



## F. Detailed Cost Estimates by Outputs

Table 10: Detailed Cost Estimates by Outputs (\$ million)

Item	Total	1. systems and capacity for integrated and participatory river basin management established	2. riverbank environment in urban areas improved	3. water availability in the basin during the dry season increased and watershed conservation improved	4. Functioning flood forecasting and early warning system for the Bagmati River Basin utilized
<b>A. Base Costs</b>					
1 Civil Works					
1a Civil Works except 1b, 1c, 1d	14.43	0.12	13.43	0.88	0.00
1b Construct Tukucha WWTP	28.21	0.00	0.00	28.21	0.00
1c Restore historic temples and monuments	11.39	0.00	11.39	0.00	0.00
1d O&M for Tukucha WWTP	1.41	0.00	0.00	1.41	0.00
2 Goods and Services					
2a Equipment	0.11	0.11	0.00	0.00	0.00
2b Other Goods and Services	0.01	0.01	0.00	0.00	0.00
Subtotal Goods and Services	0.12	0.12	0.00	0.00	0.00
3 Environmental and Social Mitigation	0.27	0.00	0.05	0.22	0.00
4 Community Participation	1.36	0.00	1.15	0.00	0.20
5 Consulting Services	3.02	0.00	1.51	1.51	
<b>Subtotal A</b>	<b>60.20</b>	<b>0.24</b>	<b>27.53</b>	<b>32.22</b>	<b>0.20</b>
<b>B. Contingencies</b>					
Physical	5.02	0.02	2.32	2.68	0.01
Price	11.94	0.03	7.24	4.63	0.04
<b>Subtotal B</b>	<b>16.95</b>	<b>0.05</b>	<b>9.55</b>	<b>7.30</b>	<b>0.05</b>
<b>C. Financing Charges During Implementation</b>					
Interest Charges During Implementation	1.63	0.41	0.41	0.41	0.41
<b>Total (A+B+C)</b>	<b>78.78</b>	<b>0.70</b>	<b>37.49</b>	<b>39.93</b>	<b>0.66</b>

O&M = operation and maintenance, WWTP = wastewater treatment plant.

Note: Numbers may not sum precisely due to rounding.

Source: Asian Development Bank estimates.

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

Item	Total	2019	2020	2021	2022	2023	2024
<b>A. Investment Costs</b>							
1 Civil Works							
1a Civil Works except 1b, 1c, 1d	<b>14.43</b>	2.51	2.98	2.55	2.55	2.55	1.28
1b Construct Tukucha WWTP	<b>28.21</b>	2.82	8.46	8.46	8.46	0.00	0.00
1c Restore historic temples and monuments	<b>11.39</b>	1.14	2.28	2.28	2.28	2.28	1.14
1d O&M for Tukucha WWTP	<b>1.41</b>	0.00	0.00	0.00	0.35	0.70	0.35
2 Goods and Services							
2a Equipment	<b>0.11</b>	<b>0.00</b>	0.11	0.00	0.00	0.00	0.00
2b Other Goods and Services	<b>0.01</b>	<b>0.00</b>	0.01	0.00	0.00	0.00	0.00
Subtotal Goods and Services	<b>0.12</b>	<b>0.00</b>	0.12	0.00	0.00	0.00	0.00
3 Environmental and Social Mitigation	<b>0.27</b>	0.07	0.04	0.04	0.04	0.04	0.02
4 Community Participation	<b>1.36</b>	0.12	0.33	0.33	0.23	0.23	0.12
5 Consulting Services	<b>3.02</b>	0.30	0.75	0.75	0.60	0.30	0.30
<b>Subtotal A</b>	<b>60.2</b>	<b>6.96</b>	<b>14.98</b>	<b>14.42</b>	<b>14.62</b>	<b>6.11</b>	<b>3.32</b>
<b>B. Contingencies</b>							
1 Physical	<b>5.02</b>	0.59	1.24	1.2	1.22	0.51	0.26
2 Price	<b>11.94</b>	0.41	1.71	2.53	3.49	2.31	1.48
<b>Subtotal B</b>	<b>16.95</b>	<b>1.00</b>	<b>2.95</b>	<b>3.73</b>	<b>4.71</b>	<b>2.83</b>	<b>1.74</b>
<b>C. Financing Charges During Implementation</b>							
Interest Charges During Implementation	1.63	0.05	0.16	0.26	0.36	0.39	0.41
<b>Total Project Cost (A+B+C)</b>	<b>78.78</b>	<b>8.01</b>	<b>18.08</b>	<b>18.41</b>	<b>19.69</b>	<b>9.33</b>	<b>5.48</b>
<b>% Total Project Cost</b>	<b>100.00%</b>	<b>10.17%</b>	<b>22.95%</b>	<b>23.37%</b>	<b>25.00%</b>	<b>11.84%</b>	<b>6.96%</b>

O&amp;M = operation and maintenance, WWTP = wastewater treatment plant.

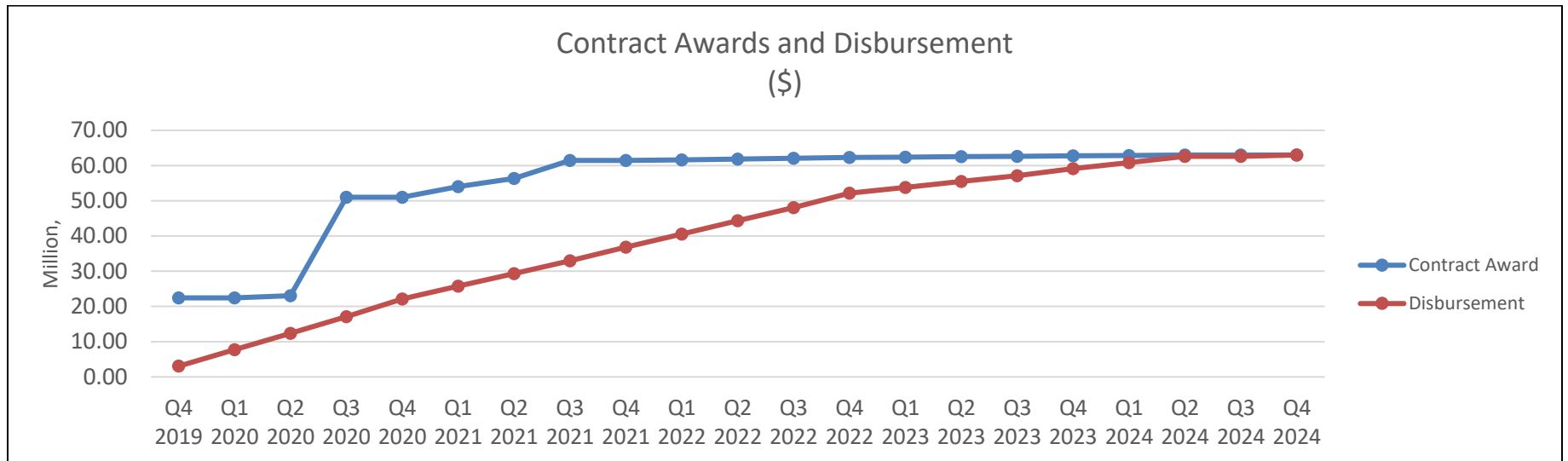
Note: Numbers may not sum precisely due to rounding.

Source: Asian Development Bank estimates.

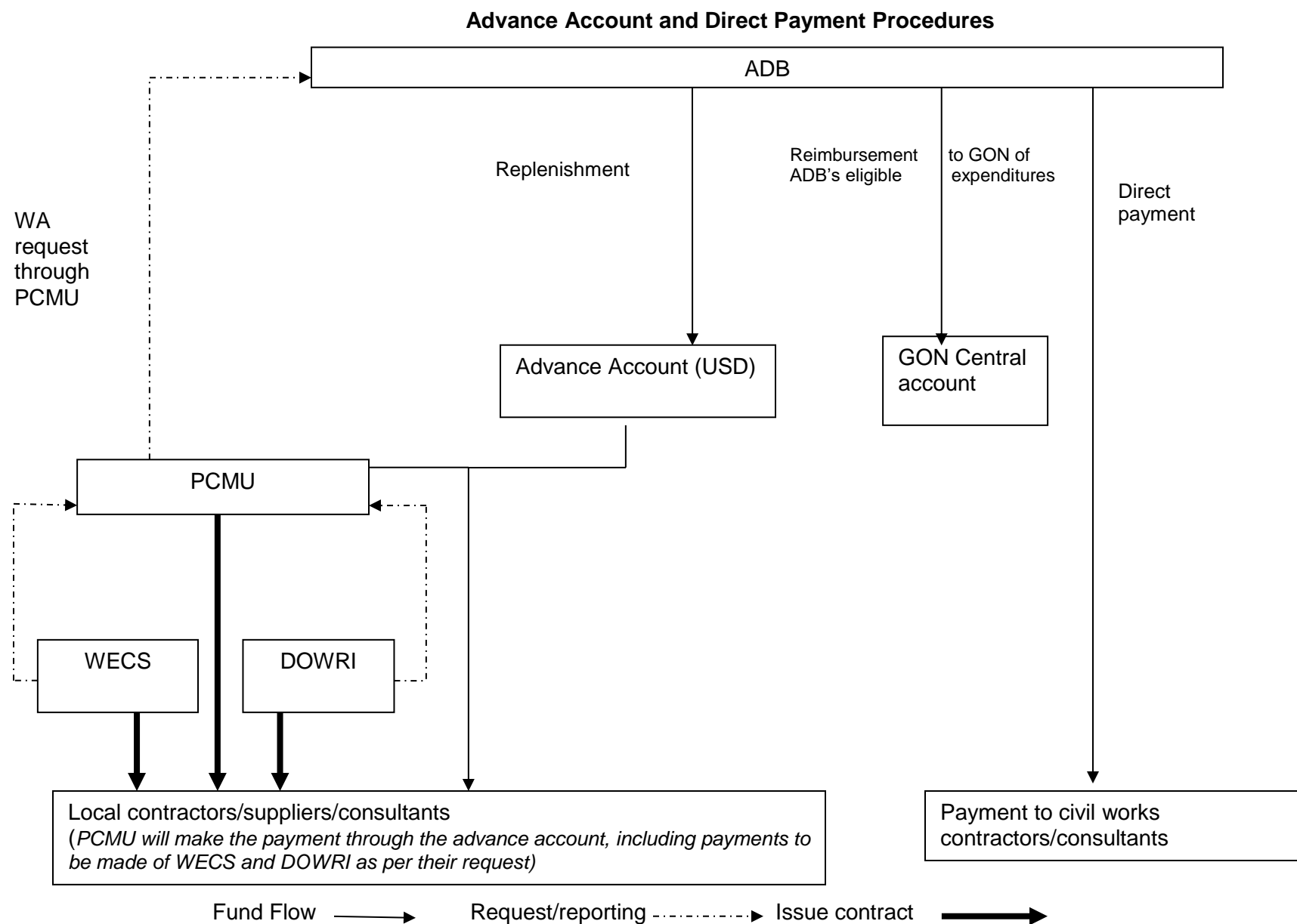
## H. Contract and Disbursement S-curve

**Table 12: Contract Awards and Disbursements (\$ million)**

Years	Contract Awards (\$)					Disbursement (\$)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2019	0.000	0.000	0.000	22.438	22.438	0.000	0.000	0.000	3.052	3.052
2020	0.000	0.600	28.000	0.000	28.600	4.647	4.681	4.681	5.081	19.092
2021	2.957	2.325	5.105	0.000	10.387	3.606	3.606	3.606	3.864	14.681
2022	0.217	0.217	0.217	0.217	0.870	3.748	3.748	3.748	4.110	15.353
2023	0.117	0.117	0.117	0.117	0.470	1.645	1.645	1.645	2.038	6.972
2024	0.117	0.118	0.000	0.000	0.236	1.720	1.720	0.000	0.409	3.850
<b>Total</b>					<b>63.000</b>					<b>63.000</b>

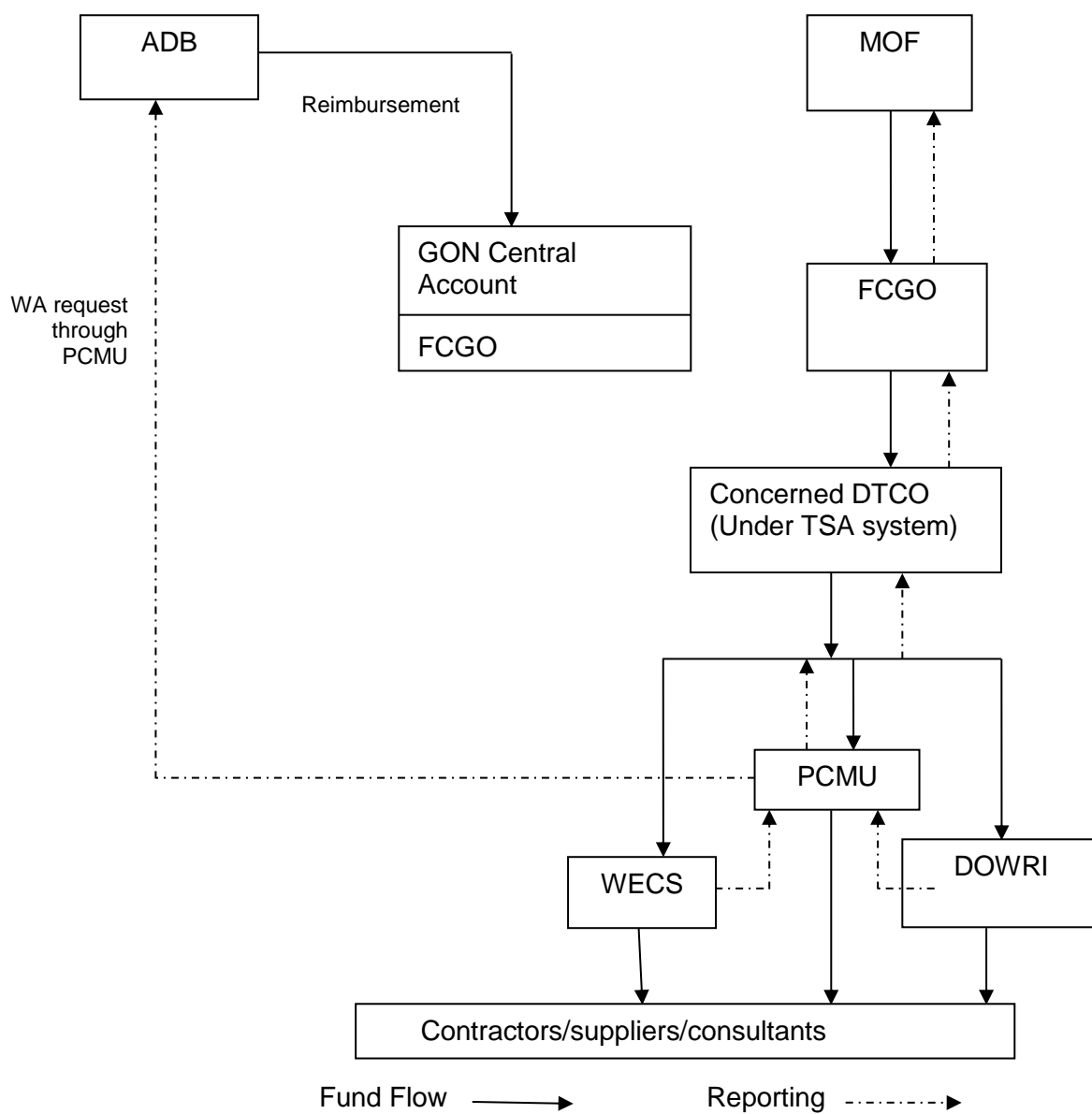


## I. Funds Flow Diagram



ADB = Asian Development Bank, DOWRI = Department of Water Resources and Irrigation, GON = Government of Nepal, PCMU = project coordination and management unit, WA = withdrawal application, WECS = Water and Energy Commission Secretariat, USD = United States Dollar.

### Reimbursement Procedure: Funds Flow and Reporting



ADB = Asian Development Bank, DOWRI = Department of Water Resources and Irrigation, DTCO = District Treasury and Controller Office, FCGO= Financial Comptroller General Office, GON = Government of Nepal, MOF = Ministry of Finance, MOUD = Ministry of Urban Development, PCMU = project coordination and management unit, TSA = treasury single account, WA = withdrawal application, WECS = Water and Energy Commission Secretariat, USD = United States Dollar.

## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

28. The financial management assessment (FMA) of the three implementing agencies was conducted in February 2013 and a limited update was completed in April 2018 in accordance with ADB's Financial Management Assessment Guidelines and Financial Due Diligence—A Methodology Note. The FMA considered the capacity of the executing agency and implementing agencies, including funds-flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements.

29. The assessment found that all three implementing agencies have experience in implementing the current project and has proven able to manage funds adequately. The overall financial management risk for the project is assessed as *moderate*. The key financial management risks identified are as follows: (i) the lack of a comprehensive internal audit function; (ii) inadequate variance analysis with regards to financial and physical targets; and (iii) turn-over of financial management staff during implementation. These risks will be mitigated through the following measures: (i) a Financial Management Specialist will be engaged to provide support and capacity building to project; (ii) regular training to the project's financial management staff in ADB's financial management procedures and requirements will be provided; (iii) the quarterly and annual financial reporting will be enhanced; and (iv) the external audit's terms of reference will be strengthened with regards to examining the project's internal control framework. The risks and mitigation actions are summarized in Table 13.

**Table 13: Risks and Mitigation Actions**

Risks Considered	Risk Level Without Mitigation	Risk Management Measures	Risk Level With Mitigation
(i) <b>Country-Specific Risks:</b> <ul style="list-style-type: none"> <li>Country PFM systems</li> </ul>	Moderate	<ul style="list-style-type: none"> <li>ADB to continue promoting adherence to international standards and good FM practices as part of its portfolio and provide training and capacity building to relevant stakeholders.</li> </ul>	Moderate
(ii) Entity specific risks: <ul style="list-style-type: none"> <li>Delays in or inadequate provision of counterpart funding</li> <li>Understanding of roles between EA and PCMU, and PIUs</li> <li>No internal control guideline prepared by MOUD</li> </ul>	Moderate	<ul style="list-style-type: none"> <li>Counterpart funding requirements will be included in annual budget.</li> <li>A clear organizational structure of the IA is already established in relation to the project; separation of roles and responsibilities between the IAs, PCMU, and PIUs are clear.</li> <li>Work plans of core activities for the IAs and PCMU and PIU personnel are well developed.</li> <li>The IAs, PCMU, and PIUs have received extensive training and capacity building in financial management</li> </ul>	Low
(iii) Project specific risks: <ul style="list-style-type: none"> <li>No new activities as part of the additional financing.</li> </ul>	Low	Non-applicable	Low
<b>Overall Inherent Risk:</b>			<b>Moderate</b>
<b>Implementing Entity:</b> <ul style="list-style-type: none"> <li>Complex implementation arrangements with a PCMU and two PIUs.</li> </ul>	Low	<ul style="list-style-type: none"> <li>The implementation responsibilities and flow of funds mechanism has been established under the original financing.</li> <li>Training was provided to PCMU and PIUs</li> </ul>	Low

Risks Considered	Risk Level Without Mitigation	Risk Management Measures	Risk Level With Mitigation
		<ul style="list-style-type: none"> <li>No new activates and only limited activities implemented by the PIUs as part of the additional financing.</li> </ul>	
<b>Funds flow:</b> <ul style="list-style-type: none"> <li>Complex flow of funds with three entities (PCMU and two PIUS) incurring expenditures using different disbursement methods.</li> <li><i>Delay in receiving counterpart financing.</i></li> </ul>	Moderate	<ul style="list-style-type: none"> <li>The PCMU and the PIUs have experience in ADB disbursement methods and operating the different bank accounts under the original financing.</li> <li>Limited expenditures incurred by the PIUs under the additional financing.</li> <li>The SOE ceiling has been established at \$100,000.</li> <li>Separate accounts maintained for ADB and government funds.</li> <li>Advance account statement included in the APFS.</li> </ul> <p>The PCMU will open a separate bank account (advance account) for the additional loan.</p>	Low
<b>Staffing:</b> <ul style="list-style-type: none"> <li>FM staff may be transferred during the project implementation.</li> </ul>	Moderate	<ul style="list-style-type: none"> <li>The PCMU and PIUS have experienced and trained staff in place.</li> <li>Further training on ADB's disbursement procedures and systems to be provided.</li> <li>A national Financial Management Specialist will support the project as part of the Project Management and Construction Supervision Consultants package.</li> </ul>	Low
<b>Accounting Policies and Procedures:</b> <ul style="list-style-type: none"> <li>Accounting policies and procedures for the project are adequate.</li> <li>Account and bank reconciliations are performed in a timely manner</li> </ul>	Low	<ul style="list-style-type: none"> <li>Accounting policies and procedures for the project have been developed</li> <li>The PCMU and PIUs maintains its accounts in accordance with the Government of Nepal's accounting standards on a cash basis of accounting.</li> <li>The PCMU and PIUs will adjust their CoA to record transfers as part of the additional financing.</li> </ul>	Low
<b>Internal Audit:</b> The scope of the Internal audit function preformed by the DTCO does not include examination of internal controls.	Substantial	<ul style="list-style-type: none"> <li>The issues identified by the DTCO to be disclosed in the quarterly progress reports together with a time bound action plan.</li> <li>A review of project internal controls to be conducted as part of ADB review missions and further strengthened in the TORs of the external auditor.</li> </ul>	Substantial
<b>External Audit:</b> Timely provision to ADB of audited annual project accounts	Moderate	<ul style="list-style-type: none"> <li>The projects consolidated financial statements are audited annually by the Office of the Auditor General.</li> <li>PCMU to prepare the consolidated financial statements and engage with the auditor early on to ensure timely submission of the audit report.</li> <li>The management replies to the audit observations to be included in the management letter.</li> </ul>	Low
<b>Reporting and Monitoring:</b> Additional financial information required in the Quarterly financial progress reports and the annual project financial statements.	Moderate	<ul style="list-style-type: none"> <li>Significant variances between budgeted vs actual expenditures to be explained in the project financial statements.</li> <li>Monitoring of physical versus financial progress to be continuously monitored and any significant variances need to be disclosed and explained in the quarterly progress reports.</li> </ul>	Low

Risks Considered	Risk Level Without Mitigation	Risk Management Measures	Risk Level With Mitigation
		<ul style="list-style-type: none"> <li>The financial information included in the quarterly progress reports submitted to ADB to be expanded in order to give the project management and ADB a comprehensive snapshot of the status of the FM in the project.</li> </ul>	
<b>Information systems:</b> Information system is secure and back up of financial data is done on a regular and timely basis. But no online storage.	Moderate	<ul style="list-style-type: none"> <li>PIUs use accounting software to produce financial records and statements.</li> <li>No fixed asset register maintained in the software.</li> <li>Effective use of ADB client portal for disbursement to submit WAs.</li> <li>The project to explore storing copies of all project records on an external server.</li> </ul>	Moderate
<b>Overall Control Risk Assessment:</b>			<b>Moderate</b>

ADB = Asian Development Bank, APFS = audited project financial statement, CoA = chart of accounts, DTCO = district treasury controllers office, EA = executing agency, FM = financial management, IA = implementing agency, MOUD = Ministry of Urban Development, PCMU = project management and coordination unit, PIU = project implementation unit, SOE = statement of expenditure, WAs = withdrawal applications.

30. The executing agency and implementing agencies have agreed to implement an action plan as key measures to address remaining deficiencies. The financial management action plan is provided in Table 14.

**Table 14: Financial Management Action Plan**

Key risks and Agreed action	Responsibility	Timeframe
A national Financial Management Specialist to provide support and capacity building to the PCMU and PIUs as part of the Project Management and Construction Supervision Consultants package, to further strengthen the project's FM arrangements.	PCMU	Throughout the life of the project.
Training in ADB procedures to be ensured on a regular basis to enhance the FM staffs understanding in ADD's policies and requirements.	ADB	Throughout the life of the project.
Include additional FM information in the quarterly progress reports as agreed with ADB (e.g., sources and uses of funds, financial vs physical progress, disbursement reports, status of DTCO and external audit recommendations, loan covenants and FM action plan, etc.).	PCMU, PIU (DOWRI) and PIU (WECS)	Throughout the life of the project.
The notes of the annual project financial statements to include explanation on any significant variances between budgeted vs actual expenditures.	PCMU, PIU (DOWRI) and PIU (WECS)	Throughout the life of the project.
Engage with the auditor to ensure: (i) the audit TORs reflect the additional financing and covers the internal controls in place in the PCMU as well, (ii) the project is included in the auditor's workplan, (iii) the audit work is commenced early, and (iv) the report including the management letter with	PCMU	By loan effectiveness



Key risks and Agreed action	Responsibility	Timeframe
management responses is submitted to ADB in a timely manner.		
Strengthen the monitoring of physical versus financial progress. Any significant variances must be adequately disclosed and explained in the quarterly progress reports.	PCMU, PIU (DOWRI) and PIU (WECS)	Throughout the life of the project.
All project records and supporting documentation filed centrally in the PCMU, backed up regularly on an external server and made available for auditors and ADB for inspection staff as necessary.	PCMU	Throughout the life of the project.
All project expenditures to be recorded in the accounting software. The accounting software is to be finetuned to accommodate the additional financing, to include a fixed asset register and automate financial reporting.	PCMU, PIU (DOWRI) and PIU (WECS)	Throughout the life of the project. By loan effectiveness.

ADB = Asian Development Bank, CoA = DOWRI = Department of Water Resources and Irrigation, FM = financial management, IA = implementing agency, PCMU = project coordination and monitoring unit, PMU = project management unit, TOR = terms of reference, WECS = Water and Energy Commission Secretariat.

## B. Disbursements

### 1. Disbursement Arrangements for ADB Funds

31. The loan proceeds will be disbursed in accordance with ADB's Loan Disbursement Handbook (2017, as amended from time to time),<sup>13</sup> and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available.<sup>14</sup> Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

32. **Basic Requirements.** After the annual budget is approved by the parliament, the Ministry of Finance (MOF) will issue authorization letter to MOUD and MOUD will issue authorization letter to the PCMU, WECS and DOWRI separately to spend the annual budget as per approved annual program. PCMU will report to MOUD regarding the project implementation progress. There will be separate budget code no. in the Red Book of MOF to identify the project. The PCMU will be responsible to prepare and submit to MOUD the annual budget and program of the project in consultation with WECS and DOWRI. The annual program will be approved by the National Planning Commission. The PCMU will maintain close coordination with the concerned stakeholders for timely budget release for the project implementation. The Government of Nepal will ensure for the allocation of sufficient counterpart fund for each fiscal year.

33. **Project advance account and procedures.** After additional loan effectiveness, the executing agency will open a separate advance account in USD in the Nepal Rastra Bank to receive proceeds from the ADB additional financing loan. The advance account will be used exclusively for ADB's share of eligible expenditures (i.e., the ADB additional financing loan) and according to the financing arrangements described in this PAM. The executing agency who establishes the advance account in its name is accountable and responsible for proper use of

<sup>13</sup> The handbook is available electronically from the ADB website (<http://www.adb.org/documents/loan-disbursement-handbook>).

<sup>14</sup> Disbursement eLearning. [http://wpqr4.adb.org/disbursement\\_elearning](http://wpqr4.adb.org/disbursement_elearning)

advances to the advance account. The advance account will be operated by the PCMU with the joint signatories as authorized by MOF. The advance account will be used for payments to the contractors, suppliers and consultants and to reimburse the ADB's eligible expenditures to the government's treasury.

34. The total outstanding advance to the advance account should not exceed the estimate of ADB's share of expenditures to be paid through the advance account for the forthcoming 6 months. The executing agency may request for initial and additional advances to the advance account based on an Estimate of Expenditure Sheet<sup>15</sup> setting out the estimated expenditures to be financed through the account for the forthcoming 6 months.<sup>16</sup>

35. Liquidation by ADB of eligible expenditures is required before further replenishments of the advance account can be endorsed. The withdrawal application will be prepared in the currency of the advance account, i.e., US dollars.

36. The minimum value per withdrawal application is set in accordance with ADB's Loan Disbursement Handbook. Individual payments below the amount should be paid (i) by the executing agency and subsequently claimed to ADB through reimbursement, or (ii) through the advance fund procedure, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements.

37. **Statement of expenditure (SOE) procedure.**<sup>17</sup> The SOE procedure may be used for reimbursement of eligible expenditures or liquidation of advances to the advance accounts. 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. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the withdrawal application to ADB.

38. 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 Loan Disbursement Handbook (2017, as amended from time to time). Individual payments below such amount should be paid (i) by the executing agency and/or implementing agency and subsequently claimed to ADB through reimbursement, or (ii) through the advance fund procedure unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements.

39. **Signing authority.** Before the submission of the first withdrawal applications, MOUD and MOF 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.

40. **Training for project staff.** Online training for project staff on disbursement policies and procedures is available at: [http://wpqr4.adb.org/disbursement\\_elearning](http://wpqr4.adb.org/disbursement_elearning). Relevant government

<sup>15</sup> Estimate of Expenditure sheet is available in Appendix 8A of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time),

<sup>16</sup> Form available in Appendix Chapter 7 of ADB *Loan Disbursement Handbook* (2017, as amended from time to time).

<sup>17</sup> SOE forms are available in Appendix 7B of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

officials of the executing and implementing agencies and PIU staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control. The schematic fund flow for the project is in Figure V1.

41. **Financial documentation and records.** All supporting documents and records (including receipts for expenditures) for liquidating or replenishing the advance account, and transactions from the subaccounts, will be submitted to ADB or retained by the executing and implementing agencies, in accordance with ADB's Loan Disbursement Handbook (2017, as amended from time to time). Documents and records will be made readily available for review upon request by ADB e.g., on a sampling basis, and for independent audit. The PCMU, on behalf of the MOUD, will retain, file, and manage all documentation, and provide MOUD duplicate copies of all financial statements and audit records.

## **2. Disbursement Arrangements for Counterpart Funds**

42. The Government of Nepal will provide counterpart fund as well as ADB's reimbursable fund to the project as per financing and disbursement percentage. The expenditures to be funded by the donor funding is first made by the government and later on it is reimbursed from the donor as per eligible expenditure. Funds will be channelized through Financial Comptroller General Office (FCGO). Concerned District Treasury and Controller Office (DTCO) will issue the cheques in the name of contractors/suppliers/consultants etc. as per the payment order request from PCMU, DOWRI and WECS as per the Government of Nepal treasury single account (TSA) system. PCMU, DOWRI and WECS will maintain the separate record for the government fund and donor's fund and prepare/submit the monthly/annual financial statement to the concerned DTCO in each month. Similarly, DOWRI and WECS will also submit the monthly/annual financial statements along with SOEs to the PCMU.

43. The PCMU will then consolidate and verify the eligible expenditures and prepare/submit withdrawal application to ADB along with SOEs and supporting documents. The Project Director will be the entity authorized to sign on the withdrawal applications. A copy of the bank statement of advance account, advance account turnover ratio, advance account reconciliation statement will be also submitted along with the withdrawal application for replenishment.

## **C. Accounting**

44. MOUD (executing agency) will cause each implementing agency (HPCIDBC, WECS and DOWRI) to maintain, separate books and records by funding source for all expenditures incurred as part of the project in accordance with international public sector accounting standards or Government of Nepal's accounting principles and practices. Accordingly, the HPCIDBC through the PCMU, WECS, and DOWRI through their PIUs, will maintain separate books and records by funding source for all expenditures incurred on the project and accounts adequate to identify the goods and services financed by the loan proceeds, financing received, expenditure incurred, and use of counterpart fund.

45. To ensure the availability of real time financial information, the PCMU on behalf of the executing agency will ensure that the following financial information is included in the Quarterly Progress reports to be submitted to ADB within 45 days after the end of the quarter: i) Statement of cash receipts and payments by expenditure category, ii) Cash payments by component/output, iii) financial vs physical progress report (cumulative since the start of the project and for the fiscal year) - Any significant variances should be explained, iv) list of signed contracts and v) follow-up status on the a) Financial Management Action plan, b) compliance with financial loan covenants, c) past external audit observations related to the project as well as d) agreed actions from review

missions.

46. In addition, the PCMU will prepare annual consolidated Project financial statements using Government of Nepal accounting Standards and apply the principles of the Nepal Public Sector accounting standards under the cash basis of accounting in accordance with Government of Nepal accounting policies. The consolidated project financial statements should include the following:

- (i) Source and consolidated uses of funds showing the funds received and expended from ADB, government and other financing sources as part of the project as well as imprest account balance for the current year, prior year and cumulative from inception to date.
- (ii) Statement of budget vs actual showing expenditure for the current year, prior year and cumulative from inception to date. Any significant variances should be explained in the notes.
- (iii) Statement of imprest account (separate statement for each imprest/advance account)
- (iv) Statement of expenditures by component/output
- (v) Statement of disbursement, disclosing all funds claimed from ADB by disbursement method, total expenditure claimed - for the current reporting period, past reporting period and cumulative to date.
- (vi) Summary of statement of expenditure
- (vii) Detailed notes to the financial statements including explanatory notes, accounting policies, compliance with financial covenants (if any), break down of expenditure etc.
- (viii) The notes to the financial statements must include a detailed list of all withdrawal applications submitted to and the amounts paid by ADB as follows: (a) WA number, (b) time period covered by the WA, (c) the amount claimed and currency, iv) date submitted, v) disbursement method, and (d) the amount disbursed by ADB and explanation of any differences in the amount claimed in the WA and the amount disbursed by ADB.

47. ADB reserves the right to verify the project's financial statements' records to confirm that the ADB's financing is used in accordance with ADB's policies and procedures.

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

48. MOUD will cause the detailed consolidated project financial statements to be audited in accordance with International Standards on Auditing or the International Organisation of Supreme Audit Institutions audit standards, by an independent auditor acceptable to ADB. The audited project financial statements together with the auditors' opinion will be submitted in the English language to ADB within six months of the end of the fiscal year by MOUD. It is expected that the audit will be conducted by the Office of the Auditor General (OAG).

49. The annual audit report for the project accounts will include an audit management letter and audit opinions which 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 additional loan proceeds were used only for the purposes of the project or not; and (iii) the level of compliance for each financial covenant contained in the legal agreements for the project. The management letter shall also follow-up on the status of any previous year's audit observations.

50. A formal request for the project to be included in the OAG audit schedule should be sent to OAG office. This request is best sent when the loan and project agreements are signed, and the request should include a copy of the loan and project agreements, and any other relevant documents. OAG would then advise the appropriate field office to include the project in its audit schedule.

51. In addition, to ensure that audited financial statements are submitted on a timely basis, HPCIDBC through the PCMU should submit its consolidated project financial statements for audit to OAG within 3 months from the close of the financial year. To this end, all accounts of DOWRI, HPCIDBC and WECS should be closed within two months of the end of the FY and submitted to HPCIDBC to ensure timely consolidation. HPCIDBC shall be responsible for the consolidated Project financial statements. By 15 October of each year, OAG should receive the unaudited financial statements. It will then take 3 months to complete the audit and issue an opinion no later than 6 months from the end of the financial year.

52. 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.

53. The government and MOUD 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>18</sup> ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the grant recipient), 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. 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. Further, any critical audit observations on the project should be reported to ADB, and action taken should also be monitored.

54. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Access to Information 2018.<sup>19</sup> After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 14 calendar days of the date of their acceptance by posting them on ADB's website. The Audit Management Letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.<sup>20</sup>

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<sup>18</sup> ADB approach and procedures regarding delayed submission of audited project financial statements:

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

<sup>19</sup> Available from <https://www.adb.org/documents/access-information-policy>

<sup>20</sup> This type of information would generally fall under Access to Information Policy 2018 exceptions to disclosure. ADB. 2011. *Public Communications Policy*. paras. 97(iv) and/or 97(v).

## VI. PROCUREMENT AND CONSULTING SERVICES

### A. Advance Contracting and Retroactive Financing

55. The government has requested for advance contracting to expedite implementation of the additional financing. All advance contracting will be undertaken in conformity with ADB's Procurement Policy (2018, as amended from time to time).<sup>21</sup> The issuance of invitations to bid under advance contracting will be subject to ADB approval.

56. The government, MOUD and HPCIDBC have been advised that approval of advance contracting does not commit ADB to finance the project. Specifically, the government has requested ADB's approval of advance contracting for tendering and bid evaluation for five civil works packages, recruitment of consulting engineering firm to assist the PCMU to monitor and supervise construction, and recruitment of an NGO or firm to implement community participation and institutional development. Detailed advance action timetables for procurement of three large open competitive bidding (OCB) contracts and two large consulting services contracts, which will be updated on regular basis, are presented below in sections VI.B and VI.C.

57. The additional financing will undertake retroactive financing for (i) civil works under the current project for which there are cost overruns including Dhap dam design and build contract and Bagmati river beautification works and (ii) consulting services and civil works under the additional financing project.

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

58. The PMCU, on behalf of the executing agency, will be responsible for procurement. Procurement of goods and services will be undertaken in accordance with ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

59. OCB using national advertisement and request for quotations (RFQ) procedures will be used for civil works contracts, goods, and services supply contracts.

60. In this project, OCB procurement packages include (i) construction of a regional office building for RBO, (ii) construction of landscaping and beautification along the Bagmati riverbanks, (iii) restoration of historic temples and monuments, (iv) construction of a sewage treatment plant at the junction of the Tukucha and Bagmati Rivers, (v) purchase of IT equipment for RBO regional office and HPCIDBC. RFQ procedures include purchase of furniture for RBO regional office.

61. Timetables for procurement of contracts for the three large OCB construction packages are shown below.

**Table 15: Timetable for Procurement of Construction Contracts for Landscaping and Beautification Along the River Banks<sup>a</sup>**

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
1	Finalize detailed design, technical specifications, and bidding documents	0	0	23-Aug-18	PCMU/PMDSC	Done

<sup>21</sup> Available at: <https://www.adb.org/sites/default/files/adb-procurement-policy.pdf>

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
2	ADB review and no objections to bidding documents	5 WD	5 WD	31-Aug-18	ADB	Done
3	Final revisions to bidding documents as necessary	46 WD	5 WD	4-Nov-18	PCMU/PMDSC	Done
4	Final ADB review and no objections to bidding documents	28 WD	5 WD	12-Dec-18	ADB	Done
5	Advertise invitation for bidders in newspapers and ADB website	1 WD	1 WD after ADB approval	11-Feb-19	PCMU	Done
6	Preparation and submission of bids	42 CD	42 CD	25-Mar-19	Firms	Done
7	Public opening of technical bids	3 CD	1 CD	28-Mar-19	PCMU/MoUD	Done
8	Preparation of TBER	21 WD	21 WD	26-Apr-19	PCMU/PMDSC	Done
9	ADB review and no objections to TBER	27 WD	27 WD	4-Jun-19	ADB	Done
10	Public opening of financial bids	2 WD	1 WD	6-Jun-19	PCMU/MoUD	Done
11	Preparation of FBER and contract award	15 WD	15 WD	28-Jun-19	PCMU/PMDSC	Done
12	ADB review and no objections to FBER and contract award	10 WD	10 WD	10-Jul-19	ADB	Done
13	Issue notice of award	5 WD	5 WD	25-Jul-19	PCMU/MoUD	Done
14	Contract signing	10 WD after signing of loan agreement	28 CD	1-Dec-19	PCMU/MoUD	Not yet due
15	Issue Notice to Proceed	2 WD after signing of contract with firm	1 CD	3-Dec-19	PCMU/MoUD	Not yet due

ADB = Asian Development bank, CD = calendar days, FBER = financial bid evaluation report, MOUD = Ministry of Urban Development, PCMU = project consultation and management unit, TBER = technical bid evaluation report, WD = working days.

<sup>a</sup> The ADB procurement procedure for this contract will be open competitive bidding, using the 1 stage 2 envelopes approach.

**Table 16: Timetable for Procurement of Construction Contracts for Renovation or Reconstruction of Historic Temples and Monuments<sup>a</sup>**

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
1	Finalize detailed design, technical specifications, and bidding documents	0	0	2-Dec-18	PCMU/PMDSC	done
2	ADB review and no objections to bidding documents	31 WD	5 WD	14-Jan-19	ADB	done
3	Final revisions to bidding documents as necessary	5 WD	5 WD	16-April-19	PCMU/PMDSC	done
4	Final ADB review and no objections to bidding documents	2 WD	5 WD	18-Apr-19	ADB	done
5	Advertise invitation for bidders in newspapers and ADB website	1 WD	1 WD after ADB approval	19 April-19	PCMU	done
6	Preparation and submission of bids	45 CD	91 CD	3-Jun-19	Firms	done
7	Public opening of technical bids	1 CD	1 CD	3-Jun-19	PCMU/MoUD	done
8	Preparation of TBER	42 WD	45 WD	31-Jul-19	PCMU/PMDSC	Not yet due
9	ADB review and no objections to TBER	10 WD	10 WD	14-Aug-19	ADB	Not yet due
10	Public opening of financial bids	7 WD	1 WD	23-Aug-19	PCMU/MoUD	Not yet due
11	Preparation of FBER and contract award	8 WD	15 WD	4-Sep-19	PCMU/PMDSC	Not yet due
12	ADB review and no objections to FBER and contract award	21 WD	10 WD	20-Sep-19	ADB	Not yet due
13	Issue notice of award	22 WD	5 WD	1-Dec-19	PCMU/MoUD	Not yet due
14	Contract signing	29 WD	28 CD	1-Dec-19	PCMU/MoUD	Not yet due
15	Issue Notice to Proceed	2 WD after signing of contract with firm	1 CD	3-Dec-19	PCMU/MoUD	Not yet due

ADB = Asian Development bank, CD = calendar days, FBER = financial bid evaluation report, MOUD = Ministry of Urban Development, PCMU = project consultation and management unit, TBER = technical bid evaluation report, WD = working days.

<sup>a</sup> The ADB procurement procedure for this contract will be open competitive bidding, using the 1 stage 2 envelopes approach.



**Table 17: Timetable for Procurement of a Design–Build–Operate Contract for a Wastewater Treatment Plant at Tukucha<sup>a</sup>**

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
1	Finalize base design, technical specifications, costings, and bidding documents	0	0	2-Sep-19	Int'l Engineer Int'l DBO Contracts Specialist	Not yet due
2	ADB review and no objections to bidding documents	3 WD	5 WD	5-Sep-19	ADB	Not yet due
3	Final revisions to bidding documents as necessary	3 WD	5 WD	9-Sep-19	Int'l Engineer Int'l DBO Contracts Specialist	Not yet due
4	Final ADB review and no objections to bidding documents	5 WD	5 WD	16-Sep-19	ADB	Not yet due
5	Advertise invitation for bidders in newspapers and ADB website	4 WD	1 WD after ADB approval	23-Sep-19	HPCIBDC	Not yet due
6	Preparation and submission of bids	72 CD	42 CD	4-Dec-19	Firms	Not yet due
7	Public opening of technical bids	1 CD	1 CD	4-Dec-19	HPCIBDC	Not yet due
8	Preparation of TBER	59 WD	21 WD	25-Feb-20	HPCIBDC Int'l Engineer Int'l DBO Contract Specialist	Not yet due
9	ADB review and no objections to TBER	10 WD	10 WD	10-Mar-20	ADB	Not yet due
10	Public opening of financial bids	21 WD	1 WD	8-Apr-20	HPCIBDC	Not yet due
11	Preparation of FBER and contract award	10 WD	15 WD	21-Apr-20	HPCIBDC Int'l DBO Contract Specialist	Not yet due
12	ADB review and no objections to FBER and contract award	22 WD	10 WD	21-May-20	ADB	Not yet due
13	Issue notice of award	9 WD	5 WD	4-Jun-20	HPCIBDC	Not yet due
14	Final clarification discussions with preferred bidder	0		4-Jun-20	HPCIBDC	Not yet due
15	Contract signing	0	28 CD	4-Jun-20	HPCIBDC and Firm	
16	Issue Notice to Proceed	3 WD after signing of contract with firm	1 CD	9-Jun-20	HPCIBDC	Not yet due

ADB = Asian Development bank, CD = calendar days, FBER = financial bid evaluation report, MOUD = Ministry of Urban Development, PCMU = project consultation and management unit, TBER = technical bid evaluation report, WD = working days.

<sup>a</sup> The ADB procurement procedure for this contract will be open competitive bidding, using the 1 stage 2 envelopes approach.

62. Procurement of consultants will be done through quality- and cost-based selection 90:10, quality-based selection and consultants' qualifications selection. The relevant sections of ADB's Anticorruption Policy (1998, as amended to date) will be included in all procurement documents and contracts.

63. The project will require the services of (i) a consulting firm to assist the HPCIDBC to monitor and supervise civil works construction (425 person-months) (ii) an NGO for social participation and institutional development (120 person-months), and (iii) an NGO for training communities in early flood warning (84 person-months).

64. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and open competitive bidding with national advertisement guidelines is in Section VI.C. The plan describes the thresholds and review procedures, and contract packages for goods, works, and consulting services. Any necessary modifications or clarifications to the recipient procurement procedures will be documented in the procurement plan.

### C. Procurement Plan

**Table 18: Procurement Plan Basic Data**

Project Name: Nepal: Additional Financing for the Bagmati River Basin Improvement Project	
Project Number: NEP 43448-014	Approval Number: xxx
Country: Nepal	Executing Agency: Ministry of Urban Development (MOUD)
Project Procurement Classification: B	Implementing Agencies: High Powered Committee for the Integrated Development of the Bagmati Civilization (HPCIDBC) Water and Energy Commission Secretariat (WECS) Department of Water Resources and Irrigation (DOWRI)
Procurement Risk: Average	
Project Financing Amount: \$78.8 million	Project Closing Date: 31 May 2025
Date of First Procurement Plan: 1 June 2018	Date of This Procurement Plan: 2 July 2019

### A. Methods, Thresholds, Review and 18-Month Procurement Plan

#### 1. Procurement and Consulting Methods and Thresholds

65. Except as the Asian Development Bank (ADB) may otherwise agree, OCB with national advertisement and RFQ shall be used for procurement of works and goods. The method is included to provide flexibility in the event that additional low-cost goods are required.

Procurement of Goods and Works		
Method	Threshold	Comments
Open Competitive Bidding (OCB) for Works and Goods		Prior review.
Request for Quotations (RFQ) for Works and Goods	Below \$100,000	First two contracts are subject to prior review.

Consulting Services	
Method	Comments
Quality and Cost Based Selection (QCBS)	Prior review.
Quality-based Selection (QBS)	Prior review.
Consultants' Qualifications Selection (CQS)	Prior review.

## 2. Goods and Works Contracts Estimated to Cost \$1 Million or More

Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
W001	Construct landscaping along Bagmati Riverbanks	\$12,756,897	1	OCB	Prior	1S2E	Q1 2019	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Standard Bidding Document (large works) agreed with ADB international advertisement
W002	Restore historic temples and monuments	\$11,391,812	3	OCB	Prior	1S2E	Q1 2019	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Standard Bidding Document (small works) agreed with ADB National advertisement

W003	Construct and operate Tukuha wastewater treatment plant	\$28,207,705	1	OCB	Prior	1S2E	Q2 2019	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: DBO Bidding Document agreed with ADB International advertisement
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### 3. Consulting Services Contracts Estimated to Cost \$100,000 or More

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
C001	Train communities in flood early warning system	\$202,722	CQS	Prior	Q3 2020	STP	Assignment: national expertise; Continuous 1 contract
C002	Consultant engineering firm to monitor and supervise construction	\$3,303,958	QCBS	Prior	Q1 2018	FTP	Assignment: International expertise; Continuous 1 contract
C003	Coordinate social participation and community mobilization	\$652,525	QBS	Prior	Q2 2019	FTP	Assignment: national expertise; Continuous 1 contract

**4. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)**

<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value</b>	<b>Number of Contracts</b>	<b>Procurement Method</b>	<b>Review (Prior/Post)</b>	<b>Bidding Procedure</b>	<b>Advertisement Date (quarter/year)</b>	<b>Comments</b>
	None							

There are no consulting services contracts for less than \$100,000.

## 5. Indicative List of Packages Required Under the Project

66. The following table provides an indicative list of goods, works and consulting services contracts over the life of the additional financing, other than those mentioned in previous sections (i.e., those expected beyond the current period).

1. Goods and Works							
Package Number	General Description	Estimated Value (Cumulative)	Estimated Number of Contracts	Procurement Method	Review (Prior / Post)	Bidding Procedure	Comments
G002	Purchase of furniture for one regional RBO office	\$8,633	1	RFQ	Prior	Shopping	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Goods
G003	Purchase IT equipment for one regional RBO office and for HPCIDBC to implement IWRM and decision support system	\$113,090	1	OCB	Prior	1S2E	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Goods
W001	Construct one regional office building for RBO	\$121,370	1	OCB	Prior	1S2E	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: National Standard Bidding Document agreed with ADB national advertisement
W004	Reforestation around Dhap dam	\$218,000	1	Forced account <sup>22</sup>	Prior	2019Q3	

2. Consulting Services							
Package Number	General Description	Estimated Value (Cumulative)	Estimated Number of Contracts	Recruitment Method	Review (Prior / Post)	Type of Proposal	Comments
None							

<sup>22</sup> Executing works by force account means undertaking works using the resources of a public agency or the government without competitive bidding or negotiated contracts

## 6. List of Awarded and On-going, and Completed Contracts

67. **Awarded and On-going Contracts.** No contracts have been awarded yet for the additional financing. The following tables will be used during project implementation to track contract awards.

<b>Goods and Works</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value</b>	<b>Awarded Contract Value</b>	<b>Procurement Method</b>	<b>Advertisement Date (quarter/year)</b>	<b>Date of ADB Approval of Contract Award<sup>23</sup></b>	<b>Comments (including contractor name and contract signing date)</b>
CW02	Construction of Upper Bagmati River Environment Improvement Works	17,200,000	17,818,364.40	ICB	Q1 / 2016	7 Oct. 2016	Kalika-Rnaken-Lama JV Signed 4 Nov 2016
CW01	Design and construction of Dhap Dam	5,900,000	4,672,598.05	ICB	Q4 / 2014	8 Sep. 2015	Guangzho-Lama-Raman JV Signed 9 Oct 2015

<b>Consulting Services</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value</b>	<b>Awarded Contract Value</b>	<b>Recruitment Method</b>	<b>Advertisement Date (quarter/year)</b>	<b>Date of ADB Approval of Contract Award<sup>38</sup></b>	<b>Comments (including contractor name and contract signing date)</b>
CS03	DSS Development, Flood Forecasting, IRBDMP and WQ	2,340,000	2,306,058.38	QCBS	Q2 / 2014	24 Nov. 2015	Japan Water Agency Signed 6 Dec.2015
CS01	Detailed Design of Nagmati Dam	2,700,000	1,799,015.29	QCBS	Q4 / 2014	8 Sep. 2015	Entura Signed 28 Sep 2015
CS02	Project Management Design and Supervision Consultants	2,750,000	3,198,544.09	QCBS	Q3 / 2013	22 May 2014	Landell Mills Ltd. Signed 26 Jun 2014

68. **Completed Contracts.** The following tables will be used during project implementation to record completed contracts.

<sup>23</sup> Date of ADB approval of contract award is the date of no-objection letter to the executing agency and/or implementing agency.



69.

Goods and Works								
Package Number	General Description	Estimated Value	Contract Value	Procurement Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award (footnote 37)	Date of Completion (physical completion date of contract)	Comments

Consulting Services								
Package Number	General Description	Estimated Value	Contract Value	Recruitment Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award (footnote 37)	Date of Completion (physical completion date of contract)	Comments

## 7. Non-ADB Financing

70. The following tables list goods, works and consulting services contracts over the life of the additional financing, financed by non-ADB sources. Currently there is no planned financing other than by ADB.

Goods and Works				
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments

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

## 8. Open Competitive Bidding with National Advertising

71. Open competitive bidding (OCB) with national advertising shall be in accordance with that described as "by inviting bids and a national level" as set forth in "The Public Procurement Act, 2007" (PPA) with first amendment (2016) and "The Public Procurement Regulations, 2007" (PPR) with fifth amendment (2017) and subject to the following conditions:

- (i) The first OCB document for both goods and works procurement shall be reviewed and approved by Asian Development Bank (ADB) prior to issue. These will be used for all OCB with national advertising procurement under the project. No other criteria other than that described in the bidding document may be used to determine the lowest evaluated responsive bidder and no form of domestic preference may be employed. A positive assessment of a bidder's qualifications to perform a contract will be a pre-requisite to an award.
- (ii) All qualified ADB member bidders and ADB member produced goods, services and works shall be eligible. Registration and licensing shall be permitted only as a condition of contract award and not participation in bidding. No award may be withdrawn for failure to obtain tax registration; license or fulfill any similar requirement without ADB's prior concurrence. No bidder will be held ineligible based on provision 63 of the PPA without ADB prior concurrence.
- (iii) Invitations to bid shall be advertised in at least one widely circulated national daily newspaper or freely accessible, nationally-known website allowing a minimum of 28 days for the preparation and submission of bids. Invitations for bids for contracts estimated at \$500,000 or more for goods and \$1,000,000 or more for civil works shall be advertised on ADB's website. No restriction will be placed on the sale of bidding documents.
- (iv) The approved Standing List of a Procuring Entity prepared in accordance with the law shall only be accepted to supplement an advertised open pre-qualification exercise for the specific contract provided that those on the standing list meet the qualification criteria.
- (v) Bids shall be opened at a single location immediately after the deadline for submission. Multiple locations for submission and opening are not acceptable.
- (vi) Government-owned enterprises in Nepal shall be eligible to participate only if specifically agreed by ADB.
- (vii) Extension of bid validity of more than 4 weeks beyond the original validity shall not be allowed without the prior concurrence of ADB.
- (viii) Cancellation of bidding and re-bidding shall not be carried out without the prior concurrence of ADB.
- (ix) Percentage variations from rates fixed by a district rate fixation committee shall not be used for the purpose of evaluating bids.
- (x) If a contract is terminated because of fundamental breach of Contract by the Contractor, the amount to be recovered from the Contractor representing the employer's additional costs for completing the contract shall be provisioned as agreed with ADB.
- (xi) In the event of a conflict between these provisions and the law, these provisions shall prevail

**D. Consultant's Terms of Reference**

**The draft terms of reference, estimated costs, and timetable for procurement for each of the consultant packages are contained in Appendix 1: Project Management and Construction Supervision Consultant;**

72. Appendix 2: River Environment through Community Leadership Development ; and Appendix 3: Community-Based Early Warning Systems (CBEWS).

73. The timetables for procurement of contracts for the two consultant packages to be done under advanced contracting are also shown below.

**Table 19: Timetable for Procurement of Project Management and Construction Supervision Consultants (PMCSC) for BRBIP Additional Financing<sup>a</sup>**

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
1	Prepare recruitment notice and terms of reference	0	NA	5-Mar-18	PCMU	Completed
2	ADB review and no objections	5	5	20-Apr-18	ADB Project Unit	Completed
3	Place recruitment notice on CSRN	1	1	24-May-18	PCMU	Completed
4	Advertisement on CSRN	30	30	25-May-18	PCMU	Completed
5	Shortlisting/preparation of CSC minutes and Submission 1 <sup>b</sup>	10	10	28-Oct-18	PCMU	Completed
5\ 6	Submit Submission 1 to ADB Project Unit	1	1	29-Oct-18	PCMU	Completed
7	ADB review & signing of Submission 1 <sup>c</sup>	7	10	7-Nov-18	ADB Project Unit	Completed
8	ADB sends approval of Submission 1 to EA	1	1	7-Nov-18	ADB Project Unit	Completed
9	Issue RFP	78	7	24-Feb-19	PCMU	Done
10	Proposal submission	45 CD	45 CD	19-Apr-19	Firms	Done
11	CSC Technical Proposal Evaluation and preparation of CSC minutes & Submission 2 <sup>d</sup>	21	21	20-May-19	PCMU	Done
12	Submit Submission 2 to PU	51	1	30-Jul-19	PCMU	Not yet due
13	ADB review & signing of Submission 2 <sup>11</sup>	1	10	31-Jul-19	ADB Project Unit	Not yet due
14	ADB sends approval of Submission 2 to EA	14	1	20-Aug-19	ADB Project Unit	Not yet due
15	Invitations issued for public opening of Financial Proposals	7	7	29-Aug-19	PCMU	Not yet due
16	Public opening of Financial Proposals	7	7	9-Sep-19	PCMU/MOUD	Not yet due
17	Financial evaluation & overall ranking of proposals and preparation of Submission 3 <sup>e</sup>	14	14	27-Sep-19	PCMU	Not yet due
18	Submit Submission 3 to ADB	1	1	30-Sep-19	PCMU	Not yet due

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
19	ADB review and signing of Submission 3 <sup>11</sup>	7	7	9-Oct-19	ADB Project Unit	Not yet due
20	ADB sends approval of overall ranking to EA	1	1	10-Oct-19	ADB Project Unit	Not yet due
21	Invitation issued for contract negotiation	30	3	1-Dec-19	PCMU	Not yet due
22	Contract Signing	1	3	2-Dec-19		
23	Issuing of Notice to Proceed	1	1	3-Dec-19		

ADB = Asian Development bank, CSC = consultant selection committee, CSRN = consulting services recruitment notice, EA = executing agency, MOUD = Ministry of Urban Development, PCMU = project coordination and management unit, RFP = request for proposal.

<sup>a</sup> The ADB procurement procedure for this contract will be quality-and-cost-based selection (QCBS), with an evaluation of 90% / 10% on quality and cost, respectively.

<sup>b</sup> Report on shortlisting of consulting firms, including long list and short list.

<sup>c</sup> With allowance for clarification from the executing agency.

<sup>d</sup> Report on Evaluation of Technical Proposals.

<sup>e</sup> Report on Financial Evaluation and Ranking of Proposals.

**Table 20: Timetable for Procurement of Community Participation and Institutional Development NGOs for BRBIP-Additional Financing<sup>a</sup>**

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
1	Prepare recruitment notice and terms of reference	0	NA	4-Sep-18	PCMU	Completed
2	ADB review and no objections	5	5	7-Nov-18	ADB Project Unit	Completed
3	Place recruitment notice on CSRN	136	1	16-May-19	PCMU	Not yet due
4	Advertisement on CSRN	30	30	27-Jun-19	PCMU	Not yet due
5	Shortlisting/preparation of CSC minutes and Submission 1 <sup>b</sup>	10	10	11-Jul-19	PCMU	Not yet due
5/6	Submit Submission 1 to ADB Project Unit	1	1	12-Jul-19	PCMU	Not yet due
7	ADB review & signing of Submission 1 <sup>c</sup>	10	10	26-Jul-19	ADB Project Unit	Not yet due
8	ADB sends approval of Submission 1 to EA	1	1	29-Jul-19	ADB Project Unit	Not yet due
9	Issue RFP	7	7	7-Aug-19	PCMU	Not yet due
10	Proposal submission	45	45	9-Oct-19	Firms	Not yet due
11	CSC Technical Proposal Evaluation and preparation of CSC minutes & Submission 2 <sup>d</sup>	21	21	7-Nov-19	PCMU	Not yet due
12	Submit Submission 2 to PU	1	1	8-Nov-19	PCMU	Not yet due
13	ADB review & signing of Submission 2 <sup>11</sup>	10	10	22-Nov-19	ADB Project Unit	Not yet due
14	ADB sends approval of Submission 2 to EA	1	1	25-Nov-19	ADB Project Unit	Not yet due
15	Invitations issued for public opening of Financial Proposals	7	7	4-Dec-19	PCMU	Not yet due
16	Public opening of Financial Proposals	7	7	13-Dec-19	PCMU/MOUD	Not yet due

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
17	Financial evaluation and overall ranking of proposals and preparation of Submission 3 <sup>e</sup>	14	14	2-Jan-20	PCMU	Not yet due
18	Submit Submission 3 to ADB	1	1	3-Jan-20	PCMU	Not yet due
19	ADB review and signing of Submission 3 <sup>11</sup>	7	7	14-Jan-20	ADB Project Unit	Not yet due
20	ADB sends approval of overall ranking to the executing agency	1	1	15-Jan-20	ADB Project Unit	Not yet due
21	Invitation issued for contract negotiation	3	3	20-Jan-20	PCMU	Not yet due

ADB = Asian Development bank, CSC = consultant selection committee, CSRN = consultanting services recruitment noticek, EA = executing agency, MOUD = Ministry of Urban Development, PCMU = project coordination and management unit, RFP = request for proposal

<sup>a</sup> The ADB procurement procedure for this contract will be quality-and-cost-based selection (QCBS), with an evaluation of 90% / 10% on quality and cost, respectively.

<sup>b</sup> Report on shortlisting of consulting firms, including long list and short list.

<sup>c</sup> With allowance for clarification from the executing agency.

<sup>d</sup> Report on Evaluation of Technical Proposals.

<sup>e</sup> Report on Financial Evaluation and Ranking of Proposals.

## VII. SAFEGUARDS

74. **Environmental Safeguards.** The initial environmental examination (IEE) prepared for the additional financing includes impact assessment that covers design, construction and operation of the Tukucha WWTP and digester; the landscaping of Bagmati riverbanks; and restoration of historic temples and monuments.

75. The PCMU, with assistance from the environmental consultant engaged by the the project management and construction supervision consultant (PMCSC), will (i) update the IEE and the environmental management plan (EMP) according to project components and detailed designs; (ii) ensure EMPs are included in the bidding documents and civil works contracts; (iii) provide oversight on the implementation of EMP by the contractors; (iv) facilitate and ensure contractors comply with all government rules and regulations such as regarding tree cutting and construction as well as any other relevant approvals required for works; (v) supervise and provide guidance to the contractors to properly carry out implementation of the EMPs; (vi) review, monitor and evaluate the effectiveness with which the EMPs are implemented, and recommend necessary corrective actions as necessary; (vii) perform monitoring activities as specified in the environmental monitoring plan (viii) consolidate quarterly environment monitoring reports and submit periodic monitoring reports to ADB; (ix) ensure timely disclosure of final IEE in locations and forms accessible to the public; (x) take corrective actions when necessary to ensure no environmental impacts; (xi) conduct ongoing consultations with the community during implementation of the project; and (xii) establish a grievance redress mechanism and ensure it is operated satisfactorily.

76. The PCMU will include an environmental specialist who work with the PMCSC environmental specialist in monitoring implementation of the EMP during construction. During operations, it is expected that the HPCIDBC and RBO will take on the function of environmental monitoring.<sup>24</sup> Training will be provided to staff in these organizations. The estimated cost for implementing the EMP is \$252,000.

77. **Involuntary Resettlement.** The additional financing is categorized as B for Involuntary Resettlement. The additional financing will involve involuntary resettlement impacts to 18 affected persons including: (i) permanent physical displacement of 17 non-title holders and (ii) temporary physical displacement of 1 non-title holder (a holy man who will temporarily move during construction and return to live in a shrine). A resettlement plan was drafted and will be disclosed on the ADB website by April 2019. Safeguards screening assessed that there are no legacy issues in the project area. The additional financing will submit semi-annual social safeguard monitoring report to ADB for disclosure.

78. **Indigenous Peoples.** The project has been categorized as C for indigenous peoples (IP). No IP issues are foreseen during project implementation.

79. **Grievance Redress Mechanism (GRM).** The project grievance redress system was institutionalized by HPCIDBC under the current project to address grievances that arise due to project implementation. The grievance redress mechanism is widely available to the public and will be improved under the additional financing; the GRM will be re-advertised in the local newspaper at the start of the project and signage boards will be placed at prominent locations in the project area. The public will have several mechanisms for lodging a complaint: (i) the GRM will have a dedicated email; (ii) a Grievance Register (to be kept at each construction site), (iii) a Grievance Drop Box (to be kept at PIU office, Gokarna), and (iv) a phone number which

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<sup>24</sup> Once the river basin organization (RBO) is formed HPCIDBC will become part of the RBO.

connects with a current project information officer. At any time, an aggrieved person may convey his/her complaint, name and contact details by email or in person to the designated officials of the PMCSC/PIU.

80. **The GRM will ensure a two-way** communication resolution system. The broad outline of the mechanism, structure and flow of information is given below:

- (i) The contractor will communicate any received grievance to the PMCSC/PIU. The contractor will review the grievance readdress box or register every alternate day. The PMCSC and PIU environmental officers have a responsibility to follow up with the contractors on a weekly basis to ensure that all grievances are recorded.
- (ii) Each complaint will be issued a reference number. The PMCSC and PIU environmental officers will issue each aggrieved person acknowledgement that they have received the complaint and details on the process to follow.
- (iii) An assigned environment officer from the PIU will work with the contractor and aggrieved person to resolve the complaint. On settlement of the complaint, the environment officer of the PMCSC will verify that the complaint is addressed (through consultation with the affected parties) and issue a letter to the aggrieved person outing findings of the GRM investigation and action items.
- (iv) If a grievance requires a policy decision or involvement of other government departments or ministries, then it shall be escalated to HPCIDBC for further resolution. If required, the aggrieved community member or community forum like Bagmati River Beautification Forum can also be made part of the redress process.
- (v) The decision on the grievance must be communicated to the aggrieved person by PMCSC within a maximum timeframe of 30 days with action taken or resolution planned.
- (vi) All grievances must be documented and indexed. The meeting proceedings and actions against each of the grievance will be documented by the PMCSC and carry an index number for easy traceability.
- (vii) All complaints lodged with the GRM will be recorded and reported to ADB within the semi-annual social safeguard monitoring report. Details of the aggrieved persons name, nature of complaint, status of complaint, and outcome will be included within the safeguard report. ADB staff will undertake routine inspections of the GRM to ensure that the GRM is functioning.
- (viii) People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism Details of the grievance redress mechanism for the project are provided in Section XI of this document.

81. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement, 2009 (SPS),<sup>25</sup> ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. All financial institutions will ensure that their investments follow applicable national laws and regulations and will apply the prohibited investment activities list (SPS, Appendix 5) to subprojects financed by ADB.

## VIII. GENDER AND SOCIAL DIMENSIONS

82. The PCMU will ensure that civil works contracts and bidding documents under the project include specific provisions requiring contractors to comply with all applicable labor laws and core labor standards: (i) prohibition of child labor as defined in national legislation for construction and maintenance activities, (ii) equal pay for equal work of equal value regardless of gender, ethnicity or caste, (iii) elimination of forced labor, and (iv) the requirement to disseminate information on

<sup>25</sup> Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>



sexually transmitted infections including HIV to employees and local communities surrounding the project sites.

83. A Gender Equality and Social Inclusion (GESI) Action Plan has been prepared for the project with the objective to implement all outputs of the project in a GESI responsive manner.

84. The project will organize orientation to the staff and partner implementing NGOs on the current project GESI Action Plan aims and the operational strategy, containing potential actions and measuring (monitoring) indicators. Thus, capacity building on GESI concept and skills will be done at two levels, community and project staff level. While doing this activity at staff and partner NGO level, the responsible counterpart government implementing agencies will also be included for capacity building so that a common understanding about GESI realities and approach is internalized within the responsible institution for sustaining the processes, activities, institutions initiated or strengthened by the current project.

85. The PCMU is to ensure implementation of GESI Action Plan and will be supported by the PMCSC to implement these plans. An adequate budget is allocated for the PCMU/PMCSC to implement GESI Action Plan. A Social and Gender Specialist in the PMCSC will assist the Social Mobilization and Communication Unit in the PCMU (staffed with a sociologist and a gender specialist) in monitoring and reporting on GESI aspects.

86. Pursuant to 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 SPS.

**Table 21: Gender Equality and Social Inclusion Action Plan**

No.	Activity	Targets/Performance Indicators	Responsibility	Year
Output 1: Systems and capacity for integrated and participatory river basin management established				
1	IRBDMP for Bagmati 2015–2040 prepared	• IRBDMP for Bagmati is inclusive and equitable in approach and addresses the needs/priorities of local communities including that of women and socially excluded	IRBDMP consultants, WECS, HPCIDBC	Year 1 to 4
2.	GESI responsive social mobilization plan developed for effective implementation of IRBDMP	• Increased number of women, poor and socially excluded utilizing the project resources, benefits through social mobilization efforts • Data evidence of beneficiary is in place and reported		
3	Inclusive and representative Civil Society Platform established	• Civil Society platform includes representatives from NGOs, local village groups with 45% participation of women (Overall project progress to date: 40% participation of women)		
4	Livelihood activities and awareness raising activities targeting local communities especially women, poor and socially excluded implemented	• Livelihood activities support to 296 HHs in the SNNP gives preference to poor, WHH and socially excluded groups. • Sex, caste/ethnicity, poor households disaggregated data of livelihood activities collected and reported		Year 2 to 6
Output 2: Riverbank environment in urban areas improved				
5	Improved river environment through rehabilitation/protection of ghats, riverbanks, regulators, restoration of riverfront historic monuments and temples and engagement with local community, basin settlers, and local CSOs/NGOs	• For the rehabilitation works at least 20% of the employed labor are women (Overall project progress to date: 16% of employees are women) and 10% from the socially excluded (Overall project progress to date: 80% of employees are from socially excluded groups) • Equal pay for work of equal value for women labor ensured	HPCIDBC NGOs, PMCSC	Year 2 to 11
6	Local users' groups mobilized for community participation for monitoring and prevention of solid waste disposal into the river corridor and other conservation related activities	• 22 ward user community groups platform formed, comprising at least 33% women members and 20% from poor and socially excluded groups, mobilized to monitor and prevent solid waste disposal into the river corridor. Overall project progress to date: 53% women members in the community groups platform and 37% of workers from poor and socially excluded groups to monitor and prevent solid waste disposal • IEC materials on river environment conservation are simple and in local languages and disseminated to all basin stakeholders through Radio, TV	NGOs PMCSC	Year 2 to 11
Output 3: Water availability in the basin during dry season and watershed conservation increased				
7	Capacity building training and orientation program on RWH system installation and O&M includes women and socially excluded	• Equal number of girls and boys are oriented in schools • At least one female member of each of the interested HHs oriented on RWH installation to O&M and solid waste management • Information materials developed on RWH technology are in simple and local language	NGOs PMCSC	Year 2 to 6
8	Training and awareness programs on conservation and protection of watershed areas along the river corridor to the stakeholders—users'groups, local settlers, army personnel to include women and socially excluded	• At least 30% of the total trained on conservation and protection of watershed/solid waste disposal are women and proportionately from socially excluded groups among local settlers. Overall project progress to date: 35% of total participants trained are women and socially excluded groups		Year 2 to 6
9	Training and demonstration on use of energy efficientwood cooking stoves to women of SNNP Settlement	• Women of the 296 HHs will receive training and demonstration kits • Qualitative assessment of utilization and benefits of cooking stove conducted	HPCIDBC/NGO	Year 2 to 6
Output 4: Functioning flood forecasting and early warning system for the Bagmati River Basin utilized				

No.	Activity	Targets/Performance Indicators	Responsibility	Year
10	Community-based early warning system and flood adaptation programs implemented	<ul style="list-style-type: none"> <li>Community-based early warning system and flood adaptation program considers specific needs of women, children, disabled and elderly</li> <li>Training organized for 18 communities along the Bagmati River downstream of Kathmandu on community-based flood warning system includes participation of women (30%) and proportionately from socially excluded groups from local communities (no baseline)</li> </ul>	DHM and WECS	Year 2 to 10
<b>Output 5: Efficient project management and effective stakeholder coordination</b>				
11	Ensure GESI-sensitive project management	<ul style="list-style-type: none"> <li>GESI Action Plan adopted and annual action plan formulated</li> <li>Implementation of GESI Action plan monitored and reported in quarterly progress reports</li> <li>HPCIDBC, WECS, and local users' groups and partner NGOs oriented on the GESI Action Plan as well as on the use of GESI mainstreaming tools</li> <li>GESI-sensitive monitoring system established and regularly populated with sex-, ethnicity-, caste-, and poverty level-disaggregated data</li> </ul>	PCMU and PMCSC NGO	Year 1 to 10
12	Capacity building on GESI mainstreaming conducted for community, project staff/government officials and NGOs	<ul style="list-style-type: none"> <li>Community level training: 50% women and proportionate representation from excluded groups. Overall project progress to date: 67% of women and excluded groups trained.</li> <li>Project staff, government officials and NGOs: 30% women (baseline data not provided by overall project)</li> </ul>	PMCSC/PCMU	Year 1 to 10

CSO = civil society organization, DSS = decision support system, DWIDP = Department of Water Induced Disaster Prevention, WHH = women-headed household, GESI = gender equality and social inclusion, HH = household, HPCIDBC = High Powered Committee for the Integrated Development of the Bagmati Civilization, IEC = information education and communication, IRBDMP = integrated river basin development master plan, IRMC = integrated resource management committees, NGO = nongovernment organization, O&M = operation and maintenance, PCMU = project coordination and management unit, PMCSC = project management construction and supervision consultant, QCPRM = quarterly country portfolio review meeting, RBO = river basin organization, RWH = rain water harvesting, SNNP = Shivapuri Nagarjun National Park, WECS = Water and Energy Commission Secretariat.

Source: Asian Development Bank.

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

### A. Project Design and Monitoring Framework

<b>Impact the Project is Aligned with</b> <b>Current project</b> Improved water security in the Bagmati River basin <b>Overall project</b> A clean, green, and healthy Bagmati River system that is full of life and valued by all (Bagmati Integrated River Basin Development and Management Plan 2018–2038) <sup>a</sup>			
<b>Results Chain</b>	<b>Performance Targets and Indicators with Baselines</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Risks</b>
<b>Outcome</b> <b>Current project</b> River health and flood management improved  <b>Overall project</b> Unchanged	<b>Current project</b> By 2020: <sup>b</sup> Bathing water quality standard (DO > 3 mg/l) achieved at Pashupatinath when reservoir water is released (2012–2013 baseline: highest DO = 1 mg/l in dry season) <b>Overall project</b> By 2026: Unchanged  <b>Current project</b> By 2020: <sup>b</sup> Annualized cost of flooding in Bagmati River Basin reduced by 10% (1993–2013 baseline: \$850,000) <sup>c</sup> <b>Overall project</b> By 2026: Unchanged  <b>Current project</b> None <b>Overall project</b> By 2026: Amount of wastewater flowing in the Bagmati River reduced by 17.3 MLD (2019 baseline: Not applicable)	RBO Secretariat (HPCIDBC) water quality assessment reports   Department of Water Induced Disaster Prevention annual reporting   DBO contract third party audit report	Kathmandu Valley Wastewater Management Project implementation is delayed and does not achieve the target of meeting the effluent standards of WWTPs at Gokarna and Guheshwori.
<b>Outputs</b>  <b>Current project</b> 1. Systems and capacity for integrated and participatory river basin management established  <b>Overall project</b> Unchanged	<b>1a.</b> <b>Current project</b> By 2018: <sup>b</sup> 15-year IRBDMP for Bagmati approved by majority of basin stakeholders (2013 baseline: Not applicable) <b>Overall project</b> Unchanged <b>1b.</b> <b>Current project</b> By 2018: <sup>b</sup> Water resources (including quality and quantity) real-time data and decision support systems in place (2013 baseline: Not applicable) <b>Overall project</b> Unchanged <b>1c.</b> <b>Current project</b> By 2019: <sup>b</sup> RBO legally established, financed, and staffed (2013 baseline: Not applicable) <b>Overall project</b> By 2019: Unchanged <b>1d.</b>	1a.–e. Project progress reports prepared by the Water and Energy Commission Secretariat and HPCIDBC	The Government of Nepal delays approval of a suitable legal and institutional framework for integrated water resources management and establishment of a strong RBO for the Bagmati River.

Results Chain	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Risks
	<p><b>Current project</b> None</p> <p><b>Overall project</b> By 2023: Bagmati RBO offices equipped and staff trained (2019 baseline: Not applicable)</p> <p><b>1e.</b> <b>Current project</b> None</p> <p><b>Overall project</b> <b>By 2023</b> Koshi River basin office build, equipped and staffed (2019 baseline: Not applicable)</p>		
<p><b>Current project</b> 2. Riverbank environment in urban areas improved</p> <p><b>Overall project</b> Unchanged</p>	<p><b>2a.</b> <b>Current project</b> By 2019:<sup>b</sup> 7.2 km of river corridor constructed with aesthetic river walls, green zones, and recreational amenities employing 20% of women and 10% poor and socially excluded as workers during construction (2013 baseline: 0)</p> <p><b>Overall project</b> By 2023: 12.95 km of river corridor constructed with aesthetic river walls, green zones, and recreational amenities employing 20% of women and 10% poor and socially excluded as workers during construction (2019 baseline: 7.2 km)</p> <p><b>2b.</b> <b>Current project</b> By 2019:<sup>b</sup> 11 aeration weirs constructed (2013 baseline: 0)</p> <p><b>Overall project</b> Unchanged</p> <p><b>2c.</b> <b>Current project</b> By 2019:<sup>b</sup> 2 regulators rehabilitated (2013 baseline: 0)</p> <p><b>Overall project</b> Unchanged</p> <p><b>2d.</b> <b>Current project</b> None</p> <p><b>Overall project</b> By 2024: 23 historic monuments along the Bagmati River corridor restored to agreed archaeological and architectural standards (2019 baseline: 0)</p> <p><b>2e.</b> <b>Current project</b> By 2019:<sup>b</sup> Nine wards user community groups platform, comprising at least 33% women members and 20% from poor and socially excluded groups, mobilized to monitor and prevent solid waste disposal into the river corridor (2013 baseline: 0)</p> <p><b>Overall project</b> By 2024:</p>	2a.–g. Project progress reports prepared by the Ministry of Urban Development and HPCIDBC	Inadequate operation and maintenance on beautified corridors and restored heritage building results in asset deterioration.

Results Chain	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Risks
	<p>22 wards user community groups platform, comprising at least 33% women members and 20% from poor and socially excluded groups, mobilized to monitor and prevent solid waste disposal into the river corridor (2019 baseline: Nine wards)</p> <p><b>2f.</b> <b>Current project</b> By 2018: 300 households adopt improved solid waste management (2013 baseline: 0) <b>Overall project</b> By 2019: 650 households adopt improved solid waste management (2019 baseline: 300)</p> <p><b>2g.</b> <b>Current project</b> By 2019: 2 km of riverbank maintained with private sector support (2013 baseline: 0) <b>Overall project</b> Unchanged</p>		
<p><b>Current project</b> 3. Water availability in the basin during dry season increased and watershed conservation improved</p> <p><b>Overall project</b> Unchanged</p>	<p><b>3a.</b> <b>Current project</b> By 2020:<sup>b</sup> 850,000 m<sup>3</sup> of storage capacity established with the Dhap dam (2013 baseline: 0) <b>Overall project</b> By 2020: Unchanged</p> <p><b>3b.</b> <b>Current project</b> By 2019: 178,000 m<sup>3</sup> rooftop water harvested annually by 2,500 households to provide 45,000 m<sup>3</sup> of water supply and recharge 135,000 m<sup>3</sup> of groundwater (2013 baseline: 0) <b>Overall project</b> Unchanged</p> <p><b>3c.</b> <b>Current project</b> By 2019: 12.5 hectares erosion-prone cultivated area in the Shivapuri Nagarjun National Park stabilized with fruit-tree planting and improved cropping practices (2013 baseline: 0) <b>Overall project</b> Unchanged</p> <p><b>3d.</b> <b>Current project</b> By 2019: 80% of households converted from traditional wood stoves to energy-saving stoves (baseline 2013: 296 households in the Shivapuri Nagarjun National Park use traditional stoves) <b>Overall project</b> Unchanged</p> <p><b>3e.</b> <b>Current project</b></p>	<p>3a.–d. Project progress reports prepared by Ministry of Urban Development, Department of Water Resources and Irrigation, and HPCIDBC</p> <p>3e. DBO contract third party audit report</p>	<p>Inadequate revisions to sewerage tariffs result in reduced financial sustainability of the Tukucha WWTP</p>

Results Chain	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Risks
	<p>None</p> <p><b>Overall project</b></p> <p>By 2023:</p> <p>One wastewater treatment plant commissioned releasing about 17.3 MLD of treated effluent in the Bagmati river (2019 baseline: 0) (RFI A)</p>		
<p><b>Current project</b></p> <p>4. Functioning flood forecasting and early warning system for the Bagmati River basin utilized</p> <p><b>Overall project</b></p> <p>Unchanged</p>	<p><b>4a. Current project</b></p> <p>By 2018:<sup>b</sup></p> <p>Flood early warning system in place (2013 baseline: Not applicable)</p> <p><b>Overall project</b></p> <p>Unchanged</p> <p><b>4b. Current project</b></p> <p>By 2018:<sup>b</sup></p> <p>Flood warnings disseminated 72 hours before flood events (2013 baseline: 24 hours before flood events with low reliability)</p> <p><b>Overall project</b></p> <p>Unchanged</p> <p><b>4c. Current project</b></p> <p>By 2018:</p> <p>25 most flood-prone riverine villages implement community-based flood adaptation programs with protocols that consider needs of women, children, disabled, and elderly during disasters (2013 baseline: 0)</p> <p><b>Overall project</b></p> <p><b>By 2022</b></p> <p>Unchanged</p>	<p>4a.–c. Water and Energy Commission Secretariat and Department of Hydrology and Meteorology annual reports</p>	<p>Department of Hydrology and Meteorology does not receive adequate financing for maintenance of the hydro-met network and FFEWs</p>
<b>Activities with Milestones</b>			
<p><b>1. Systems and capacity for integrated and participatory river basin management established</b></p> <p>1.1 Recruit DSS, FFEW, IRBDMP, and water quality consultants (completed).</p> <p>1.2 Select and mobilize RBO and legal consultants (completed).</p> <p>1.3 Conduct consultations for finalization of RBO structure (completed).</p> <p>1.4 Draft new water act and legislature for RBO (Q1 2017–Q2 2019 changed).</p> <p>1.5 Procure equipment for DSS, and water quality (completed).</p> <p>1.6 Develop and implement DSS and water quality monitoring system (completed).</p> <p>1.7 Develop IRBDMP (completed).</p> <p>1.8 Recruit additional financing capacity-building consultants (Q1 2020–Q3 2020, added).</p> <p>1.9 Build Koshi River basin office building (Q2 2021–Q2 2022, added).</p> <p>1.10 Procure and install information technology equipment (Q1 2022–Q3 2022, added).</p> <p>1.11 Koshi River basin office and Bagmati RBO staff capacity building (Q2 2020–Q2 2023, added)</p> <p><b>2. Riverbank environment in urban areas improved</b></p> <p>2.1 Tender river improvement works (current project completed, additional financing Q1 2019–Q3 2019).</p> <p>2.2 Recruit NGOs for river community mobilization, gender and solid waste management (current project completed, additional financing Q1 2018–Q3 2019).</p> <p>2.3 Form community groups, establish stakeholders' consultations and gender groups for the duration of the project (current contract completed; additional financing Q4 2019–Q4 2020).</p> <p>2.4 Undertake community mobilization, stakeholders' interaction, and gender activities (current project April 2016–October 2018, additional financing Q4 2020–Q4 2023).</p> <p>2.5 Undertake detailed design by consultant (completed).</p> <p>2.6 River improvement works construction (current project Q4 2016–Q2 2019, changed; additional financing Q4 2019–Q2 2023, added)</p> <p>2.7 Restore historic temples and monuments (Q3 2019–Q4 2024, added).</p> <p><b>3. Water availability in the basin during dry season increased and watershed conservation improved</b></p>			

Activities with Milestones		
3.1	Process approval of environmental impact assessment for Dhap Dam (completed).	
3.2	Tender design and build contract for Dhap Dam (completed).	
3.3	Recruit Nagmati dam design consultants (completed).	
3.4	Recruit NGOs for watershed management and rainwater harvesting (completed).	
3.5	Undertake detailed design for Dhap Dam by contractor (completed).	
3.6	Undertake detailed design for Nagmati dam (completed).	
3.7	Implement environmental management plan for Dhap Dam construction works (Q1 2015–Q1 2022, changed).	
3.8	Construct Dhap dam (Q4 2015–Q2 2019 changed).	
3.9	Implement rainwater harvesting and watershed management (Q3 2016–Q3 2019, changed).	
3.10	Prepare detailed design of WWTP for Tukucha River tributary (Q2 2020–Q4 2020, added).	
3.11	Build WWTP for Tukucha River tributary (Q1 2021–Q2 2023, added).	
3.12	Operate WWTP for Tukucha River tributary (Q2 2023–Q2 2028, added).	
4.	Functioning flood forecasting and early warning system for the Bagmati River Basin utilized	
4.1	Mobilize FFEW consultants under DSS contract (completed).	
4.2	Procure equipment for FFEW (completed).	
4.3	Develop, implement, and test FFEW (completed).	
4.4	Recruit NGO for communities' flood early warning training (Q4 2019–Q2 2020, added).	
4.5	Implement community early warning trainings (Q2 2020–Q2 2022, added).	
Project Management Activities		
Recruit the project management and construction supervision consultants (Q2 2018–Q3 2019).		
Set up financial management system (Q1 2020).		
Set up project performance monitoring system (Q2 2020).		
Undertake midterm review (Q2 2022).		
Prepare project completion report (Q4 2024).		
Inputs		
Asian Development Bank		
Loan	Grant	Technical Assistance Grant
\$25.5 million current	\$4.5 million current	\$0.5 current
\$63.0 million additional	\$0.0 additional	\$0.6 million additional
\$88.5 million overall	\$4.5 million overall	\$1.1 million overall
Water Financing Partnership Facility		
Loan	Grant	Technical Assistance Grant
\$0 current	\$0 current	\$0.5 million current
\$0 additional	\$0 additional	\$0.0 additional
\$0 overall	\$0 million overall	\$0.5 million overall
Government		
\$6.0 million current		
\$15.8 million additional		
\$21.8 million overall		
Assumptions for Partner Financing		
Current project		
None		
Overall project		
Unchanged		

DO = dissolved oxygen, DSS = decision support system, FFEW = flood forecasting and early warning system, HPCIDBC = High Powered Committee for the Integrated Development of the Bagmati Civilization, IRBDMP = integrated river basin development master plan, km = kilometer, m<sup>3</sup> = cubic meter, mg/l = milligram per liter, MLD = million liters per day, NGO = nongovernment organization, Q = quarter, RBO = river basin organization, WWTP = wastewater treatment plant.

<sup>a</sup> Government of Nepal, Water and Energy Secretariat. 2018. *Integrated River Basin Development and Management Plan*. Kathmandu. The document is yet to be approved by the Government of Nepal. The current impact was formulated following the previous design and monitoring framework guidelines. The overall impact was updated to align with the current policy: *Bagmati River Basin Integrated Development and Management Plan, 2018-2038*.

<sup>b</sup> Milestone dates revised to reflect current project implementation progress.

<sup>c</sup> The costs of flooding are based on average costs from 2000 to 2004 and the costs of the large flood in 1993, amortized.

#### Contribution to the ADB Results Framework

RFI A: Wastewater treatment capacity added or improved (cubic meters per day). Target: 17,300.

Source: Asian Development Bank.

RFI A: Wastewater treatment capacity added or improved (cubic meters per day). Target: 17,300



Source: Asian Development Bank.

## B. Monitoring

87. **Project performance monitoring.** A project performance monitoring system (PPMS) will be established for the project.<sup>26</sup> The DMF forms the basis for monitoring the project progress. During project implementation, the PPMS, through the project performance report, will monitor the likelihood that key milestone dates for activities, outputs, outcome, and impact will be achieved. For the impact, measured 5 years after project completion, this will be indirectly through monitoring assumptions and risks. The DMF will be reviewed during the project implementation and if needed, adjusted to reflect changing circumstances and project environments so that the project outcome can be achieved. Following project completion, the project is subject to an assessment of the outcome along with recommendations for enhancing and sustaining the outcome. A project completion report will also include a preliminary assessment of the impact. The project impact, outcome, outputs, and targets and indicators can be seen in the DMF.

88. The PCMU will monitor project implementation through PCMU team members and as well as feedback from the executing and implementing agencies, project steering committee, project beneficiaries, and other stakeholders. ADB will monitor project performance in five aspects, i.e., technical, procurement, disbursement, financial management, and safeguards, through the executing agency's quarterly and annual progress reports (prepared by the PCMU) and endorsed by the executing agency), day-to-day communication with the HPCIDBC, and ADB review missions.

89. **Compliance monitoring.** The PCMU on behalf of the executing and implementing agencies will monitor compliance with covenants stipulated in the grant agreement. ADB will monitor the compliance status through the executing agency's semi-annual progress reports, day-to-day communication with the PCMU, and ADB review missions; and take necessary remedial measures for any non-compliance.

90. **Monitoring of the environmental safety guidelines.** During implementation, the PCMU will monitor the implementation of the guidelines, including the grievance redress mechanism. PCMU team members will be required to screen, monitor and report the project activities under their coordination against the guidelines and this is included in their terms of reference (Section VI.D). Progress reporting will be submitted as part of the quarterly and annual project progress reports. In the event of any environmental incidents, accidents, or complaints, the PCMU will immediately report these to the executing and implementing agencies and ADB. Corrective actions will be developed as needed, and agreed between the executing and implementing agencies, PCMU, affected persons, and any other relevant agencies.

91. **Social safeguards monitoring.** The project outcome and outputs are intended to achieve inclusive livelihood benefits for the beneficiaries in the project areas. No involuntary resettlement impacts will occur due to the project. A summary poverty reduction and social strategy (SPRSS) has been prepared. The PCMU will immediately inform the implementing and executing agencies

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<sup>26</sup> ADB's PPMS is a coherent and results-based approach to project planning, performance monitoring, and evaluation of results. The PPMS comprises five components: (i) DMF; (ii) project performance report (PPR); (iii) grant recipient's monitoring and evaluation (at the central, and executing and implementing agencies levels); (iv) project completion report (PCR); and (v) project performance evaluation report (PPER), and where appropriate, impact evaluation studies. The DMF provides the basis upon which the PPMS operates. It does this by establishing quantified, time-bound targets and measurable indicators, and by identifying key risks and assumptions that are used to monitor and evaluate performance in the PPR, PCR, and PPER.

and ADB, of any unanticipated social safeguard concerns.

92. **Gender and social dimensions monitoring.** The PCMU social and gender specialist will record sex-disaggregated data and diagnostics on the social, gender and participatory aspects of the project during the project, while assessing practical gender benefits of the project. The progress on the GESI Action Plan implementation will be reported through the quarterly and annual progress reports.

### C. Evaluation

93. Project performance will be regularly monitored and rated through ADB's e-Operations project implementation module. ADB's overall loan implementation rating will be made based on five performance indicators: technical, procurement, disbursement, financial management, and safeguards (Section IX.B). Such rating will be updated semi-annually based on executing agency's semi-annual project progress reports and/or ADB review missions. Within 6 months of physical completion of the project, the MOUD (executing agency) will submit a grant completion report to ADB.<sup>27</sup>

94. ADB will conduct an inception mission when the loan becomes effective. ADB and the government will jointly field review missions of the project at least once a year. The missions will (i) review overall implementation of the project and update, in consultation with the executing agency, the project implementation schedule; (ii) examine existing and potential implementation problems, and find out measures with the executing agency to resolve them; (iii) review progress in procurement and disbursement; (iv) review the loan recipient's compliance with grant covenants and, where there is any noncompliance or delay, discuss proposed remedial measures; and (v) assess the likelihood of attaining the project's outcome.

95. ADB and the government will undertake a midterm review at the beginning of the third year of project implementation, to assess implementation status and take appropriate measures—including modification of scope and implementation arrangements, and reallocation of loan proceeds, as appropriate—to achieve the project's outcomes and impact.

96. A final ADB review mission will take place within six months after physical completion of the project. This mission will: (i) assess project performance against targets and benchmarks including any revision(s) as agreed during the midterm review; (ii) identify any incomplete activities, or unused project funds; and (iii) determine the project satisfactory rating. A project completion report will be prepared, in cooperation with the government. In case the project is selected as a sample of projects for project performance evaluation reporting, the project will be subject to more detailed performance evaluation and impact assessment about three or more years after completion.

97. Within 6 months of physical completion of the project, MOUD will submit a project completion report, prepared by the PCMU, to ADB (footnote 22).

### D. Reporting

98. The PCMU, on behalf of the executing and implementing agencies, will provide ADB with: (i) quarterly progress reports in a format consistent with ADB's project performance reporting

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<sup>27</sup> Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets against the baseline data, (b) key implementation issues and solutions; (iii) updated procurement plan; (iv) updated implementation plan for each 12 months; and (v) a project completion report<sup>28</sup> within six months of physical completion of the project. The completion report will present the government's assessment of the project's effectiveness and will take account of findings of the ADB's final review. To ensure that the project continues to be viable and sustainable, project accounts and the executing agency audited financial statements, together with the associated auditor's report, should be adequately reviewed.

99. The PCMU shall include the results of implementing the environmental safety guidelines, GESI Action Plan and SPRSS in the quarterly and annual reports to be submitted by the executing agency to ADB. This shall include progress with implementation of the IEE and EMPs, grievance redress mechanism, site inspection checklists, and any completion forms by environmental inspectors.

## **E. Stakeholder Communication Strategy**

100. A key part of current project implementation strategy is a stakeholder communications strategy focused on information sharing and consultation that guides communications with stakeholders during project implementation.

101. To contribute to improving water security in the BRB, communication will be maximized to:

- (i) Disclose information about project to key stakeholders particularly affected people, and set up mechanisms for grievance and feedback;
- (ii) Encourage dialogue and constructive action to support additional financing implementation;
- (iii) Engage key stakeholders to develop common platform for planning, implementation and monitoring and evaluation;
- (iv) Foster behavior changes among key relevant audiences to: (a) improve local governance; (b) improve project management and maintenance; (c) sustainably use water resources; (d) prepare for river-related disasters (i.e., flooding, etc.);
- (v) Maximize communication approaches to mitigate risks related to physical investments.

102. The stakeholders' communication strategy implementation will engage and inform relevant Bagmati River stakeholders and sectors with timely, accurate, and comprehensive information shared among stakeholders. Such information sharing will help to build consensus and ensure continuous stakeholder support throughout the project.

**Table 22: BRBIP-AF IWRM/RBO Stakeholder Communication Strategy**

<b>MESSAGE</b>	<b>COMMUNICATION METHODS AND TOOLS</b>	<b>RESPONSIBLE FOR IMPLEMENTATION</b>	<b>WHEN IMPLEMENTED</b>
<ul style="list-style-type: none"> <li>• Awareness <ul style="list-style-type: none"> <li>○ Description and Definition of IWRM and River Basin Issues</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Direct Communication by BRBIP-AF Consultants</li> <li>• Media Outlets</li> </ul>	<ul style="list-style-type: none"> <li>• BRBIP-AF Consultants</li> <li>• Donor Organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Early in BRBIP-AF Project Implementation</li> </ul>

<sup>28</sup> Format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

MESSAGE	COMMUNICATION METHODS AND TOOLS	RESPONSIBLE FOR IMPLEMENTATION	WHEN IMPLEMENTED
<ul style="list-style-type: none"> <li>▪ BRBIP-AF Project Description</li> <li>▪ BRBIP-AF Components Focused on IWRM and Basin Issues</li> <li>○ How BRBIP-AF Can Help Address IWRM and Basin Issues               <ul style="list-style-type: none"> <li>▪ Project Benefits</li> <li>▪ Project Impacts</li> </ul> </li> <li>○ BRBIP-AF Project Implementation Processes</li> </ul>	<ul style="list-style-type: none"> <li>• Roundtable Discussions</li> <li>• BRBIP-AF Working Groups</li> <li>• Talk Shows</li> <li>• Consultation Meetings</li> <li>• Sensitization Workshops</li> <li>• International Observation and Study Tours</li> </ul>	(e.g. ADB NRM) Assist <ul style="list-style-type: none"> <li>• NGOs Assist</li> <li>• BRBIP-AF Executing and Implementing Agencies Play a Role in Implementation</li> </ul>	
<ul style="list-style-type: none"> <li>• Awake               <ul style="list-style-type: none"> <li>○ Knowledge Dissemination</li> <li>○ Orientation Towards Action</li> <li>○ Key Integration Roles and Responsibilities of the Government of Nepal Bodies</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Direct Communication by BRBIP-AF Consultants</li> <li>• Media Outlets</li> <li>• Roundtable Discussions</li> <li>• BRBIP-AF Working Groups</li> <li>• Talk Shows</li> <li>• International Observation and Study Tours</li> </ul>	<ul style="list-style-type: none"> <li>• BRBIP-AF Consultants</li> <li>• Donor Organizations (e.g. ADB NRM) Assist</li> <li>• NGOs Assist</li> <li>• BRBIP-AF Executing and Implementing Agencies Play a Role in Implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Early in BRBIP-AF Project Implementation, but After Awareness Has Been Developed</li> </ul>
<ul style="list-style-type: none"> <li>• Action               <ul style="list-style-type: none"> <li>○ Practical Steps to Implement IWRM and Basin Approach in Nepal</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Direct Communication by BRBIP-AF Consultants</li> </ul>	<ul style="list-style-type: none"> <li>• BRBIP-AF Consultants</li> <li>• Donor Organizations (e.g. ADB NRM) Assist</li> <li>• NGOs Assist</li> <li>• BRBIP-AF Executing and Implementing Agencies Play a Role in Implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Approximately Mid-Project Implementation</li> </ul>

ADB = Asian Development Bank, BRBIP-AF = Bagmati River Basin Improvement Project-Additional Financing, IWRM = integrated water resources management, NGO = nongovernment organization, NRM = Nepal Resident Mission, RBO = river basin organization.

103. The key messages that will be communicated in the strategy will be: (i) respecting the river, (ii) using the political process to institute change, (iii) municipalities respect the law, (iv) the public changing their behaviour towards the Bagmati River, and (v) fund-raising activities.

104. The primary audiences for the stakeholder communications strategy are local communities along the Bagmati River (local resident people, women's groups, other community

members), the general public (private sector, NGO's development partners, key individual decision makers), and government and authorities (municipalities and Wards, Government of Nepal institutions and ministries).

105. Stakeholder communication strategy activities will include door-to-door awareness campaigns, public meetings, holding annual events, publicity programs with educational institutes, mother's groups, youth clubs etc., workshops for media and provision of media kits, web page design and hosting, news provision and awareness raising using, radio, television, videos, You Tube and printed media.

**Table 23: BRBIP-AF River Environment Communication Strategy  
(Audience: Local Communities [Primarily in Upper Bagmati])**

MESSAGE	COMMUNICATION METHODS AND TOOLS	RESPONSIBLE FOR IMPLEMENTATION	WHEN IMPLEMENTED
<ul style="list-style-type: none"> <li>• Awareness               <ul style="list-style-type: none"> <li>○ Description of Problem/Issue</li> <li>○ Description of Project                   <ul style="list-style-type: none"> <li>▪ Components</li> <li>▪ Scientific Rationale</li> <li>▪ Realistic in What Project Can Accomplish</li> </ul> </li> <li>○ Key Project Benefits</li> <li>○ Project Implementation Process                   <ul style="list-style-type: none"> <li>▪ Opportunities for Local Communities' Participation</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Door-to-Door in Local Communities</li> <li>• Brochure Hand-Outs</li> <li>• Continue Public Consultation Meetings already on-going from PPTA.</li> <li>• Hoarding Board (Billboard)               <ul style="list-style-type: none"> <li>○ Slogan/Pictorial Message in Riverside; in Clusters.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Local CBOs from the Riverside Community with Support from BRBIP</li> <li>• Religious organizations ("Guthis") such as Pasupati Area Development Trust Small-Scale, Local Activities</li> </ul>	<ul style="list-style-type: none"> <li>• Short, Medium, and Long-Term</li> <li>• On-Going Throughout Project</li> </ul>
<ul style="list-style-type: none"> <li>• Awake               <ul style="list-style-type: none"> <li>○ Knowledge Dissemination re Options for Action</li> <li>○ Orientation Towards Action and Mobilization</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Face-to-Face Meetings with Local Groups.</li> <li>• Brochure Hand-Outs</li> <li>• Focus Group Discussions</li> </ul>	<ul style="list-style-type: none"> <li>• Local CBOs from the Riverside Community with Support from BRBIP</li> <li>• Religious organizations ("Guthis") such as Pasupati Area Development Trust</li> <li>• Small-Scale, Local Activities</li> </ul>	<ul style="list-style-type: none"> <li>• Short, Medium, and Long-Term</li> <li>• Ongoing throughout project</li> </ul>
<ul style="list-style-type: none"> <li>• Action               <ul style="list-style-type: none"> <li>○ Local Communities' Involvement and Participation in Direct Action</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Annual Workshops</li> <li>• River Cleaning Campaign</li> <li>• Competition (competition between Wardss in Upper and lower Bagmati).</li> <li>• Music, Literature, Art, Dramas</li> <li>• Plantation and Forestation</li> <li>• Sports Activities</li> <li>• Clean Up Rally and Campaign</li> <li>• Develop and Implement Reward System for Clean-Up.</li> <li>• Slogan/Pictorial Message along Riverside; Clusters.</li> </ul>	<ul style="list-style-type: none"> <li>• Educational Institutes</li> <li>• Mothers Groups</li> <li>• Forest User Groups</li> <li>• Youth Clubs</li> <li>• Political Groups</li> <li>• Business Houses (private sector)</li> <li>• Wards</li> <li>• Religious organizations ("Guthis") such as Pasupati Area Development Trust</li> <li>• Supported by BRBIP-AF</li> </ul>	<ul style="list-style-type: none"> <li>• Short, Medium, and Long-Term</li> <li>• Ongoing throughout project</li> </ul>

BRBIP-AF = Bagmati River Basin Improvement Project – Additional Financing, CBO = community-based organization, PPTA = project preparatory technical assistance.

**Table 24: BRBIP-AF River Environment Stakeholder Communication Strategy  
(Audience: Public-at-Large)**

MESSAGE	COMMUNICATION METHODS AND EVENTS	RESPONSIBLE	WHEN IMPLEMENTED
<ul style="list-style-type: none"> <li>• Awareness               <ul style="list-style-type: none"> <li>○ Don't Pollute Bagmati                   <ul style="list-style-type: none"> <li>▪ Components</li> <li>▪ Scientific Rationale</li> </ul> </li> <li>○ Key Project Benefits</li> <li>○ Project Implementation Process</li> <li>○ Public's Potential Roles in Bagmati Clean-Up</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Annual Mega-Event               <ul style="list-style-type: none"> <li>○ Bagmati River Festival                   <ul style="list-style-type: none"> <li>▪ Display/Exhibition</li> <li>▪ Entertainment</li> <li>▪ Sports</li> <li>▪ Literature</li> <li>▪ Music</li> <li>▪ Sidewalk Art Display</li> <li>▪ Music Video at Bagmati</li> </ul> </li> </ul> </li> <li>• Website Development Supported</li> </ul>	Government NGOs/CBOs Private Sector Religious organizations ("Guthis") such as Pasupati Area Development Trust Funding Needed from These Organizations	<ul style="list-style-type: none"> <li>• June Through August</li> <li>• Annual Event</li> <li>• Coordinate with Annual Nepalese Silthinakeha-Krishnastatni Festival               <ul style="list-style-type: none"> <li>○ Annual Mega-Event is an Integral Part of Nepalese Festival.</li> <li>○ Link Mega-Event to Local Festivals to Give Attention.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Awake               <ul style="list-style-type: none"> <li>○ Knowledge Dissemination re Options for Action</li> <li>○ Orientation Towards Action and Mobilization</li> <li>○ How Public Can Be Involved                   <ul style="list-style-type: none"> <li>▪ Campaigns</li> <li>▪ Activities</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Media Mobilization               <ul style="list-style-type: none"> <li>○ Media Workshop                   <ul style="list-style-type: none"> <li>▪ Exposure (e.g. if Wardss do a good job, bring the media), visit for all</li> <li>▪ Briefings to media re Project</li> </ul> </li> <li>○ Radio, TV programs</li> <li>○ Three-Minute Video Produced</li> </ul> </li> <li>• Website Development Supported</li> </ul>	NGOs/CBOs (with project support) Religious organizations ("Guthis") such as Pasupati Area Development Trust	<ul style="list-style-type: none"> <li>• Every Three Months.</li> </ul>

ADB = Asian Development Bank, CBO = community-based organization, NGO = nongovernment organization.

## **F. Participation and institutional Strategic Plan**

106. The key stakeholder, participation, and institutional strategies envisaged for the additional financing is the continuation of what was undertaken under the current project which include: (i) a Bagmati River Basin RBO that introduces and implements the objectives of IWRM to river restoration, (ii) improved mechanisms for participation and water dialogue, (iii) institutional strengthening and capacity development, (iv) the development of an NGO platform, (v) a stakeholder communication strategy, (vi) the introduction of knowledge-based decisions, and (vii) a proper legal framework.

## **G. Establishment and Development of a Bagmati RBO and IWRM**

107. The overlapping mandates, interests and duplication among the different government agencies and other stakeholders calls for an institutional framework for coordination, integration and regulation of all activities within the BRB. An IWRM approach promotes coordinated

development and management of water, land and related resources to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. A key challenge for the RBO will be to mainstream the participation of local communities in river basin management.

108. The key governmental agencies of WECS, MOUD, HPCIDBC, Department of National Parks and Wildlife Conservation/Shivapuri Nagarjun National Park have a key role of executing and implementing the Project. An RBO will coordinate, integrate and monitor the river basin development and management.

## **H. Mechanisms to Promote Participation, Coordination, and Integrated Water Dialogue**

### **1. Goals and Targets of Mechanisms and Processes**

109. The goal of institutional mechanisms and processes is integrated water resources management in the Bagmati River Basin. The objective is to better manage water resources in an integrated way, not necessarily to build an RBO. There are multiple institutional structures (including an RBO) that might accomplish this, but the goal itself is not necessarily an RBO per se, but sustainable water resources management in the basin. An RBO could possibly be a good technical and institutional tool for facilitating and structuring integrated water resources management, but the organizational apparatus (e.g. an RBO) is a tool or a means to an end, not the end itself.

### **2. Mechanisms and Processes to Promote Participation, Coordination, and Integrated Water Dialogue**

110. There is a clear need to build better water governance in the Bagmati Basin. Some key principles for building better water governance include:

- (i) Stakeholders involvement and agreement (including CSOs and NGOs) on multi-stakeholders' coordination mechanisms.
- (ii) Knowledge, data, information- sharing and cooperation on projects; basin awareness.
- (iii) Inter-sector collaboration.
- (iv) Integrated knowledge of the basin profile.
- (v) Steering water resources development and river environment strategy and implementation.
- (vi) Updating and/or setting up of a regulatory framework.

## **I. NGO Platform**

111. The Upper Bagmati River environment improvement will require community participation in maintaining the river environment. While the interventions proposed to manage liquid and solid waste and to increase the flows in the river will provide the basis of the restoration of the river environment to its conditions of 30–40 years ago, the river banks and the green belts created in the flood plains will need to be owned by communities and other local stakeholders. There are some good examples of communities and other civil CSOs coming together to improve the rivers by developing green zones and parks on certain stretches of the river like the UN Park in Lalitpur and the initiatives taken by community organizations like the Makaibari Tole Sudhar Samiti, Women Environment Preservation Committee and Populations Women Environmental Development Organization to manage and control solid waste dumping in certain stretches of the river. Such efforts need to be scaled up and extended to cover the whole stretch. Such initiatives are best carried out by community level organizations with very little help from the government.



112. The adoption of river stretches by communities, private sector and local NGOs would be an important way of ensuring that the river environment is improved, and the communities benefit from the river front development. It is proposed that the greenbelts and riverbanks along the improved Bagmati River be managed by the user committees formed by the local communities or by interested private sector or local CSOs and NGOs. The following modality of adoption of river stretches is proposed:

- (i) A national NGO working in the field of environment and community mobilization will be recruited under an NGO contract with the responsibility of mobilizing the communities and forming user committees to take up the responsibility of adoption of river stretches.
- (ii) The selected NGO will carry out community awareness and mobilization activities and assist in establishing user communities to adopt and manage stretches of the river. Communities can manage stretches of the river, such as gardens and parks, for local communities' benefits, including development of floriculture and small forestry patches for beautification. The user committees will be registered with the local ward offices of the municipalities, Wards or with the District Administrative Office depending on the scope and area of coverage. The selected NGO will assist the user committees in the registration process. The CSOs can even raise funds by collecting subscriptions from visitors to sustainable maintenance of the parks.
- (iii) HPCIDBC will prepare the technical guidelines and regulations for the operation of the green belts and the development to be carried out within it. HPCIDBC along with the and Municipalities will monitor and regulate the activities of the user committees. HPCIDBC will allocate the river stretches to be managed and adopted by each user committee. Private sector may also apply to adopt certain stretches of the rivers under their corporate social responsibility (CSR) activities or support user committees or local NGOs to do so.
- (iv) The forum of all user committees adopting the river stretches may be established to work with HPCIDBC municipalities and Wards to self monitor the activities. Such a forum will coordinate with other activities like the annual Bagmati River Festival to showcase their achievements. A "Score Card" system will be used to select the best performing user communities and to encourage others to improve. The modality of the "score card" systems needs to be development by the participating communities, private sectors and the local bodies (municipality and wards).

## **X. ANTICORRUPTION POLICY**

113. 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.

114. To support these 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>

115. To support these efforts, relevant provisions are included in the Grant Agreement for the project.

## **XI. ACCOUNTABILITY MECHANISM**

116. 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.

117. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort 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>

118. Details of the grievance redress mechanism for the project are provided in Section VII of this document.

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

119. All revisions and/or updates during course of implementation should be retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.

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

<sup>30</sup> ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>

<sup>31</sup> For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

**Appendix 1: Project Management and Construction Supervision Consultant**

**Additional Financing for the Bagmati River  
Basin Improvement Project  
Project No.: 43448-014 NEP**

**Terms of Reference  
for  
Consulting Services  
Project Management and Construction  
Supervision Consultant (PMCSC)**

**April 2018**

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## **I. BACKGROUND**

1. The Bagmati River basin (BRB) has significant cultural and economic values for the people of Nepal. Bagmati River water is considered holy and is used for cultural and ritual ceremonies practiced at the many significant temples along the river's banks. The river flows through Kathmandu Valley, which is the administrative and economic center of the country as well as Nepal's gateway for tourism. It provides most of the city's drinking water in its upper basin, hydropower generation in the middle basin, and large-scale irrigation in the lower basin.

2. The Bagmati River basin is considered the most water-stressed basin in Nepal with (i) declining available water resources due to natural and anthropogenic causes, (ii) significant increases in freshwater demand from the expanding population and industry sector, and (iii) a continuous need for irrigated agriculture. The rapid and unplanned expansion of Kathmandu City has placed tremendous pressure on water resources of the upper Bagmati River. In the absence of appropriate solid waste and wastewater management, the river has become the main waste collector drain and now carries high fecal contamination, pathogenic bacteria, and physicochemical pollutants. The absence of effective pollution control measures is causing serious health hazards for local residents, livestock, and aquatic flora and fauna. The physical deterioration of the riverine environment has led to a loss of cultural and recreational amenities for local communities that no longer respect or cherish the river environment.

## **II. PROJECT SCOPE**

### **A. Impact and Outcome**

3. The Bagmati River Basin Improvement Project (current project) expected impact is increased water security in the BRB. The outcome is improved river health and flood management. The current project is the first attempt in Nepal to apply the concept and principles of the integrated water resources management (IWRM) since its adoption under the 2005 National Water Plan.

### **B. Outputs**

4. The current project has five outputs:
- (i) Established systems and capacity for integrated and participatory river basin management. Activities include (a) provide legal and institutional strengthening for IWRM and formation of a river basin organization (RBO), (b) mobilize basin stakeholders, (c) build capacity for increasing RBO competence, (d) establish a central water resources information system including a decision support system and an operating water quality monitoring network, and (e) prepare a 15-year participatory integrated river basin master plan.
  - (ii) Improved riverbank environment in urban areas. Activities include (a) remove contaminated riverbed material; (b) construct weirs and provide phyto-remediation to enhance the river's self-cleaning capacity; (c) stabilize and beautify the riverbank; (d) mobilize, raise awareness, and build capacity of local government and communities for riverbank management and maintenance; and (e) collaborate with the private sector, which has expressed interest in setting up recreational businesses along the riverbanks through public-private partnerships or finance maintenance as part of social corporate activities.
  - (iii) Increased water availability in the basin during the dry season and watershed conservation. Activities include (a) construct an 861,000 cubic meters (m<sup>3</sup>) Dhap dam and complete detail design of the 8 million m<sup>3</sup> Nagmati dam, (b) provide

- rooftop rainwater harvesting and groundwater recharge, and (c) implement upstream watershed management.
- (iv) Functioning flood forecasting and early warning system for the Bagmati River Basin. Activities include (a) upgrade the existing flood forecasting system, (b) install a flood early warning system, and (c) increase community awareness and build capacity for flood response.
  - (v) Efficient project management with effective stakeholder communication. Activities include (a) establish competent project management and project implementation units, (b) undertake timely procurement and disbursement, and (c) implement the project communication strategy and monitoring.

5. The Asian Development Bank (ADB) financed the current project with \$30 million in loan and grants, and the Government of Nepal contributed \$6 million.

### III. ADDITIONAL FINANCING FOR THE BAGMATI RIVER BASIN IMPROVEMENT PROJECT

6. The additional financing of the Bagmati River Basin Improvement Project which concerns these terms of references (TORs) consists mainly of additional activities to output 2 including: (i) additional riverbank beautification through landscaping and restoration of historic buildings and monuments, and additional activities to output 3 including; (ii) construction of a wastewater treatment plant (WWTP) where the Tukucha River joins the Bagmati River, in central Kathmandu City. Table 1 shows the key subprojects and activities for the additional financing and their estimated costs.

**Table 1. Key Civil Works Subprojects and Activities for the Additional Financing**

Project Output	Additional Financing Subproject or Activity	Estimated Base Cost (\$ millions)
1	Wastewater treatment plant Design–Build–Operate - Tukucha	\$29.62
2	Restoration of historic buildings and monuments	\$11.05
2	River corridor training and landscaping	\$14.85
	<b>Total</b>	<b>\$55.52</b>

#### A. Summary of the Three Construction Projects

7. **Landscaping of Bagmati riverbanks.** Selected sections of riverbanks along the Bagmati River will be landscaped, with both hard and soft landscaping included in this sub-project. Hard landscaping includes the construction of footpaths, walls, and ghats, small structures such as public toilets and schools. Soft landscaping includes land leveling, and the planting of trees and small bushes. The landscaping will take place principally on riverbanks in the Gokarna/Uttar Gaya area upstream of the Gokarna gorge northeast of the international airport and, from Thapathali bridge to Balkhu bridge on the left and right banks of the Bagmati River, near the center of Kathmandu. About 5.75 kilometers of riverbanks will be landscaped.

8. The consulting firm will provide engineering services to review the design of the landscaping works, supervise the construction of landscaping, commission the works, and provide a completion certificate to the owner – High-Powered Committee for Integrated Development of the Bagmati Civilization (HPCIDBC). The engineering services are to follow the ADB guidelines

for large Civil Works Contracts (based upon the International Federation of Consulting Engineers [FIDIC] Pink Book), ADB Guidelines for Consulting Services as well as meet the Government of Nepal requirements.

9. **Restoration of historic buildings and monuments.** A selection of 23 temples, monuments, and historic buildings will be restored. These are located in an area from Bishnumati – Bagmati Confluence to Thapathali bridge in central Kathmandu. Specialized contractors will conduct the restoration/reconstruction work. Consultants on the PMCSC team will closely supervise the restorations with on-site architects specialized in historic buildings, an archaeologist, and when required a civil engineer.

10. The consulting firm will provide specialist historical heritage building architectural and engineering services to review the design of the restorations, supervise the restoration works, commission the restored temples and monuments, and provide completion certificates to the owners' agent, HPCIDBC. The engineering services are to follow the ADB guidelines for large Civil Works Contracts (based upon FIDIC Pink Book), ADB Guidelines for Consulting Services as well as meet the Government of Nepal requirements.

11. **WWTP for Tukucha River.** The WWTP will be constructed near the mouth of the Tukucha River, where it joins the Bagmati River. The Tukucha River is in central Kathmandu and is currently essentially a drain; little of the original river is visible, due to a dense number of buildings constructed over and near to the former river. The plant will sit on a greenfields site that has been reserved for a wastewater treatment plant.

12. The plant will be a sequencing batch reactor (SBR) type of plant. It will have a design capacity of about 17.3 million liters per day (MLD), with a population equivalent (PE) of about 145,000. This PE for the Tukucha is based on a biochemical oxygen demand (BOD) of 500 mg/L and a flow of 17.3 MLD. A diversion on the Tukucha River near the plant will deliver untreated wastewater to the plant; processed wastewater will be deposited into the river a little downstream of the plant. There is no sewage collection system in the Tukucha drainage area, and this sub-project will not build a collector system; the plant will only treat water directly from the Tukucha River.

13. The plant will be constructed partially underground in a footprint of about 100 meters by 60 meters. The SBR tanks will be located on the lowest floor, with an operations floor above that. The roof of the operations floor will support an area landscaped in keeping with the religious ensemble of the Heritage walk. Thus, on the surface, there will be an operations building for the plant, access roads, and other hard and soft landscaping. The plan includes tanks and treatment facilities; mechanical, electrical, and instrumentation required for the plant; a sludge handling system and sludge disposal operation; and the park and ancillary facilities on the top of the plant. The project also includes the construction of sludge digester that will be built across the river in front of the wastewater treatment plant and connected to the plant through a pipe that will pass under water.

14. The plant will be constructed under a design–build–operate (DBO) contract that assigns single point responsibility for the design and construction to the DBO contractor. The DBO contract is expected to last for 8 years including 3 years for construction and 5 years for operation. However, these TORs only cover a 5 years period including (i) detailed design preparation, (ii) construction, (iii) commissioning and (iv) initial period of O&M.

15. The consulting firm will provide specialized services to support the executing agency with the DBO contract management. The engineering services are to follow the ADB guidelines for



DBO contracts for water and wastewater (based upon the International Federation of Consulting Engineers (FIDIC) Gold Book) as well as meet the Government of Nepal requirements.

#### **IV. SCOPE OF SERVICES REQUESTED**

16. HPCIDBC, an implementing agency for the additional financing, requests engineering and consultant services to support HPCIDBC in implementing the construction of three subprojects in additional financing, as described in the previous section.

17. The engineering services for two subprojects—landscaping, and restoration of historical buildings—are to review construction drawings (detailed engineering designs and construction specifications) which have already been completed for each of these two subprojects, supervise construction, and advise the project coordination and management unit (PCMU) in the HPCIDBC on timeliness of construction, quality of construction, and any issues arising during construction. The engineering services consultants will organize and implement pre-commissioning and commissioning tests of each subproject. The engineering consultants will also prepare interim and final certificates of completion for each of the subprojects, review performance of the contractor against the construction contract, recommend milestone and final payments.

18. The design and construction and operation of the wastewater treatment plant at Tukucha will be contracted under a DBO contract. The PCMU expects to complete the tendering of the international DBO contractor by November 2019. The engineering and consulting services required by the PCMU for this subproject will necessarily be different than those from the other two subprojects. The DBO contractor will have the sole responsibility to design and build the plant to meet the performance guarantees contained in the DBO contract. In this context, the engineering services will be aimed at advising the PCMU with the DBO contract administration including (i) review and approval of the detailed designs, including, (ii) interim payment request review and approval, (iii) commissioning test and approval, (iv) O&M supervision, and (v) any other contract management issues requiring expert advices.

19. The duration of the additional financing is 5 years, starting in September 2019, engineering and consultant services will be required for the duration of the project.

20. In addition, the consulting services are also expected to support the PCMU with overall project management including financial management improvement and reporting, safeguards implementation, monitoring and reporting, upgrade of the project performance monitoring system, monthly data collection and reporting.

#### **V. EXPERTISE REQUIRED**

21. ADB requires 17 key experts, with 37 months of input from 5 international key experts and 180 months of input from 12 national key experts. The international key experts are: (i) international civil engineer, (ii) international mechanical engineer, (iii) international electrical engineer, (iv) international instrumentation engineer, (v) international process and plant commissioning engineer. The national key experts are (i) construction management specialist and deputy team leader, (ii) all of the national construction supervision specialists (CSS); environmental specialist; Senior archaeologist; geotechnical specialist (soils). All key experts are highlighted in green in Table 2.

22. In addition to the required key experts, the proposing firms should also include in their technical proposal, in the personnel work plan, and in their financial proposal all other non-key

experts required in accordance with their proposed approach and methodology. The minimum number of non-key experts is also listed in Table 2.

23. Due to the construction cycle for the wastewater treatment plant, the international civil engineer will have a work schedule mainly in the first half of the project while the international mechanical engineer will have a work schedule in the second half of the project. It is recommended that the international civil engineer be the team leader but in his/her absence the international mechanical engineer will become the team leader.

24. The deputy team leader is not just an assistant to the international team leader but has specific engineering and project management duties to deliver, particularly on the two subprojects other than the wastewater treatment plant. He will have to work in the capacity of an Engineer as mentioned in the FIDIC pink book for the two projects (Landscaping Works & Historical Monuments Reconstruction/ Rehabilitation Works).

**Table 2. Consultant Positions and Input Times in person person-months**

S. No.	Experts Positions	2019/20	2021	2022	2023/24	Totals	Category
	<b>International Positions</b>						
I1	Civil Engineer and Team Leader (Wastewater Treatment Plant)	3	8	3	1	15	key
I2	Mechanical Engineer (Wastewater Treatment Plant)		1	8	3	12	key
I3	Electrical Engineer (Wastewater Treatment Plant)		1	2		3	key
I4	Instrumentation Engineer (Wastewater Treatment Plant)			1	2	3	key
I5	Process Engineer and Plant Commissioning Specialist (Wastewater Treatment Plant)				4	4	key
	<b>International Positions Total</b>	<b>6</b>	<b>10</b>	<b>12</b>	<b>9</b>	<b>37</b>	
	<b>National Positions</b>						
N1	Construction Management Specialist and Deputy Team Leader	10	10	10	10	40	key
	<b>1) Landscaping Works</b>						
N5	Construction Supervision Specialist (Civil CSS-1) - Landscaping	7	9	4		20	key
N6	Construction Supervision Specialist (Civil CSS-2) - Landscaping	7	8			15	key
N7	Construction Site Inspector (Civil CSI-1) - Landscaping	9	11	4		24	non-key
N8	Construction Site Inspector (Civil CSI-2) - Landscaping	9	11	4		24	non-key
N9	Construction Site Inspector (Civil CSI-3) - Landscaping	9	11	4		24	non-key
N10	Plantation Supervisor (Plant Expert) (Also for wastewater treatment plant)		6	6		12	non-key
N11	Senior Geotechnical Soil Engineer (Also for wastewater treatment plant)	4				4	key
	<b>2) Contract for Historical Restoration</b>						
N12	Construction Supervision Specialist (Architecture CSS-3). (Also for buildings in landscaping and wastewater treatment plant)	6	6	6	2	20	key
N13	Construction Site Inspector (Architecture CSI-4)	9	9	9	3	30	non-key
N14	Construction Site Inspector (Architecture CSI-5)	9	9	9	3	30	non-key
N15	Senior Archaeologist - Historic Buildings Expert	3	3	3		9	key

S. No.	Experts Positions	2019/20	2021	2022	2023/24	Totals	Category
	<b>Contract for Sewage Treatment Plant</b>						
N16	Construction Supervision Specialist (Civil CSS-4)	6	9	3		18	key
N17	Construction Site Inspector (Civil CSI-6)	8	11	5		24	non-key
N18	Construction Supervision Specialist (Structural CSS-5). (Also for historical buildings and landscape buildings)	6	9			15	key
N19	Construction Supervision Specialist (Mechanical CSS-6)		1	5	2	8	key
N20	Construction Supervision Specialist (Electrical CSS-7)		0	4	2	6	key
N21	Construction Supervision Specialist (Instrumentation CSS-8)		0	1	4	5	key
	<b>National Construction Supervision Total</b>	<b>113</b>	<b>139</b>	<b>84</b>	<b>26</b>	<b>362</b>	
N22	Social and Gender Specialist	3	3	3	3	12	non-key
N23	Environmental Safeguards Specialist	5	5	5	5	20	key
N24	Monitoring and Evaluation Specialist	3	3	3	3	12	non-key
N25	Financial Management Specialist	4	4	4	4	16	non-key
	<b>National Positions Safeguards/Admin Total</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>60</b>	
	<b>Overall Summary</b>						
	International					37	
	National Construction Supervision Related					362	
	National Safeguards/Admin					60	
	<b>Total</b>					<b>459</b>	

Note: Green shading indicates a key expert.

25. It is to be noted that the timelines for expert mobilization provided in Table 2 are indicative only and will depend on contractor's progress. No expert should be mobilized/demobilized without prior approval of the PCMU.

26. The PMSCS has to provide Consulting Site Office Administrative Staffs & other necessary support staffs as required. These administrative staffs & support staffs cost has to be mentioned in the Financial Proposal costs not identified in the Financial Proposal will be deemed to be borne by the Consultant at no cost to the Client.

27. Technical deliverables and reports expected from the consultants are shown in Table 3.

**Table 3. Technical Deliverables and Reports Required from the Consultant Team**

No.	Report	Responsible Consultant and Assistants	Tentative Timeframe
1	Inception report, including review of construction schedules for each sub-	Team Leader Deputy Team Leader	Within 45 days of project commencement

No.	Report	Responsible Consultant and Assistants	Tentative Timeframe
	project, and review of PMCS work plan, consultant inputs, and schedule.		
2	Monthly Reports on environmental monitoring and compliance with the EMP for all subprojects	National Environmental Specialist	Within 7 days after the end of Every month
3	Monthly reports on monitoring and compliance with the GESI plan for all subprojects	National Gender and Social Specialist	Within 7 days after the end of Every month
4	Monthly reports on Construction Inspections	Team Leader Deputy Team Leader National Construction Supervision Specialist (all)	Within 7 days after the end of Every month
5	Quarterly Progress Reports on project monitoring and evaluation	National M&E Specialist Deputy Team Leader Team Leader	Within 10 days after the end of each quarter
6	Quarterly Progress Reports on GESI	Social and Gender Specialist	Within 10 days after the end of each quarter
7	Environment Monitoring Report (Annual)	Environmental Safeguards Specialist	Within 10 days after the end of each 6 calendar months
8	Interim and final sub-project completion certificates for all sub-projects	Team Leader Deputy Team Leader	In due course as necessary
9	Authorization for contractor payments for all sub-projects	Team Leader Deputy Team Leader	As necessary
10	Request for contract variations for all sub-projects except the DBO contract for the wastewater treatment plant	Team Leader Deputy Team Leader	As necessary
11	Final report on commissioning of Sub-projects Construction	Team Leader Deputy Team Leader National Construction Supervision Specialist (all)	As per contractor's approved schedule*
12	Midterm Report	Team Leader Deputy Team Leader	4 weeks after mid-term
13	Draft Project Completion Report	Team Leader Deputy Team Leader	5 weeks before project completion
14	Project completion report	Team Leader Deputy Team Leader	Within 4 weeks after project completion

28. An indicative schedule for the consultants on the team is based on an indicative construction schedule for the subprojects. Final construction schedules for the subprojects will be determined after construction contractors have been selected for each sub-project.

29. Detailed TORs for each key expert and the suggested non-key experts are shown below.

### **Key Experts**

#### **Position: International Civil Engineer and Team Leader (15 person months)**

**Expertise:** The International Civil Engineer and Team Leader preferably with a post-graduate degree in civil engineering; 10 years of experience in project management, and in particular overseeing the civil, mechanical, electrical, and process engineering required to design and construct a large wastewater treatment plant. It will be an advantage if the Engineer has 10 years experience in providing technical advice to government agencies on construction management and including on the design and construction of large wastewater treatment plants. Experience preferred in providing technical advice that meets standards of the FIDIC Gold Book or the ADBs' guidelines for DBO contracts for water and wastewater greenfield infrastructure project to a DBO contractor.

**Reporting:** The position will report to the BRBIP-AF Project Director.

**Duration of contract:** 15 person months, intermittent

**Tentative timing:** Start 1 September 2019.

**Scope:** The International Construction Engineer and Team Leader will ensure that the PCMU receives timely and detailed advice on the design, construction, and operation of an SBR wastewater treatment plant constructed under a design-build-operate contract. The advice should assess whether aspects of the plant will meet the performance specifications set out in the DBO contract and meet the standards for such advice as set out in the FIDIC Yellow Book. The International Civil Engineer and Team Leader will also oversee the construction supervision and technical reviews conducted by the engineers on the PMCSC team of the design, construction, and operation of the (i) landscaping along the banks of the Bagmati River, (ii) restoration of historical buildings and monuments.

### **Expected Tasks and Activities**

**Task 1:** Support the PCMU with the DBO contract management of the Tukucha wastewater treatment plant with the assistance of the PMCSC other international experts:

- (i) Lead the technical review of detailed designs prepared by the selected DBO contractor including all proposed mechanical plant & equipment selections, electrical equipment, and instrumentation;
- (ii) Facilitate workshops with HPCIDBC staff and the DBO contractor during detailed design stage including:
  - (a) Value management (VM);
  - (b) Detailed hazard & operability (HAZOP) study; and,
  - (c) Construction hazard assessment implication review (CHAIR 2/3).
- (iii) Review DBO contract works, including performing the duties and functions of the 'Employer's Representative' under the ADBs' guidelines for DBO contracts for water and wastewater greenfield infrastructure project;
- (iv) Facilitate and monitor the implementation of the EMP and the gender action plan by contractors;
- (v) Review of as-built documents (drawings), operation & maintenance manuals, standard operating procedures (SOPs) and operator training modules;

- (vi) Review of pre-commissioning and commissioning testing plans and provision of technical assistance throughout the commissioning process;
- (vii) Attend, witness and provide technical assistance as required during trial operation and performance testing;
- (viii) Facilitate the timely delivery of the project in compliance with standards acceptable to the government and ADB and within the project budget (quality and cost control);
- (ix) Prepare partial, substantial, and final completion certificates for the above sub-projects;
- (x) Issue/authorise issuance of interim payment certificates for the above sub-projects;
- (xi) For the above sub-projects, examine contractors' claims and the need for any contract variations;
- (xii) Report to the assigned government Project Manager throughout the DBO contract delivery phase and provide technical assistance and project management support to the PCMU as required.

**Task 2:** Construction supervision of riverbanks landscaping works along Bagmati River, and restoration/reconstruction works of historical buildings and monuments, done according to the standards set out in the FIDIC pink Book or ADB standard bidding documents and contracts for large civil works. With the assistance of the PMCSC Deputy Team Leader:

- (i) ensure that the PMCSC team engineers supervise contract works;
- (ii) Review as-built documents (drawings), operation & maintenance manuals, standard operating procedures (SOPs) and operator training modules;
- (iii) Ensure the implementation of the EMP and the gender action plan by contractors;
- (iv) Review of pre-commissioning and commissioning testing plans and provision of technical assistance throughout the commissioning process;
- (v) Attend, witness and provide technical assistance as required during trial operation and performance testing; and
- (vi) Facilitate the timely delivery of the sub-projects in compliance with standards acceptable to the government and ADB and within the project budget (quality and cost control).

**Task 3:** Guide, direct, manage and report on team inputs and outputs; provide technical, administrative, and reporting support to the PCMU; assist with developing and place into operations monitoring systems, ensuring sufficient training and capacity development at PCMU.

- (i) Support the PCMU in the overall coordination of the PMCSC team and their activities;
- (ii) Review and ensure PMCSC team outputs are complete, well prepared using consistent formats, and their content meets the highest international standard;
- (iii) Manage the relationships with the government, PCMU, ADB, and all other stakeholders;
- (iv) Identify important technical and managerial issues on the sub-projects that affect progress, safety, quality and compliance with safeguards;
- (v) Provide overall direction to all specialists making up the consulting team and monitor the progress of all planning and design work ensuring that deadlines relating to delivery dates are met; and
- (vi) Prepare and compile six monthly project reports including the midterm report, and draft project completion report.

**Position: International Mechanical Engineer (12 person-months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in mechanical engineering. It will be an advantage if the Specialist has 10 years of experience in designing and installing mechanical systems of wastewater treatment plants or similar industrial plants; providing technical services in the operation, troubleshooting and maintenance of a variety of mechanical equipment; quality assurance including the material and equipment used in the installation, maintenance, calibration, and repair of mechanical equipment.

**Reporting:** The position will report to the PMCSC team leader

**Duration of contract:** 12 person months.

**Tentative timing:** Start 1 July 2020.

**Scope:** The International Mechanical Engineer will ensure that the mechanical equipment is compatible with the process stream and that the mechanical equipment is designed and installed in accordance with current best national and International practice for wastewater treatment plants.

### **Expected Tasks and Activities**

**Task 1:** Carry out a review of the contractor's design and specifications of the mechanical equipment within the treatment process. This includes review and comment on the contractor's designs for mechanical equipment within the process stream, cost estimates, and all other conformance to applicable specifications.

- (i) Review and comment on the diagrams and specifications specific to hardware installation and maintenance.
- (ii) Monitor whether the contractor designs follow the Government of Nepal laws and rules, and international codes and regulations relating to mechanical and process design and have required maintenance efficiency.
- (iii) Prepare recommendations for changes in the design and specifications, where required.

**Task 2:** Check the quality of arrangements in place for repair and maintenance activities, assuring minimum disruption to the treatment process.

- (i) Assist the PCMU to review the contractor's prepared annual maintenance plan and budget for mechanical equipment and systems.

**Task 3:** Work with the engineering team of the construction contractor for the wastewater treatment plant to prepare an ongoing testing regime and schedule for the mechanical equipment and systems.

- (i) Document the agreed testing regime and schedule for testing mechanical equipment and systems.

**Task 4:** Guide the National Mechanical Engineer in monitoring and installation of the mechanical equipment and systems in the wastewater treatment plant.

- (i) Prepare guidelines for the National Mechanical Engineer to follow in monitoring and reporting.
- (ii) Prepare a report format for the National mechanical Engineer to use in reporting on monitoring.



**Task 5:** Assist the PMCSC team leader or deputy team leader with any other tasks related to mechanical engineering, as required.

**Task 6:** In the absence of the International Civil Engineer and Team Leader, assume the role and duties as Team Leader, as described in the TOR for the Team Leader.

**Position: International Electrical Engineer (3 person-months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in electrical engineering. It will be an advantage if the Specialist has 10 years of experience in designing and installing electrical systems of wastewater treatment plants; providing technical services in the operation, troubleshooting and maintenance of a variety of electrical and electronic equipment; quality assurance including the material and equipment used in the installation, maintenance, calibration, and repair of electrical equipment.

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

**Duration of contract:** 3 person-months.

**Tentative timing:** Start 1 July 2020.

**Scope:** The International Electrical Engineer will ensure that electrical systems for the wastewater treatment plant are designed and installed in accordance with international current best practice for electrical systems in wastewater treatment plants.

## **Expected Tasks and Activities**

**Task 1:** Carry out a review of the design and specifications of the electrical systems in the wastewater treatment plant. This includes the contractor's designs for power, control systems, switchyards, substations, power transmission lines, cost estimates, and all other specifications.

- (i) Assess the electrical diagrams and specifications specific to hardware installation and maintenance.
- (ii) Check additional circuit drawings, maps, figures and other supporting documents, as required.
- (iii) Prepare recommendations for changes in the design and specifications, if required.

**Task 2:** Monitor whether the contractor designs follow the Government of Nepal laws and rules, and international codes and regulations relating to electrical system and electronic maintenance.

**Task 3:** Assess the quality of arrangements in place for repair and maintenance activities, and in particular to minimize disruptions to the waste treatment process.

- (i) Assist the PCMU to review the contractor's prepared annual maintenance budget for electrical equipment and systems.

**Task 4:** Advise and guide on the suitability of the contractor's design in optimizing energy usage and maximizing energy savings in the design and operation of electrical equipment and systems.

**Task 5:** Work with the engineering team of the construction contractor for the wastewater treatment plant to prepare a testing regime and schedule of the electrical equipment and systems.

**Task 6:** Guide the National Construction Supervision Specialist (Electrical CSS-7) to monitor the construction of the electrical equipment and systems for the wastewater treatment plant.

- (i) Prepare guidelines for the National Construction Supervision Specialist (Electrical CSS-7) to follow in monitoring.
- (ii) Prepare a report format for the National Construction Supervision Specialist (Electrical CSS-7) to use in reporting on monitoring.

**Task 7:** Assist the PMCSC team leader or deputy team leader with any other tasks related to electrical engineering, as required.

### **Position: International Instrumentation Engineer (3 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in process control systems and instrumentation engineering. It will be an advantage if the Specialist has 10 years of experience in design and installation of instrumentation and process control systems in wastewater treatment plants; providing technical services in the operation, troubleshooting and maintenance of a variety of instrumentation and control systems; quality assurance including the material and equipment used in the installation, maintenance, calibration, and repair of instrumentation and process control systems equipment.

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

**Duration of contract:** 3 person-months.

**Tentative timing:** Start 1 July 2020

**Scope:** The International Instrumentation Engineer will ensure that instrumentation to control the process system for the wastewater treatment plant is designed and installed in accordance with current international best practice for such systems in wastewater treatment plants.

## **Expected Tasks and Activities**

**Task 1:** Carry out a review of the design and specifications of the instrumentation within the process control systems in the wastewater treatment plant. This includes the contractor's designs for instrumentation to meet the process control systems, cost estimates, and all other specifications.

- (i) Assess the diagrams and specifications specific to installation and maintenance of instrumentation meet the process control system requirements.
- (ii) Prepare recommendations for changes in the design and specifications, if required.

**Task 2:** Monitor whether the contractor design of the instrumentation control system follows the Government of Nepal laws and rules, and international codes and regulations relating to instrumentation within the process control systems and their maintenance.

**Task 3:** Assess the quality and appropriateness of the contractor's arrangements in place for repair and maintenance of the instrumentation system activities, to minimize disruptions to the wastewater treatment process.

- (i) Assist the PCMU to review the contractor's annual maintenance budget prepared for instrumentation within the process control systems.

**Task 4:** Work with the engineering team of the construction contractor for the wastewater treatment plant to prepare a testing regime and schedule for the acceptance of the instrumentation and process control systems, both software and hardware.

**Task 5:** Guide the National Construction Supervision Specialist (Instrumentation CSS-8) to monitor the construction of the electrical equipment and systems for the wastewater treatment plant.

- (i) Prepare guidelines for the National Construction Supervision Specialist (Instrumentation CSS-8) to follow in monitoring.
- (ii) Prepare a report format for the National Construction Supervision Specialist (Instrumentation CSS-8) to use in reporting on monitoring.

**Task 6:** Assist the PMCSC team leader and deputy team leader with any other tasks related to instrumentation and process control systems, as required.

### **Position: International Process Engineer and Plant Commissioning Specialist (4 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in mechanical engineering with experience in process design. It will be an advantage if the Specialist has 10 years of experience in commissioning wastewater treatment plants.

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

**Duration of contract:** 4 person-months.

**Tentative timing:** Start 1 January 2023.

**Scope:** The International Process Engineer and Plant Commissioning Specialist will ensure that start-up of the wastewater treatment plant meets current best practice for start-up procedures, and that plant operations will meet international best practice for SBR wastewater treatment plants.

### **Expected Tasks and Activities**

These will be performed along with the contractor and the Client's representative.

**Task 1:** Prepare test sheets and other documents required for start-up (operational instructions, test reports, etc.)

**Task 2:** Perform final checks of the correct execution of civil engineering works and assembly of mechanical systems, electrical systems, and instrumentation equipment and software.

**Task 3:** Perform electromechanical and process control system tests on the plant.

**Task 4:** Confirm the integrity of piping and tank storage systems in the plant.

**Task 5:** Verify functional and process settings required for operation.

**Task 6:** Along with the contractor, provide training in plant operations for plant operators.

**Task 7:** Assist the PMCSC team leader and deputy team leader with any other tasks related to plant commissioning, as required.

### **Position: National Construction Management Specialist and Deputy Team Leader (40 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in civil engineering or construction management. It will be an advantage if the Specialist has 10 years of experience in managing construction of large civil works and structures; providing technical services in the scheduling and project management of large construction projects; contract management for large construction projects that include civil, mechanical, electrical, and instrumentation engineering.

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

**Duration of contract:** 40 person-months.

**Tentative timing:** Start 1 September 2019

**Scope:** The National Construction Management Specialist and Deputy Team Leader will ensure that all construction sub-projects are built in accordance with agreed schedules and to agreed local and International quality standards; and that contractors for the construction sub-projects meet all milestones and other performance criteria specified in the construction contracts. He will have to work in the capacity of an Engineer as mentioned in the FIDIC pink book or construction contract for the two projects (Landscaping Works & Historical Monuments Reconstruction/ Rehabilitation Works) in the absence of Team Leader. He will also learn DBO contract

management skills from the team leader and thereafter support/complement the team leader in his function of DBO contract management support.

### **Expected Tasks and Activities**

**Task 1:** Review of construction designs, and construction plans of landscaping along Bagmati River, restoration of historical buildings and monuments:

- (i) coordinate the supervision of construction works by the Construction Supervision Specialists and Construction Site Inspectors on the PMCSC team according to the principles in the FIDIC Pink Book or ADB standard bidding documents and contracts for large civil works;
- (ii) Review as-built documents (drawings), operation & maintenance manuals, standard operating procedures (SOPs) and operator training modules according to the principles in the FIDIC Pink Book or ADB standard bidding documents and contracts for large civil works;
- (iii) Review pre-commissioning and commissioning testing plans and provision of technical assistance throughout the commissioning process;
- (iv) Attend, witness and provide technical assistance as required during trial operation and performance testing;
- (v) Prepare partial, substantial, and final completion certificates for the above sub-projects;
- (vi) Issue interim payment certificates for the above sub-projects.;
- (vii) For the above sub-projects, examine contractors' claims and the need for any contract variations; and
- (viii) Facilitate the timely delivery of the sub-projects in compliance with standards acceptable to the government of Nepal and ADB and within the project budget (in terms of quality and cost control)

**Task 2:** Assist the International Civil Engineer and Team Leader with peer review of detailed designs, and construction plans of the wastewater treatment plant.

- (i) Coordinate the monitoring and review of construction works by the Construction Supervision Specialists and Construction Site Inspectors on the PMCSC team who will work on the wastewater treatment plant.
- (ii) Assist the International Civil Engineer and Team Leader to review pre-commissioning and commissioning testing plans and provision of technical assistance throughout the commissioning process;
- (iii) Attend, witness and provide technical assistance as required during trial operation and performance testing;
- (iv) Assist the International Civil Engineer and Team Leader and the other international engineers on the PMCSC team to periodically advise the PCMU as to whether the DBO contractor for the wastewater treatment plant will meet the performance specifications set out in the DBO contract. Ensure that any recommendations on the DBO meeting the performance specifications and contractor's work are to the standards of the FIDIC Gold Book – principles of providing engineering advice to an asset owner when the asset is constructed under a DBO contract.

**Task 3:** Review construction contracts for each of the construction sub-projects and ensure contractors' performance meets milestones and other performance criteria specified in the contracts.

- (i) Meet with each contractor monthly to review performance against the contract.
- (ii) Prepare a report on the performance status of each contractor.

- (iii) Prepare recommendations for any changes to be made by the contractor.

**Task 4:** Assist the International Construction Engineer and Team Leader to guide, direct, manage and report on team inputs and outputs; provide technical, administrative, and reporting support to the PCMU; assist with developing and putting in place an operations monitoring systems, ensuring sufficient training and capacity development and hands on experience of PCMU personnel.

- (i) Support PCMU in the overall coordination of the PMCSC team and their activities.;
- (ii) Review and ensure PMCSC team outputs are complete, well-prepared using consistent formats, and their content meets the highest international standard;
- (iii) Support WECs with preparation and evaluation of tenders for the Kochi River Basin office building construction.
- (iv) Manage the relationships with the government, PCMU, ADB, and all other stakeholders.
- (v) Identify, reduce and eliminate important technical and managerial issues which adversely affect progress, safety, quality and compliance with safeguards;
- (vi) Provide overall direction to all specialists making up the consulting team and monitor the progress of all planning and design work ensuring that deadlines relating to delivery dates are met;
- (vii) Prepare and compile six monthly project reports including the mid-term report, and draft project completion report.

**Task 5:** Assist the PMCSC team leader with any other tasks related to construction management and team leadership, as required.

**Position: National Construction Supervision Specialist, Civil CSS-1 (20 person- months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in civil engineering. It will be an advantage if the Specialist has 7 years of experience in designing and construction of civil works; providing technical services in the operation and troubleshooting of equipment used in civil works construction; quality assurance including the materials and equipment used in construction of civil works.

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

**Duration of contract:** 15 person-months

**Tentative Timing:** Start 1 October 2019

**Scope:** The National Construction Supervisor Specialist (Civil CSS-1) will supervise the contractors engaged in construction of the civil works for the landscaping sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu. The Specialist will ensure timely progress, enforcing specified materials and workmanship requirements, and ensuring quality of construction.

**Expected Tasks and Activities**

**Task 1:** Carry out a review of the design and specifications of the construction of civil works required for the landscaping sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu. This includes the contractor's designs for civil works, cost estimates, and all other specifications.

**Task 2:** Check the quality of arrangements in place for repair and maintenance activities on civil works.

**Task 3:** Work with the construction contractor of the landscaping sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu to prepare a commissioning and acceptance procedures and schedule for the civil works and structural components.

**Task 4:** Prepare a monitoring and inspection system for the construction of civil works for the landscaping sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu.

- (i) Prepare guidelines for the National Construction Site Inspectors (CSI – 1, 2 & 3) to follow in monitoring and inspecting construction of civil works for the landscaping subproject at Gokarna/Uttar Gaya and Thapathali to Balkhu.
- (ii) Prepare a report format for the National Construction Site Inspectors to use in reporting on monitoring and inspection.

**Task 5:** Work with the other National Construction Specialist and National Construction Site Inspectors (CSI – 1, 2 & 3) to monitor and inspect construction of civil works for the landscaping subproject at Gokarna/Uttar Gaya & Thapathali to Balkhu.

- (i) Work with the National Construction Site Inspectors to prepare reports on the monitoring and inspection.

**Task 6:** Assist the PMCSC team leader and Deputy team leader with any other tasks related to civil engineering, as required.

**Position: National Construction Supervision Specialist, Civil CSS-2 (15 person months)**



**Expertise:** The Specialist shall preferably have a post-graduate degree in civil engineering. It will be an advantage if the Specialist has 7 years of experience in designing and construction of civil works; providing technical services in the operation and troubleshooting of equipment used in civil works construction; quality assurance including the materials and equipment used in construction of civil works.

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

**Duration of contract:** 20 person-months.

**Tentative Timing: Start 1 October 2019**

**Scope:** The National Construction Supervisor Specialist (Civil CSS-2) will supervise the contractors engaged in construction of the civil works for the landscaping sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu. The Specialist will ensure timely progress, enforcing specified materials and workmanship requirements, conformance to construction drawings and ensuring quality of construction.

### **Expected Tasks and Activities**

**Task 1:** Carry out a review of the design and specifications of the construction of civil works required for the landscaping sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu. This includes the contractor's designs, drawings and quantities for civil works, cost estimates, and all specifications.

**Task 2:** Check the quality of arrangements in place for repair and maintenance activities on civil works.

**Task 3:** Work with the construction contractor of the landscape sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu to prepare commissioning and acceptance procedures and schedule for the civil works and structural components.

**Task 4:** Prepare a monitoring and inspection system for the construction of civil works for the landscaping sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu.

- (i) Prepare guidelines for the National Construction Site Inspectors to follow in monitoring and inspecting construction of civil works for the landscaping sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu.
- (ii) Prepare a report format for the National Construction Site Inspectors to use in reporting on monitoring and inspection.

**Task 5:** Work with the other National Construction Specialist and National Construction Site Inspectors (CSI – 1, 2 & 3) to monitor and inspect construction of civil works for landscaping sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu.

- (i) Work with the other National Construction Specialist and National Construction Site Inspectors (CSI – 1, 2 & 3) to prepare reports on the monitoring and inspection.

**Task 6:** Assist the PMCSC team leader and Deputy team leader with any other tasks related to civil structural engineering, as required.

**Position: National Construction Supervision Specialist, Architect CSS-3 (20 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in architecture and be a registered architect in Nepal. It will be an advantage if the Specialist has 7 years of experience in designing and construction of civil works; providing technical services in the operation and troubleshooting of equipment used in civil works construction; quality assurance including the materials and equipment used in construction of civil works.

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

**Duration of contract:** 20 person-months

**Tentative Timing: Start 1 November 2019**

**Scope:** The National Construction Supervision Specialist (Architect CSS-3) will supervise the contractors engaged in restoration of historic buildings and monuments, and where required, for structures on the landscaping sub-project and buildings for the wastewater treatment plant. The Specialist will ensure timely progress, enforcing specified materials and workmanship requirements, and ensuring quality of construction.

**Expected Tasks and Activities**

**Task 1:** Carry out a review of the design and specifications of the restorations of historic buildings and monuments. This includes the designs for restorations, cost estimates, and all other specifications.

**Task 2:** Check the quality of arrangements in place for repair and maintenance activities on completed restorations.

**Task 3:** Work with the construction contractor of the sub-project for restorations of historic buildings and monuments to prepare a commissioning and acceptance regime and schedule for the restorations.

**Task 4:** Prepare a monitoring and inspection system for the restoration of historic buildings and monuments.

- (i) Prepare guidelines for the National Construction Site Inspector (Architect CSI-4) and National Construction Site Inspector (Architect CSI-5) to follow in monitoring and inspecting the restoration of historic buildings and monuments.
- (ii) Prepare a report format for the National Construction Site Inspector (Architect CSI-4) and National Construction Site Inspector (Architect CSI-5) to use in reporting on monitoring and inspection.

**Task 5:** Work with the National Construction Site Inspector (Architect CSI-4) and National Construction Site Inspector (Architect CSI-5) to monitor and inspect construction of civil works for restoration of historic buildings and monuments.

- (i) Work with the National Construction Site Inspector (Civil CSI-4) and National Construction Site Inspector (Civil CSI-5) to prepare reports on the monitoring and inspection.

**Task 6:** Carry out a review of the design and specifications of the surface buildings in the landscaping sub-project and wastewater treatment plant, as required. This includes the building designs, cost estimates, and all other specifications.

**Task 7:** Work with the various Construction Supervision Specialists and National Construction Site Inspectors to monitor and inspect construction of buildings to carry out monitoring of construction of buildings in the landscaping sub-project and for the wastewater treatment plant.

**Task 8:** Assist the PMCSC team leader with any other tasks related to architecture, as required.

**Position: National Construction Supervision Specialist, Civil CSS-4 (18 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in civil and structural engineering. It will be an advantage if the Specialist has 7 years of experience in designing and construction of civil works; providing technical services in the operation and troubleshooting of equipment used in civil works construction; quality assurance including the materials and equipment used in construction of civil works.

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

**Duration of contract:** 18 person-months

**Tentative Timing: Start 1 December 2019**

**Scope:** The National Construction Supervisor Specialist (Civil CSS-4) will review and monitor the contractors engaged in construction of the civil works for the wastewater treatment plant, ensuring timely progress, enforcing specified materials and workmanship requirements, and ensuring quality of construction.

**Expected Tasks and Activities**

**Task 1:** Assist the International Civil Engineer to carry out a review of the design and specifications of the construction of civil works required for the wastewater treatment plant. This includes the contractor's designs for civil works, cost estimates, and all other specifications.

**Task 2:** Assist the International Civil Engineer to assess the quality of arrangements in place for repair and maintenance activities on civil works.

**Task 3:** Work with the International Civil Engineer and the engineering team of the construction contractor for the wastewater treatment plant to prepare a commissioning and acceptance regime and schedule for the civil works.

**Task 4:** Prepare a monitoring system for the construction of civil works for the wastewater treatment plant.

- (i) Prepare guidelines for the National Construction Site Inspector (Civil CSI-6) to follow in monitoring construction of civil works for the wastewater treatment plant.
- (ii) Prepare a report format for the National Construction Site Inspector (Civil CSI-6) to use in reporting on monitoring.

**Task 5:** Work with the National Construction Site Inspector (Civil CSI-6) to monitor construction of civil works for the wastewater treatment plant.

- (i) Work with the National Construction Site Inspector (Civil CSI-6) to prepare reports on the monitoring.

**Task 6:** Assist the PMCSC team leader with any other tasks related to civil engineering, as required.

**Position: National Construction Supervision Specialist, Structural CSS-5 (15 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in civil and structural engineering. It will be an advantage if the Specialist has 7 years of experience in designing and construction of structures; providing technical services in the operation and troubleshooting of equipment used to build structures; quality assurance including the materials and equipment used in construction of structures.

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

**Duration of contract:** 15 person-months

**Tentative Timing: Start 1 December 2019**

**Scope:** The National Construction Supervisor Specialist (Structural CSS-5) will monitor the contractors engaged in construction of the structures of the wastewater treatment plant, the landscaping sub-project, and restoration of historical buildings, ensuring timely progress, enforcing specified materials and workmanship requirements, and ensuring quality of construction.

**Expected Tasks and Activities**

**Task 1:** Assist the International Civil Engineer to carry out a review of the design and specifications of the construction of structures required for the wastewater treatment plant, the landscaping sub-project, and the restoration of historical buildings. This includes the contractor's designs for structures, cost estimates, and all other specifications.

**Task 2:** Assist the International Civil Engineer to assess the quality of arrangements in place for repair and maintenance activities on buildings and structures.

**Task 3:** Work with the International Civil Engineer, the engineering team of the construction contractor for the wastewater treatment plant, and the construction teams for the landscaping sub-project and the restoration of historical buildings to prepare a commissioning and acceptance regime and schedule for the buildings and structures.

**Task 4:** Prepare a monitoring system for the construction of structures for the wastewater treatment plant, the landscaping sub-project, and the restoration of historical buildings.

- (i) Prepare guidelines to follow in monitoring construction of structures for the wastewater treatment plant, the landscaping sub-project, and the restoration of historical buildings.
- (ii) Prepare a report format for use in reporting on monitoring.

**Task 5:** Monitor construction of structures for the wastewater treatment plant.

- (i) Prepare reports on the monitoring of the construction of structures for the wastewater treatment plant.

**Task 6:** Work with the National Construction Site Inspector (Architecture CSI-4) and the National Construction Site Inspector (Architecture CSI-5) to monitor construction of structures for the landscaping sub-project and restoration of historical buildings.

- (i) Work with the National Construction Site Inspector (Architecture CSI-4) and the National Construction Site Inspector (Architecture CSI-5) to prepare reports on the monitoring.

**Task 7:** Assist the PMCSC team leader with any other tasks related to structural engineering, as required.

**Position: Construction Supervision Specialist, Mechanical CSS-6 (8 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in mechanical engineering. It will be an advantage if the Specialist has 7 years of experience in providing technical services in the operation, troubleshooting and maintenance of a variety of mechanical equipment; quality assurance including the material and equipment used in the installation, maintenance, calibration, and repair of mechanical equipment.

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

**Duration of contract:** 8 person-months

**Tentative Timing: Start 1 December 2019**

**Scope:** The Construction Supervision Specialist (Mechanical CSS-6) will review and document that mechanical systems for the wastewater treatment plant are installed in accordance with current best practice for mechanical systems in wastewater treatment plants.

**Expected Tasks and Activities**

**Task 1:** Assist the International Mechanical Engineer to carry out a review of the design and specifications of the mechanical systems in the wastewater treatment plant. This includes the contractor's designs for mechanical systems, cost estimates, and all other specifications.

- (i) Assess the mechanical diagrams and specifications specific to hardware installation and maintenance.
- (ii) Check additional circuit drawings, maps, figures and other supporting documents, as required.
- (iii) Prepare recommendations for changes in the design and specifications, if required.

**Task 2:** Assist the International Mechanical Engineer to check the quality of arrangements in place for repair and maintenance activities, and in particular to minimize disruptions to water deliveries.

**Task 3:** Work with the International Mechanical Engineer and the engineering team of the construction contractor for the wastewater treatment plant to prepare a testing regime and schedule for the mechanical equipment and systems.

**Task 4:** Monitor the installation of the mechanical equipment and systems in the wastewater treatment plant.

- (i) Prepare monthly reports on the monitoring.

- (ii) Make recommendations for any changes required to the installation of mechanical equipment and systems.

**Task 5:** Assist the PMCSC team leader with any other tasks related to mechanical engineering, as required.

**Position: National Construction Supervision Specialist, Electrical CSS-7 (6 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in electrical engineering. It will be an advantage if the Specialist has 7 years of experience in designing and installing electrical systems in wastewater treatment plants or similar industrial plants; providing technical services in the operation, troubleshooting and maintenance of a variety of electrical and electronic equipment; quality assurance including the material and equipment used in the installation, maintenance, calibration, and repair of electrical equipment.

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

**Duration of contract:** 6 person-months

**Tentative Timing: Start 1 December 2019**

**Scope:** The National Construction Supervision Specialist (Electrical CSS-7) will ensure that electrical systems for the wastewater treatment plant are designed and installed in accordance with current international best practice for electrical systems in wastewater treatment plants.

**Expected Tasks and Activities**

**Task 1:** Work with the International Electrical Engineer to carry out a review of the design and specifications of the electrical systems in the wastewater treatment plant. This includes the contractor's designs for power, control systems, switchyards, substations, power transmission lines, cost estimates, and all other specifications.

- (i) Assess the electrical diagrams and specifications specific to hardware installation and maintenance.
- (ii) Check additional circuit drawings, maps, figures and other supporting documents, as required.
- (iii) Prepare recommendations for changes in the design and specifications, if required.

**Task 2:** Work with the International Electrical Engineer to monitor whether the contractor designs follow the Government of Nepal laws and rules, and international codes and regulations relating to electrical system and electronic maintenance.

**Task 3:** Work with the International Electrical Engineer to check the quality of arrangements in place for repair and maintenance activities, and in particular to minimize disruptions to water deliveries.

- (i) Assist the PCMU to prepare an annual maintenance budget for electrical equipment and systems.

**Task 4:** Work with the International Electrical Engineer to advise and guide on optimizing energy usage and maximizing energy savings in the design and operation of electrical equipment and systems.

**Task 5:** Work with the International Electrical Engineer and the engineering team of the construction contractor for the wastewater treatment plant to prepare a testing regime and schedule for acceptance of the electrical equipment and systems.

**Task 6:** Monitor the installation of the electrical equipment and systems in the wastewater treatment plant.

- (i) Prepare monthly reports on the monitoring.
- (ii) Make recommendations for any changes required to the installation of electrical equipment and systems.

**Task 7:** Assist the PMCSC team leader with any other tasks related to electrical engineering, as required.

**Position: National Construction Supervision Specialist, Instrumentation CSS-8 (5 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in process control systems and instrumentation engineering. It will be an advantage if the Specialist has 7 years of experience with in designing and installing instrumentation and process control systems in wastewater treatment plants or similar industrial plants; providing technical services in the operation, troubleshooting and maintenance of a variety of instrumentation and control systems and software; quality assurance including the material and equipment used in the installation, maintenance, calibration, and repair of instrumentation and process control systems equipment and software.

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

**Duration of contract:** 5 person-months

**Tentative Timing: Start 1 December 2019**

**Scope:** The National Construction Supervision Specialist (Instrumentation CSS-8) will ensure that instrumentation and process systems for the wastewater treatment plant are designed and installed in accordance with current international best practice for such systems in wastewater treatment plants.

**Expected Tasks and Activities**

**Task 1:** With the International Instrumentation Engineer, carry out a review of the design and specifications of the instrumentation and process control systems in the wastewater treatment plant. This includes the contractor's designs for instrumentation and process control systems, cost estimates, and all other specifications.

- (i) Assess the diagrams and specifications specific to installation and maintenance of instrumentation and process control systems.
- (ii) Prepare recommendations for changes in the design and specifications, if required.

**Task 2:** With the International Instrumentation Engineer, monitor whether the contractor designs follow the Government of Nepal laws and rules, and international codes and regulations relating to instrumentation and process control systems and their maintenance.

**Task 3:** With the International Instrumentation Engineer, check the quality of arrangements in place for repair and maintenance activities, and in particular to minimize disruptions to water deliveries.

- (i) Assist the PCMU to prepare an annual maintenance budget for instrumentation and process control systems.

**Task 4:** Work with the International Instrumentation Engineer and the engineering team of the construction contractor for the wastewater treatment plant to prepare a testing regime and schedule for the acceptance of the instrumentation and process control systems, both software and hardware.

**Task 5:** Monitor the installation of the instrumentation and process control systems in the wastewater treatment plant.

**Task 6:** Monitor the installation of the electrical equipment and systems in the wastewater treatment plant.

- (i) Prepare monthly reports on the monitoring.
- (ii) Make recommendations for any changes required to the installation of electrical equipment and systems.

**Task 7:** Assist the PMCSC team leader with any other tasks related to instrumentation and process control systems, as required.

### **Position: National Environmental Specialist (20 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in environmental science or environmental management. It will be an advantage if the Specialist has 5 years of experience with environmental management and with large infrastructure projects; experience with environmental safeguards in development projects; experience with environmental safeguards on ADB or World Bank projects; excellent English and Nepali language skills, and good computer skills.

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

**Duration of contract:** 20 person-months

**Tentative Timing: Start 1 December 2019**

**Scope:** The National Environmental Specialist will ensure that the project is implemented in accordance with the environmental laws of Nepal and the ADB environmental safeguard policy by overseeing implementation of Environmental Management Plans (EMP), Contractor Environmental Management Plans (CEMP) and assisting the PCMU to monitor environmental impacts.

### **Expected Tasks and Activities**



**Task 1:** Carry out a review of the environmental safeguard documents (EARF, IEE, EIA, and EMP) with regard to environmental impact and draw attention to changes which may have become necessary since their preparation;

**Task 2:** Update the EMP and ensure that contractors prepare CEMPs for their sub-projects. Train contractors in implementation and reporting of their CEMPs.

**Task 3:** Carry out the first "model" monitoring of project activities with respect to the EMP and CEMPs.

**Task 4:** Develop a reporting framework for the monitoring of EMPs and CEMPs, including follow-up on corrective actions.

**Task 5:** Carry out quarterly monitoring of EMP and CEMPs.

**Task 6:** Prepare quarterly reports on environmental monitoring of the EMP and CEMPs.

**Task 7:** Assist the PMCSC Team Leader and Deputy Team Leader with other tasks related to environmental safeguards as required.

**Position: National Senior Archaeologist – *Historic Buildings Expert* (9 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in archaeology with a specialization in historic buildings. It will be an advantage if the Specialist has 7 years of experience in archaeology, including the assessment of historic buildings.

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

**Duration of contract:** 9 person-months

**Tentative Timing: Start 1 November 2019**

**Scope:** The National Senior Archaeologist – *Historic Buildings Expert* will advise the National Construction Supervision Specialist CSS-3 and contractors engaged in restoration of historic buildings and monuments, where required, on items or areas of archaeological significance. The National Senior Archaeologist – *Historic Buildings Expert* will ensure that restoration of buildings meets international standards of restoration work and sub-project areas are evaluated for archaeological significance prior to the start of construction.

**Expected Tasks and Activities**

**Task 1:** Survey sub-project sites, as required, using field walking and geophysical surveys;

**Task 2:** Record historic sites using drawings, detailed notes and findings by grouping, identifying and classifying the information. Use computer applications, such as computer-aided design (CAD) and geographical information systems (GIS), to record and interpret finds, sites and landscapes.

**Task 3:** Use computers to produce simulations of the way a building, site or artefact would have

looked;

**Task 4:** Provide advice on the conservation or recording of archaeological remains;

**Task 5:** Ensure important buildings, monuments and sites are protected and preserved;

**Task 6:** Assist the PMCSC team leader with any other tasks related to archaeology, as required.

**Position: National Senior Geotechnical Engineer (Soils) (4 person months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in geotechnical engineering. It will be an advantage if the Specialist has 7 years of experience with geotechnical investigations, as applied to construction of large infrastructure or industrial facilities.

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

**Duration of contract:** 4 person-months

**Tentative Timing: Start 1 October 2019.**

**Scope:** The National Senior Geotechnical Engineer (Soils) will ensure that foundations, earthworks, and/or pavement subgrades for the wastewater treatment plant and structures for the landscaping sub-project are designed and installed in accordance with current international best practice.

**Expected Tasks and Activities**

**Task 1:** Conduct a site investigation of soil, rock, fault distribution and bedrock properties on the sites of the wastewater treatment plant and the landscaping subproject. Determine their engineering properties including how they will interact with the plant construction.

**Task 2:** Assess the risk to humans, property, and the environment on the wastewater treatment plant site from natural hazards such as earthquakes, landslides, sinkholes, soil liquefaction, debris flows, and rock falls.

- (i) Prepare a report on the risks.
- (ii) Make recommendations for how the construction designs can minimize those risks.

**Task 3:** Review the construction contractor's design and engineering for the foundations, earthworks, and/or pavement subgrades required for the wastewater treatment plant and the landscaping sub-project.

- (i) Prepare a report on the review.
- (ii) Make recommendations for any changes required to the designs for foundations, earthworks, and/or pavement subgrades.

**Task 4:** Review the construction contractor's design and engineering for foundations, earthworks, and/or pavement subgrades to assess whether they follow all Government of Nepal building and construction codes.

**Task 5:** Monitor the construction of the foundations, earthworks, and/or pavement subgrades for the wastewater treatment plant and the landscaping sub-project.

- (i) Prepare monthly reports on the monitoring.

- (ii) Make recommendations for any changes required to the installation of mechanical equipment and systems.

**Task 6:** Assist the PMCSC team leader with any other tasks related to geotechnical soils engineering, as required.

### **Non – Key Experts**

#### **Position: National Construction Site Inspector, Civil CSI-1 (24 person months)**

**Expertise:** The Specialist shall preferably have a bachelor's degree in Civil Engineering. It will be an advantage if the Specialist has 3 years of experience in inspecting or supervising the construction of civil works.

**Reporting:** The position will report to the National Construction Supervision Specialist (Civil CSS-1 & 2).

**Duration of contract:** 24 person-months

**Tentative Timing: Start 1 October 2019**

**Scope:** The National Construction Site Inspector (Civil CSI-1) will monitor and inspect the construction of the civil works for the Gokarna/Uttar Gaya & Thapathali to Balkhu, reviewing specified materials and workmanship requirements, and evaluating the quality of construction.

### **Expected Tasks and Activities**

**Task 1:** Work with the National Construction Supervision Specialist (CSS- 1 & 2) and National Construction Site Inspector (Civil CSI-2 & 3) to prepare a monitoring and inspection system for the construction of civil works for the Gokarna/Uttar Gaya & Thapathali to Balkhu.

**Task 2:** Carry out regular monitoring and inspection of the construction of the Gokarna/Uttar Gaya & Thapathali to Balkhu.

- (i) Prepare weekly reports on the monitoring and inspections.

**Task 3:** Assist the National Construction Supervision Specialist (CSS 1 & 2) with any other tasks related to monitoring and inspection of construction of civil works, as required.

#### **Position: National Construction Site Inspector, Civil CSI-2 (24 person months)**

**Expertise:** The Specialist shall preferably have a bachelor's degree in Civil Engineering. It will be an advantage if the Specialist has 3 years of experience in inspecting or supervising the construction of civil works.

**Reporting:** The position will report to the National Construction Supervision Specialist (Civil CSS-1 & 2).

**Duration of contract:** 24 person-months

**Tentative Timing: Start 1 October 2019**

**Scope:** The National Construction Site Inspector (Civil CSI-2) will monitor and inspect the construction of the civil works for the landscape sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu, reviewing specified materials and workmanship requirements, and evaluating the quality of construction.

### **Expected Tasks and Activities**

**Task 1:** Work with the National Construction Supervision Specialist (Civil CSS-1 & 2) and National Construction Site Inspector (Civil CSI-1 & 3) to prepare a monitoring and inspection system for the construction of civil works for the landscape sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu.

**Task 2:** Carry out regular monitoring and inspection of the construction of civil works landscape sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu.

(i) Prepare weekly reports on the monitoring and inspections.

**Task 3:** Assist the National Construction Supervision Specialist (Civil CSS-1 & 2) with any other tasks related to monitoring and inspection of construction of civil works, as required.

### **Position: National Construction Site Inspector, Civil CSI-3 (24 person months)**

**Expertise:** The Specialist shall preferably have a bachelor's degree in Civil Engineering. It will be an advantage if the Specialist has 3 years of experience in inspecting or supervising the construction of civil works.

**Reporting:** The position will report to the National Construction Supervision Specialist (Civil CSS-1 & 2).

**Duration of contract:** 24 person-months

**Tentative Timing: Start 1 February 2020**

**Scope:** The National Construction Site Inspector (Civil CSI-3) will monitor and inspect the construction of the civil works for the landscape sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu, reviewing specified materials and workmanship requirements, conformance to construction drawings, evaluating the quality of construction and reporting.

### **Expected Tasks and Activities**

**Task 1:** Work with the National Construction Supervision Specialist (Civil CSS-1 & 2) and National Construction Site Inspector (Civil CSI-1 & 2) to prepare a monitoring and inspection system for the construction of civil works for the landscape sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu.

**Task 2:** Carry out regular monitoring and inspection of the construction of civil works landscape sub-project at Gokarna/Uttar Gaya & Thapathali to Balkhu.

(i) Prepare weekly reports on the construction monitoring and inspections.

**Task 3:** Assist the National Construction Supervision Specialist (Civil CSS-1 & 2) with any other tasks related to monitoring and inspection of construction of civil works, as required.

**Position: National Construction Site Inspector, Architecture CSI-4 (30 person months)**

**Expertise:** The Specialist shall preferably have a bachelor's degree in Architecture. It will be an advantage if the Specialist has 3 years of experience in inspecting or supervising the construction of buildings and monuments.

**Reporting:** The position will report to the National Construction Supervision Specialist (Architect CSS-3).

**Duration of contract:** 30 person-months

**Tentative Timing: Start 1 November 2019**

**Scope:** The National Construction Site Inspector (Architecture CSI-4) will monitor and inspect the restoration of historic buildings and monuments, reviewing specified materials and workmanship requirements, and evaluating the quality of construction.

**Expected Tasks and Activities**

**Task 1:** Work with the National Construction Supervision Specialist (Architect CSS-3) to prepare a monitoring and inspection system for the restoration of historic buildings and monuments.

**Task 2:** Carry out regular monitoring and inspection of the restoration of historic buildings and monuments.

(i) Prepare weekly reports on the monitoring and inspections.

**Task 3:** Assist the National Construction Supervision Specialist (Architect CSS-3) with any other tasks related to monitoring and inspection of restoration of building and monuments, as required.

**Position: National Construction Site Inspector, Architecture CSI-5 (30 person months)**

**Expertise:** The Specialist shall preferably have a bachelor's degree in Architecture. It will be an advantage if the Specialist has 3 years of experience in inspecting or supervising the construction of buildings and monuments.

**Reporting:** The position will report to the National Construction Supervision Specialist (Architect CSS-3).

**Duration of contract:** 30 person-months

**Tentative Timing: Start 1 October 2019**

**Scope:** The National Construction Site Inspector (Architecture CSI-5) will monitor and inspect the restoration of historic buildings and monuments, reviewing specified materials and workmanship requirements, and evaluating the quality of construction.

**Expected Tasks and Activities**

**Task 1:** Work with the National Construction Supervision Specialist (Architect CSS-3) to prepare a monitoring and inspection system for the restoration of historic buildings and monuments.

**Task 2:** Carry out regular monitoring and inspection of the restoration of historic buildings and monuments.

- (i) Prepare weekly reports on the monitoring and inspections.

**Task 3:** Assist the National Construction Supervision Specialist (Architect CSS-3) with any other tasks related to monitoring and inspection of restoration of building and monuments, as required.

**Position: National Construction Site Inspector, Civil CSI-6 (24 person months)**

**Expertise:** The Specialist shall preferably have a bachelor's degree in civil engineering. It will be an advantage if the Specialist has 3 years of experience in inspecting or supervising the construction of civil works.

**Reporting:** The position will report to the National Construction Supervision Specialist (Civil CSS-4).

**Duration of contract:** 24 person-months

**Tentative Timing: Start 1 May 2020**

**Scope:** The National Construction Site Inspector (Civil CSI-6) will monitor and inspect the construction of the civil works for the wastewater treatment plant, reviewing specified materials and workmanship requirements, and evaluating the quality of construction.

**Expected Tasks and Activities**

**Task 1:** Work with the National Construction Supervision Specialist (Civil CSS-4) to prepare a monitoring and inspection system for the construction of civil works for the wastewater treatment plant.

**Task 2:** Carry out regular monitoring and inspection of the construction of civil works for the wastewater treatment plant.

- (ii) Prepare weekly reports on the monitoring and inspections.

**Task 3:** Assist the National Construction Supervision Specialist (Civil CSS-4) with any other tasks related to monitoring and inspection of construction of civil works, as required.

**Position: National Plantation Specialist (12 person-months)**

**Expertise:** The Specialist shall preferably have an undergraduate degree in plant science, landscape architecture, or similar. It will be an advantage if the Specialist has 5 years of experience in planning and supervising botanical plantings in large areas, such as urban parks or other open spaces.

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

**Duration of contract:** 12 person-months

**Tentative Timing: Start 1 October 2019**

**Scope:** The National Plantation Specialist will review planting plans and specifications for the landscaping sub-project and supervise the contractor who carries out the planting. The National Plantation Specialist will review the planting plans and specifications for the park on top of the Tukucha wastewater treatment plant and monitor the planting.

### **Expected Tasks and Activities**

**Task 1:** Review planting plans and specifications for the landscaping sub-project. Revise these if required.

**Task 2:** Monitor and supervise the contractor who carries out the planting on the landscaping sub-project.

**Task 3:** Review the planting plans and specifications for the park on top of the Tukucha wastewater treatment plant.

**Task 4:** Monitor the plantation works.

**Task 5:** Assist the PMCSC team leader with any other tasks related to botanical planting as required.

### **Position: National Social and Gender Specialist (12 person months)**

**Expertise:** The Specialist shall preferably have a postgraduate degree in social science, social work, or other relevant subject. It will be an advantage if the Specialist has 3 years of relevant professional experience working for project(s) financed by ADB, World Bank, or other international organizations with strong participatory and facilitation skills; sound knowledge of gender mainstreaming and gender-sensitive reporting; excellent English and Nepali language skills; and good computer skills.

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

**Duration of contract:** 12 person-months

**Tentative Timing: Start 1 October 2019**

**Scope:** The National Social and Gender Specialist will facilitate full implementation of the project's GESI plan and prepare six-monthly progress reports.

### **Expected Tasks and Activities**

**Task 1:** Conduct training and development for the executing and implementing agencies, the PCMU, and other key project stakeholders, in ADB and government requirements for social and gender responsiveness and ADB's social safeguard policy;

**Task 2:** Assist the other PMCSC specialists and the implementing agency in preparing and implementing project activities, to ensure achievement of the GESI targets;

**Task 3:** Review progress of GESI implementation and report on progress by attaching the GESI implementation and monitoring matrix in the semi-annual project reports;

**Task 4:** Monitor project activities during implementation to ensure compliance with the GESI plan, summary poverty reduction and social strategy, including annual consultations with the executing and implementing agencies;

**Task 5:** Maintain a project-specific, sex-disaggregated database, and conduct periodic reviews and consultations on the social, gender, and participatory aspects and impacts of the project;

**Task 6:** Prepare and/or provide relevant inputs for reports and documents required by the PCMU, GON, and/or ADB (e.g., GESI implementation monitoring matrix) with recommendations for improved project performance for social and gender-related activities and targets.

**Task 7:** Assist the PMCSC Team Leader and Deputy Team Leader with other tasks related to social and gender safeguards as required.

**Position: National Monitoring and Evaluation Specialist (12 person-months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in engineering or operations management. It will be an advantage if the Specialist has 3 years of experience with monitoring and evaluation and with large infrastructure projects; experience with monitoring and evaluation on ADB or World Bank projects; excellent English and Nepali language skills; and good computer skills.

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

**Duration of contract:** 12 person-months

**Tentative Timing: Start 1 October 2019**

**Scope:** The National Monitoring & Evaluation Specialist will ensure that the project is implemented in accordance with the laws of Nepal and the relevant ADB documents prepared for the additional financing (including ADB loan agreement, report and recommendation of the President, project administration manual (PAM), design and monitoring framework, environmental assessment and review framework (EARF)/initial environmental examination/environmental impact assessment/environmental management plan, summary poverty reduction and social strategy, gender equality and social inclusion (GESI) action plan, resettlement framework and resettlement plans, indigenous peoples plan or EMDP, etc.).

**Expected Tasks and Activities**

**Task 1:** Carry out a review of the additional financing project preparation documents with regard to project monitoring and evaluation and draw attention to changes that may have become necessary since their preparation.

**Task 2:** Prepare the necessary guidelines for the monitoring and evaluation and six-monthly PPMS reporting consistent with additional financing project documents (RRP, the Loan Agreement, PAM, EARF/IEE/EIA and EMP, RF and RPs, IPPP or EMDP, SPRSS, GESI Action Plan etc.), ADB requirements, and regulations of the Government of Nepal.



**Task 3:** Set up monitoring and evaluation frameworks and PPMS for overall additional financing project activities. The PPMS will include a participatory baseline survey to be conducted within the first year of the additional financing with follow-up surveys to evaluate any changes.

**Task 3:** Carry out the baseline survey for the additional financing.

**Task 4:** Develop a program and then train PCMU staff on M&E and the PPMS and preparing reports on the PPMS.

**Task 5:** Conduct six monthly data collections for the PPMS and prepare six monthly reports from the PPMS.

**Task 6:** Assist the PMCSC team leader with any other tasks related to monitoring and evaluation, as required.

**Position: National Financial Management Specialist (16 person-months)**

**Expertise:** The Specialist shall preferably have a post-graduate degree in finance or accounting. It will be an advantage if the Specialist has 7 years of experience with financial management and have experience on ADB or World Bank projects; excellent English and Nepali language skills; and good computer skills.

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

**Duration of contract:** 16 person-months

**Tentative Timing: Start 1 October 2019**

**Scope:** The National Financial Management Specialist will ensure that financial management for the project complies with the laws of Nepal and meets ADB standards for financial management and project accounting.

**Expected Tasks and Activities**

**Task 1:** Assist the PCMU as required to prepare statements of expenditure, estimates of expenditure, applications to ADB for withdrawal of funds,

**Task 2:** On a quarterly basis, review the preparation of project accounts by PCMU staff and ensure that these meet ADB standards. Prepare recommendations to the PCMU on how to improve the project accounts.

**Task 3:** Review the project's disbursements and ensure that payments to contractors and consultants are made after contractual milestones have been met.

**Task 4:** Assist the PMCSC Team Leader to prepare six monthly project performance reports.

**Task 5:** Develop a program and then train PCMU staff on financial management.

**Task 6:** Assist the PMCSC team leader with any other tasks related to financial management, as required.

**VI. CLIENT'S INPUT AND COUNTERPART PERSONNEL**

30. The Client may provide qualified counterpart staff to work with the Consultant Team. The Counterpart staff will not work as members of the Consultant team for delivering the services. The cost of counterpart staff will be paid by the Client, and so it is not to be included in the Consultant's financial proposal and contract.

31. The Client will provide all relevant existing reports and available data relating to the project to the Consultant at the commencement of the service. The client will facilitate access of Consultant to project site, and other Government's agencies for communications, collecting relevant information, data, documents, etc. and other activities related to the assignment.

## **VII. EQUIPMENT AND FACILITIES TO BE PROVIDED BY THE CONSULTANT**

32. The Consultant will provide its own subsistence, office consumables as required, office rent, and make provision for their cost of office operation, including utilities, security and support personnel, and other costs to fulfill the services. After completion of the contract, equipment purchased under the project and paid under the contract shall be handed over to the Client. The Consultant will provide all necessary computers, printers, and other Information Education and Communication equipment required by its experts as well as all necessary software.

33. The Consultant will provide the administrative and technical professionals and support staff needed to carry out the services. The Consultant will also be responsible for providing, (i) all other necessary facilities and logistic support for its staff including accommodation, per diems, and transportation; (ii) communications, utilities and other miscellaneous cost which may be required for carrying out the services as per the requirement of the Contract including terms of reference. All administrative costs should be itemized in the financial proposal, costs not identified in the Financial Proposal will be deemed to be borne by the Consultant at no cost to the Client.

**Appendix 2: River Environment through Community Leadership Development**

**Bagmati River Basin Improvement Project –  
Additional Financing**

**Terms of Reference  
for the  
RIVER ENVIRONMENT IMPROVEMENT  
THROUGH COMMUNITY LEADERSHIP  
DEVELOPMENT  
(Sinamangal bridge to Nakhu Confluence of Bagmati River)**

31 March 2019

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## **River Environment Improvement through Community Leadership Development** (Sinamangal to Nakhu Confluence of Bagmati River)

### **I. BACKGROUND**

1. The Bagmati River basin (BRB) has significant cultural and economic values for the people of Nepal. Bagmati River water is considered holy and is used for cultural and ritual ceremonies practiced at the many significant temples along the riverbanks. The river flows through Kathmandu Valley, which is the administrative and economic center of the country as well as Nepal's gateway for tourism. It provides most of the city's drinking water in its upper basin, hydropower generation in the middle basin, and large-scale irrigation in the lower basin.

2. The BRB is considered the most water-stressed basin in Nepal with (i) declining available water resources due to natural and anthropogenic causes, (ii) significant increases in freshwater demand from the expanding population and industry sector, and (iii) a continuous need for irrigated agriculture. The rapid and unplanned expansion of Kathmandu City has placed tremendous pressure on water resources of the upper Bagmati River. In the absence of appropriate solid waste and wastewater management system and practices, the river has become the main waste collector drain and now carries high fecal contamination, pathogenic bacteria, and physicochemical pollutants. The absence of effective pollution control measures is causing serious health hazards for local residents, livestock, and aquatic flora and fauna. The physical deterioration of the riverine environment has led to a loss of cultural and recreational amenities for local communities that no longer respect or cherish the river environment. The addressing initiatives has been ad-hoc and uncoordinated.

3. To address these issues the Government of Nepal has established an institution named High Power Committee for Integrated Development of Bagmati Civilization (HPCIDBC). It is mandated to work for Bagmati River welfare in the upper section of Bagmati River (Bagdhawor to Katuwal dhaha) including its tributaries and sub-tributaries. To fulfill its major duties, it requires to generate river basin stakeholder mapping, institutionalize scattered civil society groups directly impacted and residing in the river corridor, mobilize local community and institutions to minimize the disposal of waste in river and support these local civil society groups in their socio-cultural activities. Thus, there is a need for formation and capacity enhancement of the Civil Society Platform (CSP) for ownership, inclusion, support, participation and better river environment improvement.

### **II. PROJECT SCOPE**

4. The objective of the Bagmati River Basin Improvement Project (current project) is achieving improved river health and flood management.

#### **1. Impact and Outcome**

5. The impact is increased water security in the BRB. The outcome is improved river health and flood management. The project is the first attempt in Nepal to apply the concept and principles of integrated water resources management (IWRM) since its adoption under the 2005 National Water Plan.

#### **2. Outputs**

6. The project has five outputs:

- (i) Established systems and capacity for integrated and participatory river basin management. Activities include (a) provide legal and institutional strengthening for IWRM and formation of a river basin organization (RBO), (b) mobilize basin stakeholders, (c) build capacity for increasing RBO competence, (d) establish a central water resources information system including a decision support system and an operating water quality monitoring network, and (e) prepare a 15-year participatory integrated river basin master plan.
- (ii) Improved riverbank environment in urban areas. Activities include (a) remove contaminated riverbed material; (b) construct weirs and provide phyto-remediation to enhance the river's self-cleaning capacity; (c) stabilize and beautify the riverbank; (d) mobilize, raise awareness, and build capacity of local government and communities for riverbank management and maintenance; and (e) collaborate with the private sector, which has expressed interest in setting up recreational businesses along the riverbanks through public–private partnerships or finance maintenance as part of social corporate activities.
- (iii) Increased water availability in the basin during the dry season and watershed conservation. Activities include (a) construct an 861,000 cubic meters (m<sup>3</sup>) Dhap dam and complete detail design of the 8 million m<sup>3</sup> Nagmati dam, (b) provide rooftop rainwater harvesting and groundwater recharge, and (c) implement upstream watershed management.
- (iv) Functioning flood forecasting and early warning system for the Bagmati River Basin. Activities include (a) upgrade the existing flood forecasting system, (b) install a flood early warning system, and (c) increase community awareness and build capacity for flood response.
- (v) Efficient project management with effective stakeholder communication. Activities include (a) establish competent project management and project implementation units, (b) undertake timely procurement and disbursement, and (c) implement the project communication strategy and monitoring.

7. ADB financed the current project with \$30 million in loan and grants, and the government contributed \$6 million.

### 3. Additional Financing of the Current Project

8. The additional financing consists mainly of (i) additional activities to **output 2** including additional riverbank beautification through landscaping and restoration of historic buildings and monuments, and (ii) additional activities to **output 3** including construction of a wastewater treatment plant (WWTP) where the Tukucha River joins the Bagmati River, in central Kathmandu City. Table 1 shows the key subprojects for additional financing and their estimated costs.

**Table 25: Key Civil Works Subprojects and Activities for the Bagmati River Basin Improvement Project – Additional Financing**

Project Output	Additional Financing Subproject or Activity	Estimated Base Cost (\$ millions)
1	Wastewater treatment plant design–build–operate - Tukucha	\$29.62
2	Restoration of historic buildings and monuments	\$11.05
2	River corridor training and landscaping	\$14.85
	<b>Total</b>	<b>\$55.52</b>

9. It was learned from the current project that involving community was instrumental in addressing social issues, bridging between community and current project staff, liaising current project activities with local government units and taking leadership of social awareness and solid waste management (SWM) campaigns. This has enabled the work to progress but has also ensure community ownership of project activities. The recently formed CSP of institutions from Sundarijal to Sinamangal played a key role in designing, executing joint activities with local government units and community. However, the current CSP covers only a section of upper Bagmati stretch so the remaining parts and all its tributaries needs to be mobilized for cleaning the Bagmati River. Replicating the successful and proved modality to other parts of the river is an objective of additional financing.

### **III. TARGET AREA**

10. The upper stretch of Bagmati covers from Bagdwar to Kutuwal daha. The northern stretch from Sundarijal to Sinamangal has been covered under the current packages—Watershed Management and Solid Waste Management and Social Mobilization being implemented under current project. This package will mainly cover the stretch from Sinamangal to Nakhu that lies in Kathmandu, Lalitpur Metropolitan City and Kirtipur municipality, but also support present CSP (Sundarijal to Sinamangal CSP) for continuation and enhancement of project achievements.

### **IV. SCOPE OF THE SERVICES REQUESTED**

11. The overall objective of this service is to identify the local stakeholders and unite, capacitate them for increased participation in the HPCIDBC activities and decision-making and to build stakeholder leadership and ownership of various processes to make a more effective collaborative effort for the overall environmental improvement of the Bagmati River. The nongovernment organization (NGO) shall work intensively in the stretch from Sinamangal to Balkhu that lies in Kathmandu, Lalitpur Metropolitan City and Kirtipur Municipality and cover all tributaries draining in the Bagmati main river over this stretch. The NGO will also continue to support the present CSP (Sundarijal to Sinamangal CSP) for continuation and enhancement of project achievements. The duration of the assignment will be carried out over a period of 36 months from mobilization. The activities will include but not limited to:

- (i) To identify stakeholders, institutions currently working for Bagmati river improvement within the target area.
- (ii) To prepare updated database of identified stakeholders and institutions.
- (iii) To prepare socio-economic database and identify key community infrastructures.
- (iv) Formation of CSP of the Sinamangal-Balkhu stretch of Bagmati River and its tributaries. Link the new CSP(s) with the upper Bagmati river CSP (named “Bagmati Beautification Concern Platform”) to launch uniform collective campaign for the revival of the river system.
- (v) Prepare a strategy and implement it for creating a Sundarijal to Nakhu CSP or federation of CSPs including the tributaries.
- (vi) Promote best practices of SWM (3R principle reduce, re-use and recycle) which includes source segregation, individual and community level composting, and recycle. The NGO will:
  - (a) Support the project coordination and management unit (PCMU) in devising a subsidy mechanism to enhance CSP activities in 3R related activities and support CSPs in implementing the actions.
  - (b) Document lessons learned that have worked and can be adopted.
  - (c) Design innovative awareness programs to launch in schools, local



community and other places as necessary to raise awareness and create demand for adoption of best practices.

- (vii) Ensure participation, involvement, increased access to benefit and use for empowerment of the project interventions for women and disadvantaged groups.
- (viii) Coordinate and plan jointly with the local government units for river environment improvement.
- (ix) Facilitate community leaders, groups and institutions to smoothen plan and construction activities under the additional financing.
- (x) To share learnings and information between upper Bagmati stretch and the current Bagmati stretch.
- (xi) To improve participation of stakeholders in river management applying tools of IWRM.
- (xii) Enhance capacity of the stakeholders in Bagmati river basin within present stretch.
- (xiii) Coach CSPs in their participation in the HPCIDBC and interactions with HPCIDBC and its committees.
- (xiv) Conduct mass awareness campaign to aware, awake for collective action.
- (xv) Design & Implement pilot initiatives like pilot school, material recovery facility etc.
- (xvi) Ensure private sector involvement for River Environment Restoration including the maintenance of river stretches that were beautified under the project
- (xvii) Develop and implement with the relevant Guthis and organizations, a heritage management strategy and plan for the maintenance and conservation of the cultural heritage buildings to be restore under the project. The plan and implementation of the plan will aim at developing and implementing options for self-sustaining maintenance of the restored building by the relevant owners.

## V. EXPERTISE REQUIRED

12. The selected nongovernment organization (NGO) will be supervised by and work closely with the PCMU, in particular the social mobilization and communications Unit, as well as the project management, construction and supervision consultants (PMSCS) and the related experts, in particular the Social and Gender Specialist.

**Table 26: Summary of Inputs - NGO: River Environment Improvement through Community Leadership Development (Sinamangal to Nakhu Confluence of Bagmati River)**

	<b>Key National Specialists</b>	<b>Person Months</b>
1	Community Mobilization / Institutional Specialist and Team Leader	30
2	Social Mobilization Specialist	20
3	Communication Specialist	18
4	Gender Equality and Social Inclusion (GESI) Specialist	10
5	Solid Waste Management Specialist	12
	<b>TOTAL KEY NATIONAL SPECIALISTS</b>	<b>90</b>
	<b>Non-Key National Personnel</b>	
1	Community Mobilizers (2)	50
2	Administration and Finance Officer	36
	<b>TOTAL NON-KEY PERSONNEL</b>	<b>86</b>
	<b>TOTAL PERSONNEL</b>	<b>176</b>

## 1. Key Specialists:

### a. Community Mobilization / Institutional Specialist and Team Leader (30 person-months)

13. **Expertise:** The Community Mobilization/ institutional Specialist and Team Leader shall preferably have a Post graduate degree in social science, rural development or other relevant discipline from a recognized university with a minimum of 10 years of experience in community mobilization. The specialist shall have proven experience in working with and mobilizing of local communities. He/ She should have proven experience in directing a multidisciplinary team of experts and preferably have experience with ADB, World Bank, or other international development institutions projects. Command of English both written and spoken is a pre-requisite.

14. **Reporting:** The position will report to the PCMU

15. **Duration of contract:** 30 person-months

16. **Timing:** Start 1 October 2019

17. **Expected Tasks and Activities:** The Community Mobilization/Institutional Specialist and Team Leader will be responsible for overall management and delivery of the defined tasks of the assignment. The specialist will lead the team of experts and will be the main point of contact in liaising with the Client on all aspects of the project. The specialist will be responsible for quality assurance, document preparation and coordination, project management and ensuring timely implementation of the assignment. As a community mobilization specialist, he/ she will work closely with the Social Unit of the PCMU and will develop the institutional mechanisms to promote participation and mobilization of the communities. The specialist will be responsible for the following:

#### (i) As Team Leader:

- (a) Be responsible for overall direction of the NGO team, coordination of inputs, and management of individual specialists;
- (b) Ensure timely delivery and quality control of the outputs;
- (c) Ensure timely delivery of deliverables and reports in a format acceptable to the Client;
- (d) Prepare Inception, Monthly, Interim, Final Report and Financial report for timely submission to the Client;
- (e) Debrief the clients on the progress of the team; and
- (f) Project partners and local government units coordination and liaison.

#### (ii) As a Community Mobilization / Institutional Specialist:

- (a) Develop local institutional mechanisms to promote participation, coordination, and mobilization;
- (b) Develop the written CSP Strategy and Action Plan, undertake the lead role in facilitating formation of an ad hoc CSP (committee of the umbrella organization or a federation of all concerned NGOs/CSOs), develop its constitutions and bylaws, and help formalize it by obtaining its legal registration, and facilitate establishment and continuing functioning of the NGO Platform and Working Groups;
- (c) Coordinate with the Communication Specialist to develop and produce the written Media Campaign and Community Awareness Strategy and Action Plan, and to implement the community awareness aspects of the action plan;
- (d) Take the lead role in developing and producing the written Community

- Interaction, Involvement and Participation Strategy and Action Plan, and to implement action plan;
- (e) Take the lead role in conducting the Training Needs Assessment and developing and implementing the written Training Plan;
  - (f) Organize and direct the Community Mobilizers and monitor and report on their activities;
  - (g) Encourage environment improvement and community participation in maintaining the river environment through community awareness and mobilization to adopt river stretches, initiate "score card" system and other monitoring and benchmarking systems;
  - (h) Develop and improve self-help mechanisms to address local needs and aspirations with respect to river environment management, and document attempts and achievements;
  - (i) Develop strategies to promote local, basin and national and consensus on project activities and stakeholder involvement and participation;
  - (j) Develop strategies to help ensure a sense of ownership of Project by community stakeholders in Bagmati;
  - (k) Prepare or Update the Heritage Management Plan (HMP) of the Heritages building that are restored under the additional financing such preparation will be done in close consultation with the Guthis and organizations that are owners and managers of the cultural heritage building;
  - (l) Support PCMU in addressing the Grievances of the Public related to the project activities;
  - (m) Design award / incentive packages and implement them in order to motivate NGO/community-based organization involved in improving river environment;
  - (n) Any other activities such as may be requested by the Client to promote to community awareness, participation and ownership of the proposed Upper Bagmati River Improvement initiatives and/or overall objectives of the additional financing.

**b. Social Mobilization Specialist (20 person-months)**

18. **Expertise:** The Social Mobilization Specialist shall have a university degree preferably in social science or other relevant discipline from a recognized university with a minimum of 7 years of experience in social mobilization. The specialist shall have proven experience in working with and mobilizing of local communities. Command of English both written and spoken is a pre-requisite.

19. **Reporting:** The position will report to the team leader.

20. **Duration of contract:** 20 person-months

21. **Timing:** Start from 1 October 2019.

22. **Expected tasks and activities:** The Social Mobilization Specialist will work closely with the Team Leader, and Social and Gender Specialist of PMCSC including the Social Mobilization and Communication Unit of PCMU, and will be responsible for mobilizing local community for the promotion and awareness activities. The Social Mobilization Specialist will be responsible for the following:

- (iii) Support Team leader in developing local institutional mechanisms to promote participation, coordination, and mobilization for the project activities and maintenance of the assets;
- (iv) Prepare an exhaustive list of local Institutions concerned with Bagmati River area from Sinamangal to Nakhu, and initiate dialogue with them for creating a CSP & merging with upper stretch CSP (Sundarijal to Sinamangal CSP);
- (v) Support the Team leader in developing the written CSP Strategy and Action Plan, in facilitating formation of an ad hoc CSP (committee of the umbrella organization or a federation of all concerned NGOs/CSOs), develop its constitutions and bylaws, and help formalize it by obtaining its legal registration, and facilitate establishment and continuing functioning of the NGO Platform and Working Groups;
- (vi) Support the Team leader & Communication Specialist to develop and produce the written Media Campaign and Community Awareness Strategy and Action Plan, and to implement the community awareness aspects of the action plan;
- (vii) Conduct the Training Needs Assessment, and develop and implement the written Training Plan;
- (viii) Organize and direct the Community Mobilizers, and monitor and report on their activities;
- (ix) Encourage environment improvement and community participation in maintaining the river environment through community awareness and mobilization to adopt river stretches, initiate "score card" system and other monitoring and benchmarking systems;
- (x) Support in developing and improving self-help mechanisms to address local needs and aspirations with respect to river environment management, and document attempts and achievements;
- (xi) Support in the developing strategies to promote local, basin and national and consensus on project activities and stakeholder involvement and participation;
- (xii) Support in developing strategies to help ensure a sense of ownership of Project by community stakeholders in Bagmati;
- (xiii) Support in designing award / incentive packages and implement them in order to motivate NGO / CBO involved in improving river environment;
- (xiv) Lead in conducting a thorough identification and mapping study to categorize, map and develop a contact listing of community stakeholders such as local volunteer community groups, NGOs, and similar organizations currently active in maintaining or improving the upper basin Bagmati river corridor, and in particular those active along the river beautification reaches;
- (xv) Support the Team Leader in the preparation and the implementation of the HMP of the heritages buildings that are constructed under the additional financing. Ensure day to day mobilization, coordination and training of the Guthis and organizations that are in charge of the heritage building to ensure that they agree and implement the HMP.
- (xvi) Support Team Leader in Report preparation.

**c. Communication Specialist (18 person-months)**

23. **Expertise:** The Communication Specialist shall have preferably a university degree in communications or other relevant discipline from a recognized university with a minimum of 7 years of experience in communications with stake holders including media, local communities, government and the private sector. Command of English both written and spoken is a prerequisite.

24. **Reporting:** The position will report to the team leader.
25. **Duration of contract:** 18 person-months
26. **Timing:** Start 1 October 2019
27. **Expected tasks and activities:** The Communication Specialist will work closely with the Team leader including Sociologists, gender equality and social inclusion (GESI) focal person, and other members of the PCMU and assist to carry out the following:
  - (i) Update and detail the Stakeholder Communication Strategy (SCS) and prepare Media Campaign and Community Awareness Action Plan with detailed budget;
  - (ii) Implement the approved action plan including development of local institutional mechanism to promote participation, coordination and mobilization and further updating and implementing SCS;
  - (iii) Develop tools of SCS for its implementation considering its tasks and activities, and also with consideration of the broader public awareness and communications/ media needs of the current project and additional financing (overall project);
  - (iv) Following the SCS, design a media campaign, and community awareness plan for local level awareness and advocacy through a multi-media campaign including television, radio, newspapers, high quality informational brochures, flyers, and posters;
  - (v) Design and conduct school, college and women's group focused specific awareness packages;
  - (vi) Support the Team Leader and communication specialist in the preparation and the implementation of HMP of the Heritages buildings that are constructed under the additional financing;
  - (vii) Support PCMU in addressing the Grievances of the Public related to the project activities;
  - (viii) Support in development/ updating of project and CSP website and social media;
  - (ix) Support other team members to collect and compile good practices of river environment improvement initiatives in the target area;
  - (x) Any other activities such as may be requested by the Client to promote to community awareness, participation and ownership of the proposed additional financing activities.

**d. Gender Equality and Social Inclusion (GESI) Specialist (10 person-months)**

28. **Expertise:** The GESI Specialist shall preferably have a university degree in Gender Studies or other relevant discipline and a minimum of 7 years of experience in gender mainstreaming and implementation of GESI Action Plan (GESI AP). The specialist shall have proven experience in working with and mobilizing local communities. Command of English both written and spoken is a pre-requisite.
29. **Reporting:** The position will report to the team leader.
30. **Duration of contract:** 10 person-months
31. **Timing:** Start from 1 October 2019

32. **Expected tasks and activities:** The GESI Specialist will work closely with the Gender Specialist of the PMCSC and members of the Social Mobilization and Communications Unit of the PCMU to carry out the following tasks:

- (i) Develop GESI responsive communication and community awareness strategy and plan of action that will support the implementation and successful achievement of the project GESI AP.
- (ii) Carry out GESI AP exercise and use the findings in the development of communication and community awareness for GESI informed messages to the public.
- (iii) Ensure (Information Education and Communication (IEC) materials developed for media campaign are simple in language and easily understandable (with illustrations) and are disseminated to all basin stakeholders using various means such as audio-visual aids, pamphlets, film making, etc.
- (iv) Support community mobilization specialist in mobilizing women and other socially excluded groups, and poor in the formation of users committee. Promote their maximum participation and involvement.
- (v) Ensure that national and local level awareness and advocacy program benefits all citizens and residents along Bagmati river by inclusion of all stakeholders including women groups, various social groups, youth groups, clubs and other local groups in project related consultations, awareness raising events, forums/meetings etc. As required identify and carry out smaller group discussions and/or individual consultations with certain stakeholder groups (political leaders, and elites).
- (vi) Support in the formation of the working groups by ensuring representation from community groups and other stakeholders comprising of 33% women members and 20% from poor and socially excluded groups.
- (vii) Support in the formation of CSP for interested organization concerned with issues related to health and welfare of Bagmati River and ensure inclusion of representatives from women, social groups and youths led CBOs/NGOs, and other forums that represent basin stakeholders. (Out of the total members 50% must be women as per the project GESI AP)
- (viii) Ensure that solid waste management training/awareness raising includes at least one female member of each interested HHs; awareness raising to include both male and female member of the household, different segments of the community along the river basin (well-off and poverty pockets).
- (ix) Provide quarterly progress updates on all above tasks as per the agreed reporting template to PCMU/PMCSC.
- (x) Collect and compile good practices of river environment improvement initiatives in the target area.

**e. Solid Waste Management (SWM) Specialist (12 person-months)**

33. **Expertise:** The SWM Specialist shall preferably have a post graduate degree in relevant discipline from a recognized university with a minimum of 5 years of experience working in solid waste management. The specialist shall have proven experience in working with and mobilizing local communities. Command of English both written and spoken is a pre-requisite.

34. **Reporting:** The position will report to the team leader.

35. **Duration of contract:** 12 person-months

36. **Timing:** Start from 1 October 2019

37. **Expected tasks and activities:** The SWM Specialist will work with the Team leader and assist the PCMU in the promotion of safe solid waste management and will carry out the following:

- (i) Develop training need assessments, training plan, and conduction of trainings, especially those related to water pollution and solid waste management.
- (ii) Conduct capacity development of local bodies and other stakeholders including for the river corridors and assets beautified/restored under the project for effective management of solid waste including trainings on solid waste management, organizing study tours to nearby community-based SWM systems & developing local regulations, strategies etc.;
- (iii) Develop a strong monitoring and enforcement mechanism against solid waste dumping along riverbanks (including trainings on monitoring and evaluation (M&E) and preparation of support materials for M&E);
- (iv) Promote best practices of solid waste management at household and community levels along riverbanks through provisions of subsidy for SWM tools, materials & equipment's, Material recovery facility and Pilot units in schools;
- (v) Preparation of Technical Specification for procuring of SWM tools, materials & equipment's.
- (vi) Support PCMU in devising a subsidy mechanism to enhance CSP activities in 3R related activities and support CSPs in implementing the actions.
- (vii) Any other activity required to promote SWM.
- (viii) Any other activities such as may be requested by the Client to promote to community awareness, participation and ownership of the proposed additional financing activities.

## 2. Non-Key National Specialists

38. **Remark:** The cost of the non key experts should be itemized as reimbursable cost in the financial proposal together with other eligible out of pocket expenses. Costs not identified in the Financial Proposal will be deemed to be borne by the NGO at no cost to the Client.

### a. Community Mobilizers (50 person-months)

39. **Expertise:** The community mobilizers will have a degree in social sciences or gender related studies or a related field and a minimum of 3 years of demonstrated experience in community mobilization, or comparable qualifications obtained by experience. The community mobilizers will have preferably worked in community-based water or natural resources management.

40. **Reporting:** The position will report to the team leader.

41. **Duration of contract and number of experts:** To assist the team with community development and mobilization activities, the NGO will provide community mobilizers to work in collaboration with all Key National Specialists. The NGO will provide a minimum of 2 local community mobilizers of which one should be woman (The GESI AP of the current project states that local community motivators and social mobilizers hired include 50% women and 40% from socially excluded groups) but the NGO is responsible to determine the number of community mobilizers and duration of their assignments to carry out the task within the specific period and requirements of the client.

42. **Timing:** Start from 1 October 2019

43. **Expected Tasks and Activities:**

- (i) Meet regularly with households and businesses in the BRBIP AF area to discuss issues around environmental improvement of the BRB;
- (ii) Assist the other consultants to obtain community participation on environmental issues
- (iii) Follow-up with community households and businesses on environmental issues;

**b. Administration and Finance Officer (36 person-months)**

44. **Expertise:** The administration and finance officer will preferably have a degree in accounting or a related field and a minimum of 3 years of demonstrated experience in administration and finance, or comparable qualifications obtained by experience.

45. **Reporting:** The position will report to the team leader.

46. **Duration of contract:** 36 person-months

47. **Timing:** Start from 1 October 2019

48. **Expected Tasks and Activities:** To assist the NGO team office administration as well as support in financial management activities the NGO will provide a local Administration and Finance Officer. The non-key expert will:

- (i) Assist the team leader with tasks related to administration, as required;
- (ii) Review the project's disbursements and ensure that all accounts payable payments are made after contractual milestones have been met; and
- (iii) Assist the team leader to prepare project reports.

## **VI. REPORTING REQUIREMENT AND DELIVERABLES**

49. The reporting requirements are as follows:

### **1. Inception Report**

50. The NGO shall prepare and submit an Inception Report within 3 months from mobilization. Based on discussions with the Client and other stakeholders, the NGO shall review and verify the scope of work and elaborate on the required tasks to achieve the objectives of the assignment. In addition, the Inception report will highlight possible areas of inconsistencies and omissions which may have occurred in the preparation of the terms of reference (TOR) and the deliverables and recommend adjustment if any. The report will present: (i) scope of works as updated, (ii) a work and staffing plans, (iii) detailed approach and methodology, (iv) tentative training program, and (v) program for the submission of deliverables.

### **2. Monthly and Quarterly Progress Reports**

51. The NGO will prepare and submit within 7 days of the end of each calendar month, a brief but comprehensive Monthly Progress Report (MPR) in a format to be agreed between the NGO and the Client. The MPR will summarize activities undertaken during the preceding month, progress against established targets (to be determined), and planned activities for the next monthly period. The monthly report for the third month of each quarter (ending 31 March, 30 June, 30 September and 31 December) will be prepared as a quarterly report, summarizing staffing, activities and outputs for the quarter. This report must be submitted to the Client within 5 days of the end of the month to allow the Client to meet its own reporting requirements to the PCMU and ADB.



### 3. Annual Report

52. By 15 January in each year of the assignment, the NGO will prepare and submit a draft annual report for review by the Client, summarizing the accomplishments to date, plans for the remaining period of implementation, and suggestions and recommendations for improved delivery of outputs and achievement of objectives of the assignment. The final annual report incorporating comments of the Client will be finalized within 7 days of receipt of comments from the Client.

### 4. Final Report

53. A draft final report will be submitted to the Client 30 days before the completion of the contract. The report will be prepared in a format to be agreed between the NGO and the Client and will summarize all processes, activities, results and achievements under the contract as well as lessons learned and recommendations for sustainability of community-based activities. The report will also summarize all reports, campaigns, and training activities carried out during the project with full reports attached in appendixes. The Client and stakeholders will provide comments on the draft final report within 15 days of submission and the final report incorporating the comments from the Client and major stakeholders will be finalized and submitted within 30 days of receipt of comments.

### 5. Financial Report

54. A full financial report detailing projected and actual expenses incurred for pre-determined budget lines (to be determined in coordination with the Client) will be prepared and submitted within 60 days of the end of the contract. This will be a separate report from the Final Report.

### 6. Other deliverables

55. The NGOs is expected to achieve the following deliverables:

No	Output	Description	Due date
	Heritage management plan	The NGO should prepare/update the Heritage Management Plan of the Heritages buildings (Historic Temples and Monuments from Thapathali to Teku) constructed under the additional financing with cooperation and coordination with Project Management and Construction Supervision Consultant (PMCSC) team. The plan should propose an agreed operation and maintenance plan for each Heritages building restored under the project including details the selected mechanism for ensuring sustainable maintenance and operation with roles and responsibility of all the sectors involved. The NGO should coordinate with Department of Archaeology (DoA), Local bodies (Municipalities), Guthi Sansthan, Other Guthies and other stakeholders in preparation of the plan.	18 months
	Community Interaction, Involvement, and Participation Action Plan	The Community Interaction, Involvement, and Participation Action Plan (CIIPA) is aligned with the project stakeholder's strategy. It includes a detailed budget proposal and is developed in close collaboration with the PCMU.	45 days
	Media Campaign and Community Awareness	The plan is aligned with the project stakeholder's strategy and supports the CIIPA. It includes a detailed budget proposal and is developed in close collaboration with the PCMU.	45 days

No	Output	Description	Due date
	Gender Analysis Matrix	Report on Gender Analysis Matrix (GAM) exercise and develop/update of the BRBIP AF project's Gender Equality and Social Inclusion Action Plan (GESI AP), with detailed budget proposal developed in close consultation with the Client	60 days
	Solid Waste Management training plan	A solid waste management (SWM) training plan targeting riverine communities and beneficiaries concerned with the project including a detailed budget proposal. The plan is developed in close consultation with the Client	60 days
	Civil Society Platform (CSP) Strategy and Action Plan	Written Civil Society Platform (CSP) Strategy and Action Plan, with detailed budget proposal, developed in close consultation with the Client. It should include a detailed report on the identification and mapping of stakeholders and categorizing, mapping and listing contacts of community stakeholders including local volunteer community groups, NGOs, and similar organizations currently active in maintaining or improving the upper basin Bagmati river corridor, and in particular those active along the river landscaping reaches	70 days
	Report on the institutional set-up of the civil society platform	Detailed report on formation/ updating of CSP including its constitution, bylaws and procedural guidelines for its functioning.	12 months
	Visual Media	At least one visual media documentation each and broadcast on BRBIP and additional financing activities and SWM and cultural awareness related activities.	12 months 16 months
2	Heritage management implementation targets	100% Guthis and heritage owners' organization have approved the plan through signed agreement 50% Guthis and heritage owners' organization have started implementing the Heritage plan	34 months
	SWM implementation targets	1. At least 2 training of trainers (ToT) on SWM, 10 trainings on SWM (Composting and terrace gardening techniques) and 5 trainings on 3R – SWM, in the community. 2. School level awareness and training regarding SWM in at least 40 schools or 4,000 students. 3. At least 500 household to use the compost bins.	34 months
	Ex post evaluation report on SWM	Baseline and endline study to visualize the change from the initiative in at least 300 household.	36 months

56. Soft and hard copies of all Information Education and Communication (IEC) materials produced by the NGO shall be provided to the client in 2 copies

57. The NGO will deliver four hard bound copies of all reports to the Client, plus one editable electronic format copy on CD or DVD, clearly marked in permanent marker with the file name contents and date. All deliveries will be covered with an accompanying letter of delivery, signed and dated by the NGO's designated contact person.

## VII. EQUIPMENTS AND FACILITIES TO BE PROVIDED BY NGO

58. The NGO will provide its own subsistence, office consumables as required, office rent, and make provision for their cost of office operation, including utilities, security and support personnel, and other costs to fulfill the services. After completion of the contract, equipment purchased under the project and paid under the contract shall be handed over to the Client. The

NGO will provide all necessary computers, printers, and other Information Education and Communication equipment required by its experts as well as all necessary software.

59. The NGO will provide the administrative and technical professionals and support staff needed to carry out the services. The NGO will also be responsible for providing, (i) all other necessary facilities and logistic support for its staff including accommodation, per diems, and transportation; (ii) communications, utilities and other miscellaneous cost which may be required for carrying out the services as per the requirement of the Contract including TOR. All administrative costs should be itemized in the financial proposal, costs not identified in the Financial Proposal will be deemed to be borne by the Consultant at no cost to the Client.

### **VIII. INFORMATION TO FACILITATE PROPOSAL PREPARATION**

60. The Client will provide the NGO access to all relevant data, information and reports including Project Preparation Technical Assistance Report; Feasibility Studies; and other relevant Studies and reports to assist in the preparation of the proposal.

61. NGOs will be able to access the Stakeholder Communication Strategy (SCS), GESI AP and the Participation and Institutional Strategic Plan (PISP) at the website: <http://www.brbip.gov.np>.

### **IX. PROVISIONAL SUM AND PROCUREMENT**

62. The provisional sums allocated for (i) small office equipment and furniture; (ii) stakeholders identification and mapping activities, (iii) Communication Awareness and Participation: Media Campaign (Media Products and Delivery), Training and Community Workshops & School Programs; (iv) GESI Activities: Needs Assessment, Strategy, Program and Orientation, Women's Groups – Capacity building/ Training; and (v) Sustainability: CSP Formation, Capacity Building/Training and Operational Support including Website management shall be managed and procurements made in line with ADB Guidelines on procurement of goods and services by the NGO with support from the PCMU/PMCSC.

63. The provisional Sums allocated under Sustainability: Material Recovery Center establishment; Support for Local level Institution in Solid Waste Management (Waste Collection Cart (electric or manual), Paper to Pencil equipment etc.); and individual/institutional support (composting bins, Segregation bins, etc.) shall be retained by the PCMU and procured by the PCMU with support from the NGO in line with ADB Guidelines for the procurement of goods, works and services.

### **Appendix 3: Community-Based Early Warning Systems (CBEWS)**

#### **A. Overview of the Package**

1. This package would extend the work already done under the Bagmati River Basin Improvement project (current project) and focus on institutionalizing systems trialed in 12 vulnerable communities through systematic involvement of local governments, provincial government and the Department of Hydrology and Meteorology (DHM), which is in charge for flood early warning at the national level and focused on the main rivers. This package would also develop proposals for financial practices to ensure sustainability of the proposed systems. Formal links with the Bagmati basin management organization, the High-Powered Committee for Integrated Development of the Bagmati Civilization (HPCIDBC), will also be established.
  2. Under the current project, a manual was developed for the 12 vulnerable communities. But this manual lacks linkages with the local and provincial governmental authorities and the DHM and is silent on financial procedures. This consulting service package would extend the system developed under the current project and document this system in an updated manual. The extended procedures and manual will be developed in close coordination with local and provincial governments and DHM. The extended procedures will be rolled out to another 18 vulnerable communities in the Bagmati River Basin Improvement Project – Additional Financing (additional financing) area, in addition to the 12 communities in which the original CBEWS was trialed.
  3. The CBEWS might also include early warning systems for tributaries and ephemeral streams that are currently not part of the DHM system, but communities in these catchments could benefit from receiving at least the forecasts for precipitation. Focus is on a CBEWS that can be easily replicated and is well coordinated at all appropriate governmental levels, using as much as possible procedures that have already been developed and verified.
  4. Consultants in the CBEWS package include:
    - (i) International expert in flood protection and early warning systems (3 months input). Review the design of the system, develop implementation plan from the consulting service package in the integrated water resources management (IWRM), support implementation across participating communities, and review implementation in communities.
    - (ii) National expert in flood protection and early warning systems and team leader (20 months input). Provide day-to-day management of the consultant team, coordinate development of the updated procedures and manual across government agencies, lead the institutionalization of the extended procedures in 12 communities, and lead the implementation of the system in 18 communities.
    - (iii) National training expert (10 months input). Design training program for communities, schedule training, deliver training, with assistance from other consultants on the consultant team.
    - (iv) National GESI consultant for safeguards/assurance of inclusion in the CBEWS (6 months input)
    - (v) National community mobilizers (12 months input for each mobilizer). Assist the national expert in flood protection and early warning systems and team leader, and national training expert to train communities; work with communities during monsoon each year to manage the system.
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## **A. Terms of Reference for Individual Consultants in the Package**

### **1. Position: National specialist in flood early warning systems and team leader (20 months)**

**Expertise:** The team leader specialist shall have an advanced degree in water management, irrigation, natural resources management or environmental sciences and sustainable development, or comparable. The Specialist shall have at least 10 years of experience in projects related to one or more of the following disciplines flood management, river management, erosion control, landslide protection and flash floods. He/she will have at least 5 years of experience in community mobilization and supporting communities to participate in environmental management. The team leader must be an excellent communicator at different levels, communities as well as ministerial level and have a proven understanding of early warning systems and use of modelling results in management. He/she will have familiarity with flooding in Nepal and the forecasting system operated by the Department Hydrology and Meteorology (DHM) of the Ministry of Energy, Water Resources and Irrigation (MEWRI). The team leader must be fluent in English.

**Reporting:** The position will report to the Water and Energy Commission Secretariat (WECS) project implementation unit (PIU) and the project coordination and management unit (PCMU), DHM should be kept informed on the project progress on a regular basis.

**Duration of contract:** 24 person-months

**Timing:** Start 1 January 2020

**Scope:** The team leader will provide leadership to the team, plan the team's activities and mobilization and be responsible for the deliverables. The team leader will liaise with the Client and all relevant counterparts and in coordination with the international flood early warning specialist of the technical assistance for the river basin organization (RBO) capacity building provide quality assurance for the planning, training and instrumentation components under the project.

### **Expected Tasks and Activities**

#### **The team leader's management tasks for the projects involve:**

- (i) Planning and management of the nongovernment organization (NGO) project activities and the scheduling of inputs and deliverables;
  - (ii) Representing the NGO project in official meetings with local, provincial and national government;
  - (iii) Ensuring the quality of the deliverables according to the Government of Nepal and the Asian Development Bank (ADB) standards;
  - (iv) Develop an outline for and early warning system and communication based on the plans for outreach and communication existing in DHM;
  - (v) Identify financing options for the system at local level by the local and provincial governments to ensure sustainability;
  - (vi) Be responsible for the timely reporting of monthly, quarterly, and annual reports in the appropriate formats acceptable by the government and ADB;
  - (vii) Any other activities such as may be reasonably requested by the HPCIDBC or WECS to promote CBEWS.
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**In the technical issues, in coordination with the international CBEWS specialist the team leader will:**

- (i) Ensure coordination between communities, local government, provincial government and DHM;
- (ii) Provide technical quality control of the deliverables;

**In community mobilization in coordination with the community mobilizers the team leader will:**

- (i) Organize and direct the community mobilizers and monitor them and support their activities;
- (ii) Develop local institutional mechanisms to promote participation, coordination, and mobilization;
- (iii) Develop the written CBEWS Strategy and Action Plan, play a leading role in facilitating the contacts between community-based organizations for CBEWS and the local provincial and national government this might involve CBEWS constitution and bylaws, and help formalize these by obtaining its legal registration;
- (iv) Coordinate the community mobilizers to carry out the action plan and community preparedness strategy.

**For training activities in coordination with the training specialist the team leader will:**

- (i) Coordinate the training needs assessment and supervise the development and implementation of a training plan including community local and provincial governments and regular interaction with DHM.

## **2. Position: National CBEWS Training Specialist (10 months)**

**Expertise:** The training specialist shall have a master's degree in social sciences, management or engineering or related field and a minimum of 10 years of demonstrated experience in designing and implementing training programs, preferably in the field of community-based water or natural resources management. The training specialist should have a good understanding of different levels of decision-making and familiarity with modern planning technology such as computer models and simulation games.

**Reporting:** The position will report to the team leader and involve regular coordination with local governments, provincial government and DHM.

**Duration of contract:** 12 person-months

**Timing:** Start 1 January 2020

**Scope:** The training specialist will work closely with the team leader, and community mobilizers to prepare and implement a training and capacity building program for local communities in flood preparedness, prevention and emergency actions and with local and provincial governments on flood early warning, communication to the communities and their duties in flood early warning and response.

### **Expected Tasks and Activities**

**The training specialist's tasks for the projects involve:**

- (i) In collaboration with the team leader and community mobilizers, assess the knowledge of communities that are already part of the current project and identify additional training requirements for communities;
- (ii) Assess the early warning systems available at local and provincial government and DHM
- (iii) In coordination with the international specialist, identify technical skills and training needed at different levels
- (iv) Develop a community early warning system training program, based on the above analysis, including the required technical skills;
- (v) Identify trainers and training institutes to implement the training programme; and
- (vi) Assist in recruitment of trainers and institutes and ensure the implementation of the training programme.

### **3. Position: National CBEWS Gender Equality and Social Inclusion (GESI) specialist (6 months)**

**Expertise:** The gender specialist shall have a master's degree in social sciences, gender mainstreaming or gender-related studies or a related field and a minimum of 5 years of demonstrated experience in designing and implementing GESI programs or comparable, preferably in the field of community-based water or natural resources management.

**Reporting:** The position will report to the team leader.

**Duration of contract:** 12 person-months

**Timing:** Start 1 January 2020

#### **Scope:**

Due to labour migration, women form a majority in the rural communities and many women have a leading role in their households. Yet women are not equally represented in most governance systems and do not have an equal weight in decision-making. Similarly, there are still disadvantaged groups and minorities who do not participate equally in the various processes. Therefore, a GESI specialist needs to develop a project specific GESI Action Plan and ensure that the project is implemented in accordance with the principles of the Government of Nepal and the ADB to minimize adverse social impact and to promote positive aspects of the project for the community, including their active participation towards the project's goals. The specialist will also pursue positive aspects of the project with regard to gender and the approved GESI Plan.

#### **Expected Tasks and Activities**

##### **The GESI specialist's tasks for the projects involve:**

- (i) Take primary responsibility for overseeing the project from a social and gender perspective and implementation of project components and mechanisms to ensure (a) the active participation of the beneficiary community, and (b) participation of women and girls;
  - (ii) Identify project specific GESI targets and support their implementation;
  - (iii) Ensure the project is implemented in line with the GESI Action Plan of the additional financing and coordinate regularly with GESI specialists of other components of the additional financing;
  - (iv) Provide GESI technical support in the implementation of the CBEWS subproject;
  - (v) Ensure the GESI inclusion in all CBEWS subproject documents and products;
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- (vi) Support community mobilizers specialist in mobilizing women and other socially excluded groups, and poor in the formation of any CBOS or committees. Promote their maximum participation & involvement.
- (vii) Support the in any other GESI activity that the team leader may reasonably be request from the specialist.

## **B. Non-Key Specialist Positions**

### **1. Community mobilizers (48 months, 4 mobilizers; 6 months per year for 2 years)**

**Expertise:** The community mobilizers will have a degree in social sciences or gender related studies or a related field and a minimum of 3 years of demonstrated experience in community mobilization, or comparable qualifications obtained by experience. The community mobilizers will have preferably worked in community-based water or natural resources management.

**Reporting:** The position will report to the team leader

**Duration of contract:** 4 mobilizers, 12 person-months each

**Timing:** Start 1 January 2020

#### **Expected Tasks and Activities:**

The community mobilizers will assist the team with community development and mobilization activities. The community mobilizers will work in collaboration with all key national specialists. Of the four community mobilizers, at least half should be women.

- (i) Meet regularly with households and businesses in the participating communities to discuss issues around CBEWS and its implementation;
- (ii) Assist the national training specialist to design and implement the CBEWS training program;
- (iii) Follow-up with community households and businesses after the CBEWS training, to discuss any issues in implementing the CBEWS;
- (iv) Assist the households and communities who implement the CBEWS to solve any problems, or request assistance from another CBEWS program specialist.

The cost of the community mobilizers should be itemized as reimbursable cost in the financial proposal together with other eligible out of pocket expenses. Costs not identified in the Financial Proposal will be deemed to be borne by the NGO at no cost to the Client



### C. Estimate of Costs – Feasibility Stage

	Unit	No. of Units	Unit Cost (\$)	Total
<b>National consultants</b>	months	36	\$3,000	\$108,000
<b>International consultants</b>	months	0	0	\$0
<b>Community organisers</b>	months	48	\$1,000	\$48,000
<b>Overheads</b>	lump sum		\$0	\$23,400
<b>Total</b>				<b>\$179,400</b>

### 3. Timetable for Procurement of CBEWS Consultants for BRBIP Additional Financing<sup>32</sup>

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
1	Prepare recruitment notice and terms of reference	0	NA	15-Aug-19	PCMU	Not due yet
2	ADB review and no objections	5	5	20-Aug-19	ADB Project Unit	Not due yet
3	Place recruitment notice on CSRN	1	1	21-Aug-19	PCMU	Not due yet
4	Advertisement on CSRN	30	30	25-Aug-19	PCMU	Not due yet
5	Shortlisting/preparation of CSC minutes and Submission 1 <sup>a</sup>	10	10	24-Sep-19	PCMU	Not due yet
5/6	Submit Submission 1 to ADB Project Unit	1	1	25-Sep-19	PCMU	Not due yet
7	ADB review & signing of Submission 1 <sup>b</sup>	10	10	9-Oct-19	ADB Project Unit	Not due yet
8	ADB sends approval of Submission 1 to EA	1	1	10-Oct-19	ADB Project Unit	Not due yet
9	Issue RFP	7	7	17-Oct-19	PCMU	Not due yet
10	Proposal submission	45	45	10-Dec-19	Firms	Not due yet
11	CSC Technical Proposal Evaluation and preparation of CSC minutes & Submission 2 <sup>c</sup>	21	21	5-Jan-20	PCMU	Not due yet
12	Submit Submission 2 to PU	1	1	2-Jan-20	PCMU	Not due yet
13	ADB review & signing of Submission 2	10	10	13-Jan-20	ADB Project Unit	Not due yet
14	ADB sends approval of Submission 2 to EA	1	1	14-Jan-20	ADB Project Unit	Not due yet
15	Invitation issued for opening of Financial Proposal	7	7	21-Jan-20	PCMU	Not due yet

<sup>32</sup> The ADB procurement procedure for this contract will be consultants' qualifications selection (CQS),

No	Activity	Days	ADB Standard	Timeframe	Action By	Status
16	Opening of Financial Proposal	7	7	28-Jan-20	PCMU/MoUD	Not yet due
17	Financial evaluation & overall ranking of proposals and preparation of Submission 3	14	14	14-Feb-20	PCMU	Not yet due
18	Submit Submission 3 to ADB	1	1	15-Feb-20	PCMU	Not yet due
19	ADB review and signing of Submission 3	7	7	22-Feb-20	ADB Project Unit	Not yet due
20	ADB sends approval of overall ranking to EA	1	1	23-Feb-20	ADB Project Unit	Not yet due
21	Invitation issued for contract negotiation	3	3	26-Feb-20	PCMU	Not yet due

ADB = Asian Development Bank, CSC = consultant selection committee, CSRN = consulting services recruitment notice, EA = executing agency, PCMU = project coordination and management unit.

<sup>a</sup> Report on shortlisting of consulting firms, including long list and short list.

<sup>b</sup> With allowance for clarification from executing agency.

<sup>c</sup> Report on Evaluation of Technical Proposals.