Asian Disaster Preparedness Center

SM Tower, 24th Floor, 979/66-70 Paholyothin Road,
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Terms of Reference (ToR)

Project: Mainstream actions of the water, energy, irrigation, hydrology, and meteorology sectors articulated in the Nationally Determined Contribution Implementation Plan (NDCIP) and National Adaptation Plan (NAP) into existing national plans, policies, regulations, and budgeting processes; develop climate-smart guidelines and knowledge products; and enhance implementation, coordination, monitoring, and reporting for the Federal Democratic Republic of Nepal.

Title: Senior Water Engineer (National)

Purpose:

Rising temperatures, erratic monsoon patterns, and accelerated glacial retreat are intensifying Nepal's climate vulnerabilities, with far-reaching impacts on its hydrometeorological systems and climate-sensitive sectors. Nepal's rivers, glaciers, and groundwater—lifelines for the nation—are increasingly threatened, disrupting traditional water systems and exposing urgent policy, planning, and institutional gaps. The National Climate Change Survey 2022 reported that climate-induced disasters over the past five years have resulted in economic losses amounting to NPR 415.44 billion. Shifts in seasonal precipitation and declining water availability are already undermining irrigation reliability, with direct consequences for agricultural productivity and rural livelihoods.

In recognition of these growing risks, the Government of the Federal Democratic Republic of Nepal has prioritized transforming key sectors by embedding climate resilience into national systems for water, energy, irrigation, hydrology, and meteorology. The proposed project, supported by the NDC Partnership Action Fund and implemented by ADPC, will support the review, modernization, and development of climate-smart sectoral policies and legal frameworks, guided by national strategies such as the NDC Implementation Plan (NDCIP), National Adaptation Plan (NAP), and the Long-Term Low Emission Development Strategy (LT-LEDS). The initiative will also strengthen institutional capacities, integrate resilience into planning and budgeting processes, and promote inclusive stakeholder engagement across government, private sector, civil society, and local communities. Gender and social equity will be central principles. At the same time, technical outputs such as climate-smart guidelines, operational manuals, and nature-based solution approaches will further support Nepal's adaptation and low-carbon development ambitions.

To support this effort, a **Senior Water Engineer** with the appropriate qualifications and experience will be hired. The engineer will lead the technical design and quality assurance of climate-smart manuals and infrastructure guidelines. The engineer will also contribute to adaptation investment costing and collaborate with national engineering institutions to ensure resilience measures are technically sound, scalable, and aligned with national priorities.

Expected Outputs:

The Consultant will be expected to produce technical and research-based deliverables in line with the terms of reference of this assignment by performing the specific tasks outlined in the "Responsibilities and Tasks" section of the document.

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The objectives of this consultancy service are the following:

1. Technical contributions to the development of climate-smart infrastructure manuals and design guidelines, including irrigation, water storage, and riverbank protection systems.

2. Cost estimation and input to investment planning for water-related adaptation and mitigation measures.

3. Drafts of engineering standards and climate-resilient design tools for use by government institutions and technical agencies.

4. Active involvement in stakeholder consultations and validation processes related to infrastructure design and financing.

5. Technical support for integrating engineering tools into sectoral policies and LMBIS (Line Ministry Budget Information System) processes.

Responsibilities and Tasks:

Lead the development of infrastructure manuals for climate-resilient water systems, including storage, irrigation, and riverbank protection. Align designs with NDC, NAP, and LT-LEDS priorities, and validate investment costs to ensure alignment. Collaborate with national institutions, support integration into planning systems, and contribute to capacity building through technical reviews, workshops, and knowledge products.

Deliverables:

Deliverable 1: Review of Existing Guidelines, Knowledge Products, and Case Studies		
Description of the Deliverable	**Timeline**	**Percentage of Payment**
Conduct a comprehensive review of existing climate-smart guidelines, technical manuals, and knowledge products related to irrigation, small-scale water storage, riverbank protection, early warning systems, municipal energy planning, and electric cooking. Assess their alignment with current principles of climate change mitigation, adaptation, and loss and damage. Identify best practices, gaps, and opportunities for improvement based on recent research and international standards.	By October 2025	20% of the contract value

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Deliverable 2: Development and Enhancement of Climate-Smart Technical Manuals		
Description of the Deliverable	**Timeline**	**Percentage of Payment**
Lead the technical drafting and quality assurance of updated or newly developed climate-smart engineering guidelines. Focus areas include water-efficient irrigation systems, resilient storage infrastructure, nature-based riverbank protection measures (e.g., vegetated buffers, riprap), and community-scale water infrastructure. Ensure manuals reflect Nepal's geographic diversity, evolving climate risks, and institutional capacities.	By May 2026	30% of the contract value
Deliverable 3: Technical Recommendations for Infrastructure Innovation and Integration		
Description of the Deliverable	**Timeline**	**Percentage of Payment**
Prepare a technical note summarizing recommendations to improve infrastructure design based on the latest global and regional advancements in climate-smart engineering. This includes actionable suggestions for improving existing manuals in irrigation, electric cooking, and energy planning, and guidance for integrating engineering components into national climate plans and public investment systems such as LMBIS.	By March 2026	20% of the contract value
Deliverable 4: Cost Estimation and Investment Planning Inputs		
Description of the Deliverable	**Timeline**	**Percentage of Payment**
Support the project's climate investment planning work by contributing cost estimates, technical justifications, and prioritization inputs for water-related adaptation measures. Align infrastructure costing with national budgetary tools and help inform the identification of fundable interventions for integration into climate finance frameworks and concept notes.	By March 2026	20% of the contract value
Deliverable 5: Monitoring, Evaluation, and Stakeholder Validation for Climate-		

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Smart Guidelines		
Description of the Deliverable	**Timeline**	**Percentage of Payment**
Draft a monitoring and evaluation (M&E) plan to track the application and effectiveness of the developed infrastructure guidelines. This includes establishing performance indicators, collecting structured feedback from implementing partners, and recommending periodic updates. Document and integrate findings from technical consultations, validation workshops, and stakeholder engagement sessions to ensure buy-in and relevance of final deliverables.	By July 2026	10% of the contract value

Working Principles: The consultant will work under the direct supervision of the Director, Risk Governance and Financing Department, ensuring alignment with project objectives and providing weekly progress updates. While maintaining independence in executing assigned tasks, the consultant will collaborate constructively with team members to seek inputs or provide technical support as needed.

Qualifications:

1. Advanced degree (Master's or PhD) in Civil Engineering, Water Resources Engineering, Hydrology, or related field.
2. Minimum of 8 years of professional experience, with at least 5 years focused on climate-resilient or nature-based water infrastructure design.
3. Proven record in developing technical manuals, standards, or codes for water-related infrastructure in South Asia or similar regions.
4. Experience working with or advising government line agencies in Nepal (e.g., DWRI, WECS, MOEWRI) is a strong asset.
5. Familiarity with cost-benefit analysis, infrastructure financing, and public investment systems such as LMBIS.
6. Strong drafting and technical documentation skills; ability to translate engineering knowledge into accessible guidance materials.
7. Experience in stakeholder facilitation, technical training, and multi-agency collaboration.
8. Excellent communication skills in English; knowledge of Nepali is an advantage.

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Duty Station: Home-Based

Duration: The total time of the assignment and the period would be 13 months. between September 2025 to September 2026

Itinerary: The travel and related cost for transport, seminars, air travel, accommodation etc. will be covered by the project.

Condition of payment: The payment will be based on deliverables and tasks as outlined in the "Responsibilities and the Task" section. Remuneration and Terms of Payment will be in consideration of services performed in connection with this Contract. Payment shall be made on an output-based basis, conditional upon the satisfactory delivery of services and subject to formal review and written approval by ADPC.

Selection Method:

The consultant will be selected in accordance with ADPC's recruitment process.

How to apply: Interested candidates can submit the completed ***ADPC application form, (downloadable from www.adpc.net), resume, copy of degrees/certificate(s) together with a cover letter, to:*** ***procurement@adpc.net***

The email subject should clearly indicate the position being applied for, for example:

[Senior Water Engineer (National), Name of Candidate].

Female candidates are especially encouraged to apply.

ADPC encourages diversity in its workplace and supports an inclusive work environment.