

Kathmandu Valley Water Supply Management Board
Kathmandu Valley Water Security Improvement Project (KV WaSIP)
Grant Facility for Project Preparation (GFPP)
Terms of Reference for Recruitment of a
Environmental Specialist

Position	Environmental Specialist
Duty Station	Kathmandu, Nepal with frequent visit to Site
Contract Duration	Duration of Grant Implementation Period (approx.17 months)
Expected Start Date	October 2026

1. Context

Kathmandu Valley anchors Nepal's aspiration for double-digit, jobs-led, inclusive growth.

Kathmandu Valley (KV) is Nepal's capital region and home to more than 3 million people. KV is among the fastest growing metropolitans in South Asia, expected to reach 4.5 million by 2041. KV houses a quarter of Nepal's formal jobs, and nearly one in five businesses, and contributes over a third of national GDP (and higher if excluding remittances). KV is already driving Nepal's job-led growth, providing over a quarter of nonfarm employment in promising sectors such as ICT and tourism (KV houses 61% of ICT jobs, and is the gateway to Nepal). But systemic challenges in KV's urban infrastructure and institutions will limit future growth if unaddressed, including heavy traffic congestion and inadequate road infrastructure; limited urban planning and resilient public spaces; a lack of reliable waste management, with almost no wastewater treatment; and a severe water supply shortage.

KV's water supply faces the double challenge of insufficient bulk water and low resilience. Current water supply to the core city is estimated to be about a third of expected demand (average water supply remains around 40 liters per capita per day (lpcd), significantly below the planning standard of approximately 130 lpcd required to ensure adequate and reliable urban service levels). As a result, most households receive water for only about 2 hours a few times a week. The majority of bulk water comes from the Melamchi system, which delivers about 170 million liters per day for part of the year, with plans to increase this supply over the next decade to 510 million liters per day. While reliable estimates of demand have not been conducted, current demand is likely around 490 million liters per day and is expected to increase as the capital's population and economic development grow. Reliance on a single source of bulk water increases the overall vulnerability of KV's water system to disasters, and there is a growing need to increase resilience through additional bulk water options in the event that the Melamchi catchment or bulk water system is affected, as was the case in the 2021 cascade disaster.

The cost of an inadequate water supply is high. Households and businesses supplement municipal water supply through groundwater, public taps, rainwater, or tankers, where possible. People pay up to 4 times the price of public piped water to buy water from vendors. Groundwater has been an overexploited lifeline to the valley, but it faces equity and environmental issues: deep tubewells that hotels, housing colonies, and industries can afford have begun to deplete water tables, drying out shallow tubewells that households rely on and causing land subsidence in parts of the city. The hidden cost of unsafe water is also high. Waterborne diseases are a significant public health concern in KV, with over 60% of households consuming sewage-contaminated water containing E. coli. Common illnesses include typhoid, diarrhea, cholera, dysentery, and jaundice. Risk peaks during the monsoon season (March–September), and contaminated groundwater and jar or tanker water are major sources of infection.

2. Project Description

The proposed KV WaSIP aims to enhance the availability, reliability, and climate resilience of potable bulk water supply for the Kathmandu Valley through the development of a regulated storage-based source on the Sisneri River in Makawanpur District. The Project responds to the limitation of available

Duty



river flows, which are insufficient to sustain a run-of-river supply system during the dry season. Earlier studies under the Bagmati River Basin Integrated Master Plan, together with subsequent feasibility and preliminary design work, identified the Sisneri River as a technically viable and strategically important source for augmenting the Valley's bulk water supply.

Based on the latest feasibility assessments, the preferred scheme comprises a storage dam located upstream of the Kogate–Sisneri confluence, with a preliminary crest length of approximately 162 meters and a height of approximately 65 meters. The reservoir is expected to provide an estimated gross storage capacity of approximately 17.77 million cubic meters, including a live storage volume of approximately 15.35 million cubic meters. Preliminary operating levels are defined between a minimum drawdown level of approximately 1,124 masl and a maximum pool level of approximately 1,157 masl. Subject to hydrological conditions, system optimization, and operating rules, the scheme is expected to supply up to approximately 140 MLD during the wet season and approximately 80 MLD during the dry season.

Reservoir regulation is central to the Project design, enabling the capture and regulation of monsoon flows to improve dry-season supply reliability and strengthen long-term water security. Reservoir operations will need to account for environmental flow requirements, sediment management, flood routing, reservoir filling procedures, spillway and outlet operating rules, and potential source augmentation through diversion from the Kogate River and, if required, the Kulekhani Reservoir system. The Project will also include reservoir operation and water balance models to assess system yield under different hydrological and climate scenarios and to establish safe, efficient, and sustainable operating parameters.

The proposed infrastructure includes the dam and reservoir, a dam-integrated raw water intake structure, possible source augmentation works linked to the Kogate River and Kulekhani Reservoir system, and associated ancillary infrastructure, including spillway and outlet works, access roads, power supply, construction camps and staging areas, and administrative and operational facilities. The wider bulk water supply system is expected to include transmission and pumping infrastructure connecting the scheme to downstream treatment and storage facilities, including conveyance arrangements linked to the Sainbu Reservoir system. The intake is proposed to be integrated into the dam structure and designed to accommodate the planned bulk water supply capacity.

Given that earlier investigations were based on limited field data and preliminary site characterization, further technical investigations and validation will be required before final design. These will confirm key hydrological, geological, geotechnical, hydraulic, sedimentation, dam safety, and climate resilience assumptions. The Project will therefore include feasibility confirmation and optimization of dam and reservoir alternatives, followed by detailed engineering design, cost estimates, implementation planning, operation and maintenance arrangements, dam safety documentation, environmental and social risk management inputs, and bidding documents to support construction and implementation.

3. Objectives of the Assignment

The overall objective of this assignment is to support the PMU in preparation of the environmental safeguard measures under KV WaSIP.

Specific objectives of the assignment are to:

- Support the PMU in the preparation of environmental and social assessments and instruments commensurate with the project's environmental and social risks and impacts, to ensure project readiness for appraisal and implementation.
- Ensure compliance with the World Bank Environmental and Social Standards and the environmental requirements set out in the project's Environmental and Social Management Framework.
- Guide and support the preparation of Environmental and Social Impact Assessments, Environmental Management Plans, and other relevant instruments for future subprojects in



accordance with the ESF, World Bank requirements, and applicable Government of Nepal legislation.

- Support the PMU in ensuring that environmental mitigation measures, monitoring requirements, and reporting obligations are integrated into project design, procurement documents, contracts, and implementation arrangements.
- Assist in the timely review, endorsement, and signing of key environmental and social documents required for project preparation and implementation.
- Facilitate and follow up on all required environmental clearances, approvals, permits, and no-objection processes from relevant authorities.
- Ensure that project activities comply with the Government of Nepal's applicable laws, regulations, and policies related to environmental management, tree clearance, forest land acquisition, occupational health and safety (OHS), and downstream water use rights.
- Lead and coordinate stakeholder mapping, consultations, and stakeholder engagement activities relevant to project preparation and implementation, ensuring that environmental and social risks and concerns are adequately identified and addressed.
- Build the institutional capacity of the PMU, PIUs, and other relevant counterparts on environmental and social risk management, including the implementation of mitigation measures, monitoring, documentation, and reporting.

4. Scope of Services

The Environmental Specialist will be a full-time member of the PMU and will report directly to the Project Director. The specialist's scope of work includes, but is not limited to, the following:

- Conduct environmental due diligence on projects and assist in designing projects that are responsive to environmental requirements. Develop and refine procedures for the preparation, execution, monitoring, and evaluation of environmental assessments (EA) in accordance with the project's sector-wide documents.
- Draft, review, and refine TORs for carrying out environmental screening and environmental impact assessments consistent with the project documents required under the World Bank's Environmental and Social Framework.
- Review ongoing TORs, EA reports, ESMPs, BMPs, LMPs, and SEPs; provide comments and suggestions to KV WaSIP for improvement; and undertake or support the screening of project activities, as required.
- Check BOQs, bid documents, contract clauses, and other documents for the incorporation of relevant mitigation measures specified in EAs, ESIA, ESMPs, BMPs, LMPs, and SEPs.
- Develop and implement an environmental monitoring and reporting system.
- Undertake preparedness checks and periodic compliance reviews. For this purpose, undertake visits to project sites and work closely with stakeholders, consultants, NGOs, contractors, and project staff to obtain relevant information on environmental and safeguard issues, including occupational health and safety practices, traffic safety and management practices, wildlife safety measures, noise control, dust control, spoil disposal, quarry site operation and management practices, drain outfalls, tree clearance, utility relocation, and replantation.
- Design and carry out relevant E&S trainings to strengthen PMU understanding of ESF requirements and E&S risk management.
- Monitor and evaluate the findings and recommendations and report on the implementation of the ESMP, ESIA, BMP, LMP, SEP, and ESMF, as relevant.
- Assist KV WaSIP in coordinating with other agencies to raise awareness of environmental safeguard measures in water sector projects and disseminate information on environmental aspects of project development among various stakeholders, including donors, project entities, government bodies, and affected communities.



- Support the implementation of occupational health and safety measures, including personal protective equipment and emergency preparedness and response, taking into account the General Environmental, Health and Safety Guidelines (EHSGs), other relevant Good International Industry Practice (GIIP), and, as appropriate, industry-specific EHSGs.
- Assist KV WaSIP in performing the environmental roles and responsibilities set out in the Project Appraisal Document, ESIA, and project ESCP.
- Assist KV WaSIP in carrying out relevant activities related to the World Bank's Environmental and Social Framework (ESF).
- Monitor environmental safeguard activities in accordance with the World Bank's Environmental and Social Framework, 2018, other relevant frameworks and guidelines, and applicable Government of Nepal acts, regulations, and guidelines.
- Coordinate the activities of Environmental and Safeguard Mobilizers; monitor the implementation of environment-related works in each project; suggest corrective actions, as needed; and report regularly to the PMU.

5. Expected Outputs

The Environment Specialist will be responsible for the following key deliverables:

- Environmental due diligence reports ensuring compliance with World Bank ESF, national regulations, and project ESMF.
- Review reports on EAs/ESIAs, ESMPs, BMPs, LMPs, SEPs, and related safeguard instruments with clear improvement recommendations.
- Environmental screening and compliance documentation, including TORs, ESCPs, and appraisal support materials.
- Environmental monitoring and reporting system, including formats, indicators, compliance checklists, and periodic monitoring reports.
- Site inspection and compliance reports covering environmental, occupational health and safety, and community risk management measures.
- ESF integration outputs for design and procurement documents, including BOQs, bid documents, and contract clauses with mitigation measures.
- Training, awareness, and capacity-building materials and reports on environmental management and ESF requirements for PMU and stakeholders.
- Consolidated environmental compliance reports, issue logs, and recommendations to support project implementation, supervision, and decision-making.

6. Qualifications and Experience Requirements

All applications will be evaluated against the assignment's minimum qualifications (Table 1).

Candidates who comply with the minimum qualifications will be scored according to predefined criteria. A minimum of three candidates will be shortlisted and interviewed. The candidate with the highest score will be invited to negotiate a contract. Referees of the selected candidate may be contacted to verify prior experience, performance, and interpersonal skills.

Table 1. Minimum Qualifications and Relevant Experience

Education	• Master's degree in environmental science, environmental engineering, or environmental management. • Training in environmental impact assessment.
Work Experience	• At least 10 years of experience in the environmental safeguard sector.



	• Working experience with water or hydropower dam projects will be beneficial. • Experience in the preparation and review of safeguard documents under multilateral development bank safeguard policy frameworks and the ESF. • Experience in reviewing E&S policy documents will be an advantage.
Interpersonal Skills	• Strong analytical and report writing skills in both English and Nepali. • Ability to coordinate effectively with concerned stakeholders at construction sites. • Willingness to undertake regular field visits, including to project areas that may be remote. • Familiarity with the Government of Nepal's legal framework on forest and environmental management. • Ability to work independently and within a multidisciplinary team.

7. Evaluation and Selection Method

The Environmental Specialist will be hired by the PMU using the Open Competitive Selection of Individual Consultants method following “**World Bank Procurement Regulations for Investment Project Financing Goods, Works, Non-Consulting and Consulting Services**” (July 2016) Seventh Edition 2025.¹

The attention of interested Consultants is drawn to Section III, paragraphs 3.14, 3.16, and 3.17 of the World Bank’s “Procurement Regulations”.

8. Duration of the Assignment

The Environmental Specialist will be engaged on a full-time basis throughout the grant implementation period (approx. 17 months). Based on the performance and if the project is approved, the Environmental Specialist may continue in this role for the project implementation.

9. Remuneration

A market-based salary package commensurate with the candidate's experience and qualifications will be offered.

10. Reporting

The Environmental Specialist will report directly to the Project Manager, PMU. He/she will maintain close coordination with the World Bank's Environmental Specialist and other relevant Bank team members throughout the assignment.

11. Location

- The consultant will be based at the PMU office and may be required to travel outside the Valley, as needed, for project-related activities.
- The Project shall provide the following facilities to the consultant during the tenure of service:
 - Office space
 - Email and internet access

¹ The World Bank Procurement Regulations can be accessed via this [link](#).



- Required office stationery and other materials
- Photocopying/printing facilities

12. Application Process

Interested candidates shall submit a complete application package comprising:

- (i) Up-to-date curriculum vitae (CV).
- (ii) Copies of academic and professional certificates.
- (iii) Contact details for at least three (03) professional references familiar with the candidate's relevant work.

Applications shall be submitted electronically no later than 17.00 PM on 11th September 2026 to the following e-mail address: sisnerikvwsmb@gmail.com. Only complete applications received by the deadline will be considered.

