



NAST-KVDA
Implementation of Urban EbA Research Activities Project
Terms of Reference

Develop a research program and strategy for academic and research institutions to conduct long-term EbA research in Nepal

1. Background

Nepal is among the world's most climate-vulnerable countries due to its highly diverse topography, fragile ecosystems, and dependence on climate-sensitive livelihoods. The Climate Risk Index 2026 ranked it as the 6th most affected country in 2024, while over the long-term period (1995–2024), it ranks 26th globally¹. The country's rural populations, as well as rapidly expanding urban settlements, are increasingly exposed to floods, landslides, droughts, erratic rainfall, and other climate-induced disasters. The persistent and recurring nature of these climate risks underscores the urgent need for effective adaptation strategies. Scaling up adaptation efforts, including Ecosystem-based Adaptation (EbA) and other nature-based solutions (NbS), can reduce climate risk by addressing the underlying vulnerabilities of people and the natural resources they depend on. By strengthening the resilience of ecosystems and improving the adaptive capacity of resource-dependent populations, such approaches help minimize future losses. They integrate sustainable land and water management, conservation of forests and wetlands, and climate-resilient infrastructure, thereby enhancing the resilience of both human systems and ecological systems while delivering co-benefits for biodiversity, livelihoods, and long-term climate security.

Ecosystem-based Adaptation (EbA) has been recognized in the National Adaptation Plan (NAP) 2021–2050 Nepal, which provisions scaling up EbA approaches in protected areas and vulnerable river systems, while incorporating EbA/NbS into all forest operational plans by 2030². While major Ecosystem-based Adaptation (EbA) initiatives in Nepal have been already spanned mountain, forest–rangeland, and urban systems. The *Ecosystem-based Adaptation (EbA) in Mountain Ecosystems* project (2011–2016), implemented in Panchase with joint efforts of United Nations Environment Programme (UNEP), United Nations Development Programme (UNDP) and International Union for Conservation of Nature (IUCN) with support from German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), piloted EbA approaches in vulnerable mountain landscapes. It focused on ecosystem restoration, climate-resilient livelihoods, and generating evidence on how ecosystem services reduce climate risks for people by strengthening forest and rangeland resilience^{3,4}. Building on this foundation, the *Catalyzing Ecosystem Restoration for Climate Resilient Natural Capital and Rural Livelihoods in Degraded Forests and Rangelands of Nepal* project (2018–2022) funded by the Least Developed Countries Fund (LDCF) under the Global Environment Facility (GEF) and implemented through UNEP was implemented focusing on restoring degraded ecosystems through integrated watershed management, forest rehabilitation, sustainable grazing, and improved water resource management, while strengthening the adaptive capacity of people dependent on these natural resources. In parallel, funded by LDCF, the GEF in 2019 approved the *Urban Ecosystem-based Adaptation for Climate-resilient Development in the Kathmandu Valley, Nepal (Urban EbA)* (2019–2026) project that is being implemented by the Kathmandu Valley Development Authority (KVDA) with the UNEP's technical oversight.

Together, the initiatives on EbA projects demonstrate that Nepal is actively operationalizing EbA across diverse ecological and socio-economic contexts, linking ecosystem health with the resilience of people and natural resource systems. However, despite significant progress in implementation, EbA-related research, long-term monitoring, and evidence generation remain limited and require substantial scaling up to better inform policy and practice. A study found that only 12 out of 76 adaptation projects (2010–2020) focused on EbA, with very limited research in urban contexts and several resource sectors⁵. Universities have played an important role, for instance, the Mountain EbA project has mainstreamed EbA into Tribhuvan University's curriculum and supported student research. However, such efforts have yet to be institutionalized in a systematic and sustained manner.

1. Adil L., D. Eckstein., V. Künzel., & L. Schäfer. 2025. *Climate Risk Index 2026: Who suffers most from extreme weather events? Weather-related loss events in 2024 and 1995–2024*. Germanwatch.
2. GoN. 2021. *National adaptation plan (NAP) 2021–2050*. Singhdurbar, Kathmandu, Nepal. Government of Nepal, Ministry of Forests and Environment.
3. Mountain Ecosystem-based Adaptation in Nepal | UNDP Climate Change Adaptation: <https://www.adaptation-undp.org/projects/mountain-eba-nepal>
4. Ecosystem-based Adaptation in Nepal | UNEP - UN Environment Programme: <https://www.unep.org/topics/climate-action/adaptation/ecosystem-based-adaptation/ecosystem-based-adaptation-nepal>
5. Karki G., B. Bhatta, N.R. Devkota, R.P. Acharya and R.M. Kunwar. 2021. Climate Change Adaptation (CCA) Interventions and Indicators in Nepal: Implications for Sustainable Adaptation. Sustainability (23):13195. <https://doi.org/10.3390/su132313195>

In this context, the urban EbA project envisioned the preparation of a research program and strategy to facilitate and mainstream EbA research in academic and research institutions under while implementing the Urban EbA Research Activities through the Nepal Academy of Science and Technology (NAST). This ToR outlines the hiring of an expert consultant to develop a research program and strategy for the academic and research institutions to conduct long-term EbA research, including identifying potential funding options based on the methodologies and networks of the Global Adaptation Network (GAN). The strategy will identify sustainable financing options for EbA research in Nepal, outline data collection methodologies, and define the roles and responsibilities of relevant stakeholders including KVDA, academic and research institutions, government ministries, departments, and divisions, as well as provincial and local governments in conducting EbA/NbS-related research. The strategy will also utilize resources from GAN in designing research programming methodologies. The implementation of an urban EbA research strategy will generate local evidence on the benefits and cost-effectiveness of EbA in urban contexts. Furthermore, the strategy will guide coordinated research priorities, capacity building, and institutional support across Nepalese universities (both public and private) to advance EbA science and practice.

2. Objectives for Developing EbA Research Program and Strategy

The EbA Research Program and Strategy aims to mobilize Nepal's academic and research institutions to generate evidence on urban EbA, from theoretical advancements to field-based pilot evaluations to inform policy and practice, while ensuring gender-responsive participatory and ethical research processes. In the context where Nepal's academic and research institutions are increasingly active in climate science but have limited focus on adaptation approaches, the EbA research program and strategy intends to:

- i. Align urban EbA research with national climate policies, national urban policies, strategies and climate adaptation and mitigation priorities;
- ii. Establish a coordinated national framework for long-term, interdisciplinary urban EbA research across institutions with stakeholder's roles and responsibilities
- iii. Strengthen institutional and human capacity for EbA research within academic and research organizations;
- iv. Propose data collection methodologies for urban EbA research
- v. Identify research funding options, and mobilize sustainable funds to conduct urban EbA research initiatives to promote and enable evidence -informed policy making, and practices in urban planning and resilience building.

3. Scope of Work/ Key Tasks

Under the overall supervision of Nepal Climate Change Knowledge Management Centre (NCKMC)-NAST, the consultant will undertake the following tasks, including but not limited to:

- a. **Literature Review:** Conduct a comprehensive review of EbA-related research, including academic literature (peer-reviewed articles, theses) and grey literature (project evaluations, policy papers) in Nepal and comparable regions. This should include a review of national policy documents (e.g., National Climate Change Policy (2019), NDC3 and its Implementation Plan, the National Adaptation Plan (NAP) 2021–2050 Nepal, forestry policies, and local adaptation plans etc.) as well as relevant international EbA guidelines. The review shall identify key research themes (e.g., urban greenery, watershed management, green infrastructure etc.) and methodologies (e.g., field experiments, modeling, socio-economic surveys) that have been applied or recommended.
- b. **Stakeholder Mapping and Engagement:** Identify and profile relevant stakeholders, including Nepali academic and research institutions, universities, higher education authorities (e.g., University Grants Commission Nepal), government agencies, I/NGOs, development partners and community groups. This shall also include academic networks and international research partners. Assess each stakeholder's influence, interest, and current involvement in EbA research and education. Engage stakeholders through interviews, surveys, or focus group discussions to gather insights on research needs, collaboration opportunities, and policy linkages.
- c. **Capacity Assessment:** Assess the existing capacity of academic and research institutions to undertake EbA research, including faculty expertise, availability of research funding, laboratory and field infrastructure, curricula, and institutional partnerships. Identify key strengths and gaps
- d. **Gap Analysis:** Based on the literature review, stakeholder consultations, and capacity assessment, identify critical knowledge and implementation gaps in EbA research across themes, sectors, and geographic regions. This should also highlight gaps in policy-relevant evidence, interdisciplinary research, and urban EbA.
- e. **Mapping national and international funding sources for urban EbA/NbS research activities, including pilot EbA/NbS initiatives and outlining funding access procedures for each of the funding options eligible for applicants from Nepal.**

- f. **Development of Urban EbA Research Program and Strategy:** Develop a comprehensive EbA research program and strategy document outlining the vision, objectives, and priority research areas aligned with national policies along with research methodology, capacity-Building and institutional strengthening plan and financing strategy for EbA research. The strategy shall include:
- Priority thematic and geographic research areas
 - Potential interdisciplinary research programs and pilot projects
 - Mechanisms for collaboration (e.g., national EbA research consortium, partnerships)
 - Defined roles and responsibilities of government, academic and research institutions, NGOs, and develop partners.
 - Data collection methodologies to plan and carry out the urban EbA research projects
 - Knowledge management and data-sharing platforms
 - Methodologies for integration of gender equality and social inclusion (GESI) considerations in research design and implementation
 - A capacity-building plan to support the implementation of the research strategy, including training programs, workshops, scholarships, joint academic programs, and mentorship initiatives.
 - Identification of and recommendation on sustainable financing mechanisms to support long-term EbA research in Nepal, including national policies, funding sources, international climate finance, and opportunities through networks such as the Global Adaptation Network. Propose practical approaches for resource mobilization and funding coordination.
- g. **Reporting and Consultation Workshop:** Prepare the required deliverables and support the organization of stakeholder consultation workshops in Kathmandu to present key findings, validate the draft strategy, and incorporate feedback from relevant stakeholders

4. Deliverables

The consultant will provide the following deliverables.

S. N	Deliverables	Due (Week)	Acceptance Criteria
1	Inception Report	2	Clear workplan, methodology, stakeholder list
2	Literature and Stakeholder Review	2	Comprehensive literature list, stakeholder contacts, key informants
3	Draft Research Strategy	12	Strategy draft with detailed priority areas, methodologies, M&E framework, capacity plan; reviewed by steering committee
4	Draft Policy Brief	12	Concise summary of key strategy points and recommendations for policymakers
5	Stakeholder Workshop Report	16	Workshops conducted; feedback summary report submitted
6	Final Research Program and Strategy	16	Incorporates workshop and reviewer feedback; Suggestions from KVDA, approved by Project Steering Committee at NAST
7	Final Policy Brief	16	Revised per comments; approved
8	Final Presentation	16	Slides summarizing strategy for final stakeholder meeting
9	Final Report, Annexes	17	Useful templates provided, complete and clear

Each deliverable must meet acceptance criteria agreed with the client (e.g. clarity, relevance). The table above summarizes deliverables, due dates (from contract start), and basic acceptance terms. The Draft Strategy should present evidence-based research themes and an implementation plan. The Final Strategy must be ready-to-adopt and the consultant will present the final results in a wrap-up workshop or meeting.

5. Duration, Location, and Logistics

The total duration is expected to be 4 months (approximately 17 weeks), starting from contract signing.

Work Mode is primarily home-based. The consultant should be able to travel within Kathmandu valley to meet stakeholders. Any specialized software (GIS, statistical) is the consultant's responsibility. The consultant should have their own office/laptop etc. English is the working language for reports.

6. Budget

The total budget allocated for this assignment is **NPR 230,000.00 (Nepalese Rupees Two Hundred Thirty Thousand only)**. The consultant shall complete all assigned tasks within this budget ceiling. NAST will separately organize and cover the costs of a consultation workshop in Kathmandu. This will not impose any financial obligation on the consultant.

7. Data Sharing and Ownership

All data collected and generated during the assignment (including survey responses, GIS data, and other research outputs) shall be managed securely and in accordance with applicable ethical standards. Any proprietary or sensitive information (e.g., unpublished government data) shall be used only with prior authorization from the relevant authority. All data, information, and outputs generated under this assignment shall remain the exclusive property of the NAST and shall not be used, shared, or reproduced without prior written consent.

Qualifications and Experiences

Academic Background: Advanced degree (PhD or Master's) in a relevant field (e.g. environmental science, climate change adaptation, ecology, forestry, geography, or related field). Strong understanding of ecosystem services and EbA/NbS is desirable.

Experience: At least 10 years of professional experience in climate change adaptation, EbA, or environmental policy. Good facilitation and communication skills (for workshops, writing reports, and presentations). Experiences of working with universities or research institutions, capacity-building or institutional development, developing research strategies, policy analyses, or technical studies, especially in climate and ecosystems. Prior work in Nepal or South Asia is highly desirable.

Research Profile: Publications (peer-reviewed or major reports) in climate change, biodiversity, or related fields.

Selection Criteria

Candidates will be evaluated using the following criteria.

- Qualification
- Technical Expertise in EbA/climate change adaptation planning
- Experience (years, in Nepal/South Asia)
- Proposed Methodology and Work Plan
- Research/Publications Record
- Language & Communication Skills
- Interviews/Presentations (30 mins)