Terms of Reference for Consultancy to Develop Meghna Basin Land Use and Water Resources Atlas

Duration of Consultancy: 4.5 months (15 March 2021 – 31 July 2021)

Deadline for the submission of EOI: 28 February 2021

Background:

The Meghna basin is a transboundary river basin shared by Bangladesh and India. The total area drained by the Meghna river basin is 82,000 km^2, of which 47,000 km^2 (57% of the total area) is located in India and 35,000 km^2 (43% of the total area) is in Bangladesh. The Meghna basin is notable for the number of transboundary tributaries it contains. At least 29 named rivers flow into the Bangladesh part of the watershed from India.

As a part of Building River Dialogue and Governance (BRIDGE) in the Ganga-Brahmaputra-Meghna (GBM) basin, or BRIDGE GBM, IUCN is facilitating stakeholder dialogues and joint research to develop a better understanding of the basin's water governance issues and challenges. In 2020, IUCN collaborated with North East Hill University (NEHU), Shillong and the Center for Environmental and Geographic Information Services (CEGIS), Dhaka to facilitate a GIS-based basin-wide land use change analysis. The research has consolidated data on current land use and identified hotspots of land use changes for the Meghna Basin in last 15 years in Bangladesh and India.

IUCN is seeking support from organizations/individuals with experience in water governance and river basin management issues and with proven GIS capabilities to consolidate the data from Bangladesh and India on land uses, and develop a Meghna basin land use atlas. The atlas aims to bridge the knowledge gaps in the basin on land uses through the development of illustrative maps and narratives. The atlas will provide well-synthesized, interpreted information to stakeholders and thereby promote evidence-based and knowledge-supported decision-making by policy makers, planners, private sector and civil society stakeholders.

Objectives of consultancy: Consolidate the data from the land use change analysis conducted by NEHU and CEGIS and generate a land use atlas with illustrative maps and narratives for all 29 transboundary tributaries of the Meghna River Basin.

More specifically, the consultancy will:

- Define the projection system for the development of sub-basin maps**;**
- Develop thematic land use maps for the entire Meghna basin and its 29 trans-boundary tributaries. Consolidate the data on current land uses at the basin and sub-basin levels, as well as hotspots of land use changes in last 15 years, based on the analysis (from the shape file) provided by NEHU and CEGIS, for India and Bangladesh respectively;
- To generate the sub-basin land use maps of 29 transboundary rivers, the consultant will undertake edge matching and harmonization of sub-basin boundaries in consultation with IUCN, NEHU and CEGIS. A buffer zone will be delineated for edge mapping and harmonization along the international borderline;
- Draft the content for the atlas (all 29 transboundary rivers of the Meghna) based on a review of information available online, as well as the information generated through NEHU and CEGIS land use change analysis conducted in 2020.

Deliverables:
- Land use maps (in color) of the entire Meghna Basin, and its 29 transboundary tributaries.
- Meghna Basin land use atlas, including a narrative for each map. It is proposed that the atlas include two main sections: a) Section I with the 2019 land use maps and brief narrative of the

entire basin and the 29 transboundary tributaries; and b) Section II with the maps indicating hotspots of changes in the basin (based on the NEHU and CEGIS analysis);
- Deliver a presentation consolidating information in the atlas during the Meghna Knowledge Forum 2021 (June 2021).
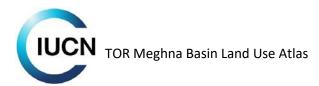
Deliverable and timelines

2.1 Deliverables and Timelines

Outputs	Timeline
Propose an outline for the Atlas – its content and organisation based on the review of land use change analysis report and shape files prepared by NEHU and CEGIS	25 March 2020
First draft of land use maps at the appropriate scale (in colour) of the entire Meghna Basin, its 29 transboundary tributaries, and maps indicating major hotspots of changes at the basin level.	20 April 2020
First draft of the narrative supporting each map for IUCN review and comments	30 April
Consolidated the maps and narrative to create a full draft of the Meghna Land Use Atlas for IUCN review	30 May
Present the Atlas at the Meghna Knowledge Forum	22-24 June 2021
Final, publication-ready, draft of the Meghna Land Use Atlas after integrating feedback received from IUCN and at the Meghna Knowledge Forum	25 July 2021

Desired experience and qualifications
The consultancy is open to **institutions/individuals** with the following expertise:
- Working experience with standard, current GIS tools and technologies.
- Demonstrated experience of working in collaboration with government ministries and departments, as well as non-governmental organisations (NGOs) in Bangladesh and India.
- More than 8 years of experience in satellite communication applications services in water resource management and developmental communication.
- Sound knowledge of climate change and how to present impacts on water resources.
- Knowledge on bathymetric maps, sedimentology, and water quality.
- Comparable (related) assignments within the region (or Meghna Basin) is an advantage.
- Demonstrated writing, analytical and reporting skills.
- Excellent English language skills.

EOI Format; Annex 1

Please send your expression of interest in the desired format to the following:

- To: Mr. Vishwa Ranjan Sinha, Program Officer, Water and Wetland, South Asia, IUCN Asia Regional Office, Bangkok; Email – Vishwaranjan.sinha@iucn.org
- cc: Ms. Archana Chatterjee (National Coordinator, IUCN India) archana.chatterjee@iucn.org and Dr. Khalid Hossain (Programme Coordinator, IUCN Bangladesh) khalid.hossain@iucn.org

Format for the Expression of Interest (below)

Name of institution	
Postal and Email Address	

Summary introduction to previous work highlighting expertise (max 300 words)

References (including web links) to previous work and maps developed

Name and email addresses of the core team (max 3), along with a 50 word summary (for each member) indicating qualifications and skills. Please also attach Curriculum Vitae (CV) of the team lead.

Proposed budget and details of expected expenditure, such as number of days, daily rates of staff etc in the format suggested below.

Budget Line	Description	Unit	No. of units	Cost per unit	Budget in local currency
1.1					
1.2					
1.3					
1.4					
Total					