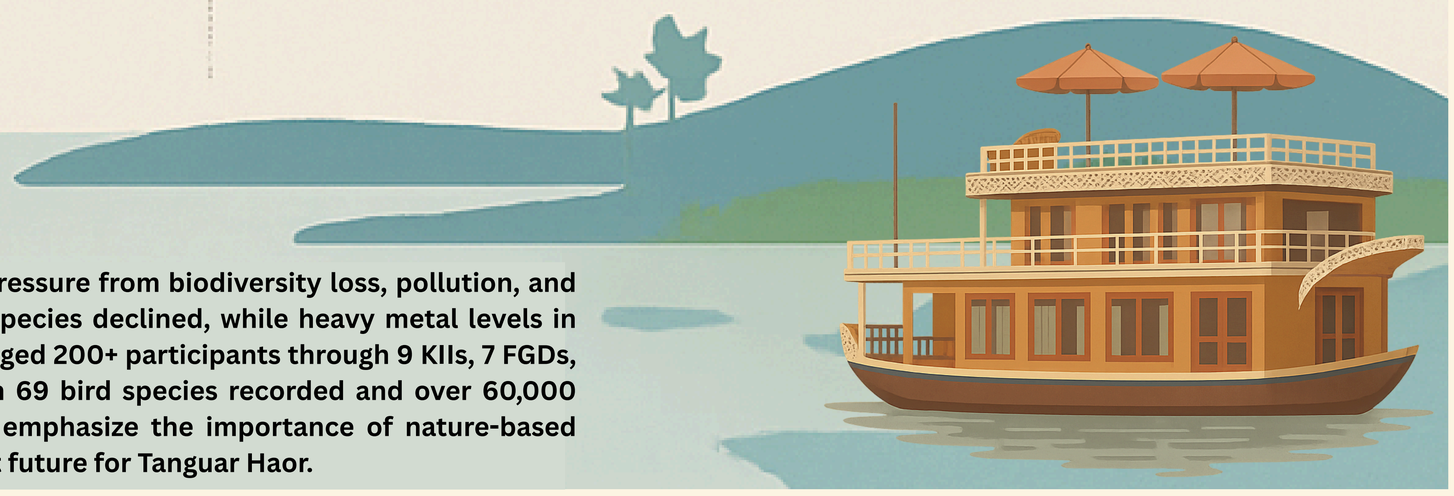
Safeguarding Tanguar Haor: Balancing Nature, Livelihood and Resilience



Introduction

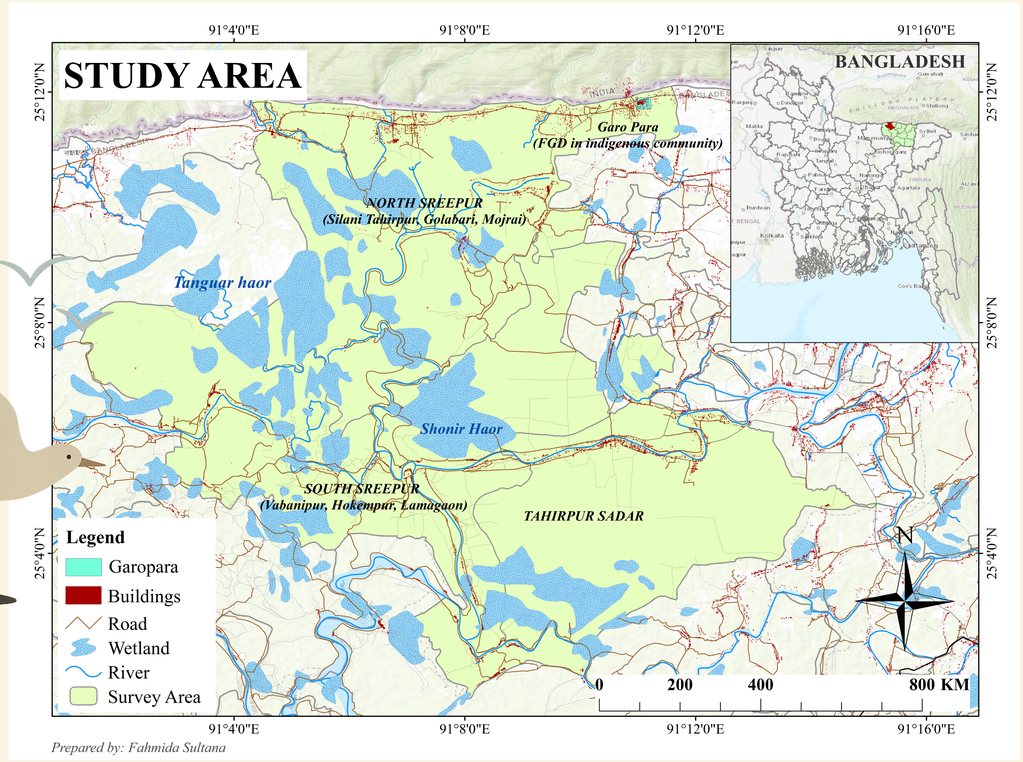
Tanguar Haor, a Ramsar Wetland site of global importance, is under growing pressure from biodiversity loss, pollution, and unregulated tourism. Between 2008 and 2021, 59% of monitored waterbird species declined, while heavy metal levels in sites like the Main Outlet reached critical highs (Ni: 1.95 mg/L). This study engaged 200+ participants through 9 KIIs, 7 FGDs, and 3 workshops, capturing both scientific data and community voices. With 69 bird species recorded and over 60,000 people dependent on the haor, the need for action is urgent. The findings emphasize the importance of nature-based solutions, early warning systems, and inclusive governance to ensure a resilient future for Tanguar Haor.

Objectives

- Capture community voices, especially youth and women, to reflect local resilience.
- Assess ecosystem services and Nature-based Solutions using SWOT analysis.

Study area

Tanguar Haor, **spanning 10,000 hectares at the base of the Meghalaya Hills**, lies within Tahirpur and Dharmapasha upazilas of Sunamganj, Sylhet. **It sustains around 60,000 people**. Focus Group Discussions were held in villages under Uttor and Dakkhin Sreepur unions, including areas with Garo ethnic communities, to capture their unique socio-cultural perspectives.



Methods

- **9 Key Informant Interviews** (youth, fisherfolk, academia, women, researchers, ethnic community, water professionals)
- **7 Focus Group Discussion (FGDs)** (incl. 1 with Garo community; ~125 participants)
- **3 Workshops**: 2 local (school & university, ~100 participants), 1 in Dhaka (~150 participants)
- **Transect walk at Badhaghat Bazar**
- **Secondary Literature Review** of waterbird census data, water quality reports, and media coverage

Results

Key Informant Interviews (KIIs)

- **Youth:** Call for skills, eco-action, and tech-led solutions
- **Fisherfolk:** Demand clean water, fish safety, and policy voice
- **Academia:** Urge tourism control and sustainable fishing
- **Women:** Seek inclusion in the decision-making
- **Researcher:** Recommend NbS, floating gardens, and tree planting
- **Ethnic Community:** Values traditional, eco-friendly practices
- **Water Professional:** Stress early warning and community-led NbS

Waterbird Census Analysis (2008–2021)

Tanguar Haor–A Critical Habitat along the EAAF

KEY FINDINGS

69 species of waterbirds recorded

Peak abundance: 166,788 individuals in 2013

47 species analysed for population trends:

Baer's Pochard *(Aythya baeri)* – Critically Endangered

59% showed a declining trend

41% showed increasing trends

CONSERVATION PRIORITIES

Chotainna Beel and Lechuamara Beel were identified as key conservation sites dueto high species richness and abundance

Emphasis on:

- Rainfall-based water-level management
- Community-led bird sanctuaries

15 species had peak counts exceeding the 1% threshold of their East Asian–Australasian Flyway (EAAF) population

Water Quality

- High heavy metal levels were found Ni > Cr > Pb > Zn > Cu > Mn, especially at Main Outlet (Cr 0.78, Ni 1.95 mg/L) and Niladri Lake (Ni 1.10 mg/L). (Fardullah et al., 2025)
- Pollution from industrial, agricultural, and domestic runoff.
- Urgent need for monitoring, awareness, and Nature-based Solutions.

SWOT Analysis

Strengths

- Rich biodiversity: fisheries, migratory birds, Ramsar site
- Community-based conservation (afforestation, fisheries protection)
- Traditional raised lands (Kanda) for housing and grazing
- Indigenous knowledge on early action and household resilience

Weaknesses

- Overdependence on HYV (e.g., B28), loss of local crop varieties
- Poor maintenance of flood embankments
- Lack of alternative livelihoods due to fishing restrictions
- Data gaps: sediment, biodiversity, and water quality
- Weak governance, poor inter-ministry coordination

Opportunities

- Nature-based Solutions (NbS) for flood control and restoration, Funding scope during recovery for NbS initiatives
- Native plants (Hizol, Koroch, etc.) for erosion control & species support
- Eco-tourism with community engagement

Threats

- Flash floods, worsened by climate change
- Habitat fragmentation and ecosystem disruption
- Unregulated tourism, excluding local benefits
- Poverty, especially in local populations excluded from tourism jobs
- Uncoordinated development planning

Way Forward

Strengthen Data & Governance
Monitor ecosystem health, assess impacts, and establish basin-level governance

Climate Adaptation & Resilient Land Use
Adopt climate-smart land, to mstt and crop management

Community Engagement
Engage communities in decision-making nnd promote nature-based livelihoods

Wetland & Forest Conservation
Activate pollution regulation and enforce to ris-sm control

Early Warning Systems
Implement Impact-Based Forecasting to ensure community parti cipation

References

Alam, A.B.M.S., Chowdhury, M.S.M. and Sobhan, I. 2012. Biodiversity of Tanguar Haor: A Ramsar Site of Bangladesh Volume I: Wildlife, IUCN Bangladesh, Dhaka, Bangladesh, Pp. xi+234.

Alam, A. B. M. S., S. Ahmed, K. Z. Azmiri, R. Amin, M. L. van Toor, A. K. Datta, J. Waldenström, E. U. Haque, and S. U. Chowdhury. 2023. Population trends and effects of local environmental factors on waterbirds at Tanguar Haor freshwater wetland complex in northeast Bangladesh. Avian Conservation and Ecology 18(1):18. https://doi.org/10.5751/ACE-02405-18011

Fardullah, M., Islam, M. S., Sarkar, M. S. U., Rahman, M. R., Akther, K., Hossain, M. T., & Robel, F. N. (2025). Heavy metal contamination and risk assessments in the surface water of Tanguar Haor, Bangladesh. Geosystems and Geoenvironment, 100399.

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Media Coverage

Scan to read news about Tanguar Haor