HELVETAS
BANGLADESH

# Terms of Reference (ToR)
# For Consultancy Service.

## 1. Title of the study for Consultation Service

**Mapping and analysis of sweet water ponds of three sub-districts; Morrelganj, Paikgacha and Koyra of Khulna Division for selecting water interventions and strategic climate resilience advocacy.**

## 2. Background

Bangladesh, a low-lying deltaic country, is one of the most vulnerable nations to climate change due to its geographical location and socio-economic conditions, particularly in its southwestern coastal zone. Bangladesh currently ranked the seventh extreme disaster risk-prone country in the world as per the report from the Global Climate Risk Index 2021. The southwestern coastal zone of Bangladesh, encompassing three coastal districts of Satkhira, Khulna and Bagerhat which are characterized by its low-lying topography, proximity to the Bay of Bengal, and extensive network of rivers and canals. Those areas facing severe challenges because of climate change.

With rising sea levels have increased the risk of salinity intrusion at surface and ground water sources, erratic rainfall patterns and increased the frequency and intensity of extreme weather events, such as cyclones and storm surges, this region is experiencing a multitude of environmental, socio-economic, and human-induced impacts, including water crisis which are exacerbating the vulnerability of the local communities. In this context, ponds have historically served as and continue to be regarded as essential and one of the sources of sweet water in this region.

This study aims to map sweet water ponds in the selected unions within three sub-districts of this region. This study will provide critical data on sweet water sources in the project areas mentioned above, enabling more informed planning for water interventions. Additionally, the information gathered will be used to advocate for government and non-government action to preserve these vital resources to utilize it for its further use as suitable source of potable water, particularly in the context of climate change. This initiative is crucial for ensuring sustainable water management and safeguarding sweet water resources (ponds) in the region.

## 3. Objectives

**Main Objectives:**

To map and analyse sweet water ponds in selected unions across Morrelganj, Paikgacha, and Koyra sub-districts, facilitating the strategic planning of water interventions and advocating for climate resilience in the southwestern coastal zone of Bangladesh.

**Specific Objectives:**

- Identify and document sweet water ponds.
- Robust analysis of quantitative and qualitative data.
- Assess the viability of sweet water ponds for water interventions from the quantitative and qualitative data.
- Analyse the impact of climate change on sweet water ponds & analysis the trend of sweet water ponds from its purpose to serve as a potable source of water to others / closing off.
- Develop strategic recommendations for water interventions to strengthen climate resilience and community engagement.
- Suggesting advocacy strategy for government and non-government stakeholder action.

## 4. Study Area

The Study Area Details has been given below:

*Table 1: List of Unions under Each Upazila.*

| 1. Khulna District | | 2. Bagerhat District |
|---|---|---|
| 1. Koyra Upazila | 2. Paikgacha Upazila | 3. Morrelganj Upazila |
| 1. Amadi Union | 1. Kapilmuni Union | 1. Baharbunia Union |
| 2. Bagali Union | 2. Gadaipur Union | 2. Jiudhara Union |
| 3. Dakshin Bedkasi Union | 3. Raruli Union | 3. Nishanbaria Union |
| 4. Koyra Union | 4. Garaikhali Union | 4. Baraikhali Union |
| 5. Maharajpur Union | | 5. Morrelganj Union |
| | | 6. Khaulia Union |

The study area can be compromised based on the actual situation and context.

## 5. Scope of Work

1. **Remote sensing and use of GIS tools for mapping of sweet water Sources (Ponds):** Conduct remote sensing and use of GIS tools for mapping of sweet water sources utilizing a certified GPS tracking device, capturing both point and polygon geometries.
2. **Water Quality Testing (WQT):** Perform water quality assessments on the identified sweet water sources, focusing on the following parameters:

- Faecal Indicator Bacteria
- Chloride
- pH
- Turbidity
- Dissolved Oxygen

Total 30% of test need to be conducted at Water Quality testing lab, authorised by Bangladesh Governments and the remaining 70% can be conducted using certified Water Quality Testing Field kits.

3. **Sustainability Evaluation:** Assess the sustainability aspects of the sweet water ponds within the project area.
4. **Quantitative Data Analysis:** Collect quantitative data using KOBO Toolbox or another suitable platform, followed by thorough analysis employing appropriate software and methodologies, including visual representation with figures.
5. **Qualitative Data Analysis:** Gather qualitative data using comparable platform and conduct a detailed analysis with the appropriate methodologies, accompanied by visual representations.
6. **Weighted Mapping:** Develop a weighted map highlighting the intensity of various parameters by location.

## 6. Methodology

The Consultancy Firm / Academia will adopt a multi-faceted approach to address the study's objectives effectively. The methodology will include the following components:

1. **Desk Review:** Review existing literature, research, and data related to surface water (pond) management in southwestern Bangladesh.
2. **Field Surveys:** Conduct structured/ semi-structured surveys, focus group discussions (FGDs), key informant interviews (KIIs), other's survey methods to gather data on local knowledge about the sweet water sources.
3. **GIS and Remote Sensing:** Utilize GIS and remote sensing technologies to map sweet water sources.
4. **Water Quality Test (WQT):** The Consultancy Firm / Academia will perform WQT and analyse the data for quantitative research.
5. **Data Analysis:** Use statistical and qualitative analysis methods to interpret data and conduct a SWOT analysis. Also, used quantitative analysis methods to interpret data driven from the field and WQT.

6. **Reporting:** The Consultancy Firm / Academia will develop a detailed report that integrates findings from the desk review, qualitative surveys, and quantitative research. A detailed structure of the report has been given below.

## 7. Timeframe

The contract will last 50 calendar days after the agreement is signed. HELVETAS Bangladesh will examine and endorse the methodology and work plan. The very first draft report is expected to be completed within 6 weeks after the agreement's signing. After 7 calendar days of collecting input, the final report must be submitted. Follow-up consultations between the contractual consultant/consulting firms and HELVETAS Bangladesh will be held on a regular basis.

## 8. Deliverables

**The following deliverables must be produced by the Consultancy Firm / Academia:**

- ✓An Inception Report with survey methodology, sampling procedure, draft survey questionnaires for qualitative and quantitative information collection and work plan shall be submitted with technical proposal.
- ✓A comprehensive report (report structure and contains has been specified below).
- ✓Cleaned Data sets of quantitative and qualitative analysis and other relevant documents should be submitted.
- ✓Images captured during the study should be incorporated into the draft report, separate folders in a storage device / uploaded in a data storage drive etc.

The report should have the following structure:

- Title page
- Acknowledgments
- Executive summary
- List of acronyms
- Table of contents and lists of figures and tables
- Introduction and Background
- Methodology
- Data analysis
- Findings, Results, Recommendations (must cover all study purpose mentioned in section (-----) and organised as well)
- References
- Annexes

The report will contain the following topics: -

- Detailed report of sweet water ponds conditions with GIS analysis.
- Comprehensive analysis of challenges and barriers faced by communities.
- Recommendations for innovative approaches and technologies.
- Review of legal frameworks and enforcement mechanisms.

- Actionable recommendations for improving conditions.

## 9. Timeline

The study is expected to be completed within 10th December 2024 from the date of contract signing. A detailed timeline with milestones should be provided.

## 10. Budget

The budget for this consultancy will be determined based on the proposal submitted. Consultancy Firm / Academia are requested to provide a detailed budget breakdown, including professional fees, travel expenses, and any other costs.

## 11. Evaluation Criteria

The following criteria are applicable for the evaluation of the potential Consultancy Firm / Academia:

| Criteria | Quality Points |
|---|---|
| **Technical Proposal:**<br>• Understanding of the assignment (10)<br>• Relevant experience of the Consultancy Firm / Academia (30)<br>• Clarity of the proposed methodology, approach and timeframe (20)<br>• Relevant other assignments (10) | Max 70 points |
| **Financial Proposal:**<br>• Clarity and completeness of the financial proposal (10)<br>• Reasonableness of costs per deliverable (20) | Max 30 points |
| **Financial Proposal:**<br>Total amount of financial proposal | BDT cost of proposal |

A **Pre-bid meeting** will be held on 29th September 2024 from 3:00 PM to 5:00 PM over online platform (Microsoft Team). Interested consultancy firm / Academia are requested to contact with the person mentioned in **Section 13** over email. Meeting link will be shared with the consultancy firm / academia after proper communication.

The Consultancy Firm / Academia who will achieve the highest score and after proper evaluation, will be selected for the consultancy service.

## 12. Application Process

Interested Consultancy Firm / Academia should submit the following:

- ✓A technical proposal detailing their approach, methodology, and timeline.
- ✓A financial proposal including a detailed budget breakdown.
- ✓CVs or profiles of key personnel.
- ✓Examples of previous relevant work.

The Technical and financial proposals should be sent to recruitmentbd@helvetas.org with the subject line " **Mapping and Analysis of sweet water ponds in Southwestern Coastal Bangladesh.**"

Deadline for application is 7th **October 2024 at 5:00 PM** Bangladesh time. No late and/or hard copy submission will be accepted.

## 13. Contact Information

For further information or to submit proposals, please contact:

**Minhaz Monwar Auni**
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