Terms of Reference
for
Situational Analysis of Flood and Waterlogging Management of Sylhet City Corporation (under Sustainable Urban Water Cycles Project)

1. Background

SNV is implementing the project "**Transitioning to sustainable urban water cycles in Bangladesh**" in 8 Municipalities and 4 city corporations in Bangladesh. The project aims to support cities to address service delivery challenges in Solid Waste Management (SWM), Faecal Sludge Management (FSM), Flood & Drought Management (F&DM) and advance the sector development, through strategic engagement with Government Agencies and partnering with other experienced civil society and private sector organizations working in the sector.

The water sector consists of 6 components:

1. Governance, Regulations, and Enforcement
2. Finance and Investment
3. Behavioral Change Communication
4. Service Provision
5. Treatment and Circularity
6. Flood and Drought Management

Under the 6th component (Flood and Drought Management), the project will conduct a study titled **Situational Analysis of Flood and Waterlogging Management of Sylhet City Corporation** to explore the existing situation of flood and waterlogging in SCC, its causes, and recommendations to mitigate the flood vulnerability and waterlogging. SNV in Bangladesh is looking for a renowned research institute/agency/consultancy firm to conduct this study.

2. Objective of the study

The objective of the study is to explore the existing situation of flood and waterlogging in SCC, its causes, vulnerabilities, operation/cleaning and maintenance practices and recommendations to mitigate the flood vulnerability and waterlogging.

3. Scope of Work

The study requires rigorous review of existing literatures and field works to explore the existing situation of flood and waterlogging in SCC, vulnerabilities, causes, and recommendations to reduce the flood and waterlogging vulnerability. The working scopes are as follows (3.1-3.3 is for flood and 3.4-3.6 is for waterlogging):

3.1 Demarcation of the ward boundaries

The ward boundaries of the newly included areas (ward no 28 to 42) of SCC are not yet demarked. The boundaries of these wards will be demarked and merged with the boundaries of ward no 1-27 to get a GIS shape file of 42 wards.

3.2 Demarcation of the flood vulnerable areas of each catchment area

SCC has divided into 7 catchment areas. The flood vulnerable areas of each catchment will be identified on base map through participatory approaches. The base map will be prepared using the catchment boundary, ward boundaries, google imagery and landmarks (SNV will provide all relevant shapefiles). After demarcation, the catchment maps will be digitized, firstly catchment flood vulnerability maps and then city flood vulnerability (merging all 7 catchments) will be prepared.

3.3 Identify the causes of flood, vulnerabilities, and recommendations to reduce the vulnerabilities for each catchment.

Along with the demarcation, causes of flood, people's vulnerability to flood (regarding shelter, sanitation, SWM, drinking water, health, income, and others) will be identified for each catchment through participatory approaches and compiling all 7 catchments findings the vulnerabilities of SCC to flood will be determined. Similarly, recommendations for flood vulnerability reduction will be identified for each catchment and compiling all catchments the recommendations for SCC will be determined.

3.4 Demarcation of the waterlogging areas of each catchment

The waterlogging areas of each catchment will be identified on base map through participatory approaches. After demarcation, the catchment maps will be digitized, firstly catchment waterlogging vulnerability maps and then city vulnerability map will be prepared (merging all catchments).

Notably flood and waterlogging areas will be demarked in different base maps.

3.5 Identify the causes of waterlogging, vulnerabilities, and recommendations for waterlogging management for each catchment.

Along with the demarcation, the causes of waterlogging for each catchment will be identified through participatory approaches and compiling all catchment findings the causes of waterlogging in SCC will be determined. Similarly, people's vulnerability to waterlogging and recommendations for waterlogging management will be explored for each catchment and compiling all catchments the vulnerabilities and recommendations for SCC will be determined.

3.6 Explore the existing drainage operation/cleaning and maintenance practices, capacity of SCC, constraints to proper operation and maintenance, and recommendations for capacity building for each catchment.

In the study, the existing drainage cleaning and maintenance practices will be explored, the capacity of SCC regarding regular cleaning and maintenance will be evaluated, causes and constraints to timely cleaning and maintenance of the drainage, and recommendations for proper operations and maintenance will be determined.

4. Methodology and data collection tools

The ward boundaries of newly included areas (ward no 28 to 42) will be demarked by GPS tracker and GIS shape file will be created. Flood and waterlogging areas demarcation, causes identification, vulnerability assessment, and recommendations will be determined through conducting FGD at each catchment with different 7 groups i.e., 49 FGDs (7 groups x 7 catchments). The groups for FGD are as following:

SL No	FGD Groups
1	Respective ward councillors (male & female) of each catchment
2	Responsible engineers of each catchment
3	Responsible conservancy officers of each catchment
4	Responsible drain clearers of each catchment
5	Relevant CBO leaders of each catchment
6	Inhabitants (Female) of each catchment
7	Inhabitants (Male) of each catchment

Maximum participant for each FGD is 10. The participants will demarcate the flood and waterlogging areas themselves.

The research institute/agency/consultancy firm has scope to improve the methodology with their experience and expertise.

5. Deliverables

The institute/agency/ consultancy firm will produce the following quality deliverables:

1. Maps (Hardcopy, GIS Shapefiles and MXDs)

Map	**Nos**
City Ward Map	1
Catchment wise Flood Vulnerability Maps	7
City Flood Vulnerability Map (compiling 7 catchments)	1
Catchment wise Waterlogging Maps	7
City Waterlogging Map (compiling 7 catchments)	1
Total	**17**

2. Reports

Report	Remarks	No of Reports	Language
Inception report	Includes detailed methodology of the study, brief of literature review, data collection process, analytical framework, work plan, team composition	1	English
Draft report	Includes summary of the study, literature review, study findings, Maps (showing flood and waterlogging areas at catchment and city level) causes of flood and waterlogging in SCC, vulnerabilities, Drainage operation/cleaning and maintenance, capacity gap analysis and gap analysis and recommendations	9 (7 individual reports for 7 catchments and 1 city report compiling 7 catchments)	7 catchment reports in Bangla & 1 city report in both Bangla and English
Final report	Includes a full report exploring the flood and waterlogging situation of SCC, causes of flood and waterlogging in SCC, vulnerabilities, Drainage operation/cleaning and maintenance, capacity gap analysis and gap analysis and recommendations	9 (7 individual reports for 7 catchments and 1 city report compiling 7 catchments)	7 catchment reports in Bangla & 1 city report in both Bangla and English

(The city report will prepare in Bangla at first, then after finalization it will be translated into English)

3. Photos of all activities

6. Consultant and SNV responsibilities

Consultant will be responsible for organising all logistics, data collection, equipment, analysis, field verification, necessary meetings and all activities required to conduct the study.

SNV will support with linkages to SCC.

7. Qualifications for consultancy

A research institute/agency/consultancy firm can apply with demonstrated expertise in processing and ability to address all aspects of the scope of work. Work with flood and waterlogging management, drainage development, disaster management and water modelling will get preference.

8. Team composition

8.1 Principal Investigator/Team Leader

Having proficient knowledge and sound understanding on research design, data analysis, hydrology/water modelling, urban drainage, flood & waterlogging management with at least a master's in environmental engineering or science/urban planning/water resources engineering/geography & environment/disaster management or relevant field from any reputed university. Should have 10 years of proven experience in urban drainage development/flood and waterlogging management/water modelling/disaster management-related research and/or analytical studies (both quantitative and qualitative). Experience to lead similar study in earlier would add value.

8.2 GIS Officer

Should have 5 years of proven experience in GIS and Remote Sensing with at least graduate in urban planning or geography and environment from any reputed university. Have experience to work both in quantitative and qualitative research.

8.3 Surveyor/Data Collector

Should have 5 years of work experience as surveyor/Data Collector with at least graduate degree in any discipline (must have sound understanding on qualitative and quantitative research, data collection tools and techniques, elements of map, google imagery) from any reputed university. Working experience in similar study/water modelling/waterlogging/flood & drought management-related project would add value. SNV will only evaluate CVs of the above-mentioned proposed team members. All the CVs must be accurate and signed by both the individual and an authorized official of the research institute/agency/consultancy firm. The consultant can add non-key expert if they can add value into this study.

9. Evaluation Criteria

The following criteria will be followed to evaluate technical proposals received:

Criteria	Score
Technical Proposal (Experience in relevant research: 15 Overall understanding of the proposed assignment: 10 Methodology and implementation plan: 25 Team Composition: 15 Gender Equity in team composition: 5)	70
Financial proposal (Competitiveness of the financial offer)	30
Total	**100**

Only those Technical Proposal that pass the minimum score of 60% of the total score will move forward for financial review. The reviews are a closed process and not open to the public.

10. Timeframe

The total duration of the assignment will be for **12 weeks after signing of the contract**. Commencement of the services is expected by **3rd week of March 2024.**

Key deliverables/Activity	Deliverables covered	Timeline
Inception Report	▪ Methodology ▪ Brief of literature review ▪ Data collection tool ▪ Data collection plan ▪ Analytical framework ▪ Data processing/analysis	2nd week
Data collection & analysis	▪ Recruit necessary staff. ▪ Training of the staff ▪ Field work for data collection	6th week
Presentation on context analysis findings	▪ Conduct the analysis ▪ Map digitization ▪ Analysis findings sharing	7th week
Draft report	▪ Outline of report ▪ Executive summary ▪ Situational analysis findings ▪ Flood causes, vulnerabilities, and recommendations for vulnerability reductions ▪ Waterlogging causes, vulnerabilities, and recommendations for management ▪ Existing drainage operation and maintenance, capacity gap assessment	9th week

	▪ Analysis ▪ Recommendation	
Final report	▪ Final report ▪ Study brief	12th week

11. Payments

SNV will make payments in compliance with the rules of Bangladesh Government. Payment will be made to the agreed bank account based on the receipt of invoice after the successful completion of each of the following deliverables of the assignment:

Instalment	Deliverable	Percentage of payment
1st instalment	Inception Report	30%
2nd instalment	Draft report	30%
Final payment	Final report	40%

12. Application

Interested research institute/agency/consultancy firm are requested to develop and submit their **technical and financial proposals** in line with evaluation criteria mentioned in this ToR. Updated trade license, TIN/BIN registration certificate, update VAT & TAX certificate are requested to include with the technical proposal. Any incomplete applications will not be considered.

Duly signed electronic copy of the proposal long with SNV Due diligence Self-Declaration form and annexes should be submitted to **bangladesh@snv.org** with the subject line: **Situational Analysis of Flood and Waterlogging Management of Sylhet City Corporation** no later than 5 p.m. (local time) on **24 February 2024.**

For any query related to the ToR, please email to: mdimamhossain@snv.org to keep CC bangladesh@snv.org.

Click here- SNV Due Diligence Self-Declaration form and annexes