

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF WATER RESOURCES



BANGLADESH WATER DEVELOPMENT BOARD

Terms of Reference (ToR)

for

**Feasibility Study for Integrated River, Flood and Water Management in
the Kushiyara River Basin**

(কুশিয়ারা নদী অববাহিকার সমন্বিত নদী, বন্যা ও পানি ব্যবস্থাপনার নিমিত্ত সম্ভাব্যতা সমীক্ষা)

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1. Background

Kushiyara is a major tributary of the Barak River and one of the most important basins for flood management in north-eastern region of Bangladesh. Kushiyara river enters Bangladesh through Jakiganj Upazila of Sylhet District and flows about 39 km along the international border between Bangladesh and India. Then the river passes through Bangladesh for 212 km, it fell into the Meghna (Upper) River flowing through Kalma Union of Ashtagram Upazila of Kishoreganj District. When it rains in the hills, the rainwater flows down to the lower haor areas. During the pre-monsoon season, sudden rainfall causes the haor areas to flood as the rainwater enters through various rivers and chharas. This leads to pre-monsoon floods. In the monsoon season, heavy rainfall results in monsoon floods. The rivers in the area have become silted up due to excessive silt carried by the rivers over time. Many of the rivers are filled with silt and have not been dredged for a long time. Again, most rivers in the area are meander and have high flow velocity during the monsoon season. As a result, the riverbanks erode, causing significant hardship for residents in the affected areas. The erosion leads to the loss of structures, land, and resources, making people landless. The rise in water levels of the Kushiyara River system causes flooding in the basins on both sides of the river during the pre-monsoon or monsoon season. Flood control embankments were built along both banks of the Surma-Kushiyara rivers. However, the embankments have suffered damage, erosion, and disappearance due to a lack of proper operation and maintenance.

To overcome the problems in this region, few partial studies have been conducted by BWDB previously but those were to solve the local problems. Recently, this area has been affected by heavy flooding in June and August 2024 that severely impacted several upazilas of Kushiyara Basin. Recent floods show that no fruitful results have been obtained from the previous limited studies and projects. Uncoordinated development and encroachment to the flood plain has resulted disruption connectivity between river and flood plain and may contribute to flood intensification. Floods and waterlogging occur during the monsoon season and farmers and fishermen are suffering due to lack of water during the dry season. Flow bypass from Surma Basin and synchronization of haors in Surma and Kushiyara Basin might be an option to solve the issue. So, a comprehensive study needs to be conducted to assess the impact of previous projects and to address these issues including the restoration of flood plain, connectivity between river and flood plain for the whole basin in an integrated way.

With the aim of providing irrigation facilities during the dry season, drainage and flood control during the monsoon season and increasing the agricultural production of Moulvibazar district, Bangladesh Water Development Board started the project titled "Manu River Irrigation Project" in 1975-76 and constructed it in 1982-83. The project consists of 1 barrage (86 m clearance with 8 gates), 1 pump house (8 pumps, 34 cumec/1200 cusec), 59 km of flood control dams, 105 km of irrigation canals, 7 discharge switches, 9 siphons and 309 other water structures. Irrigation canals play a very important role in providing irrigation facilities within the limbs of the Manu River Irrigation Scheme. But due to the lack of large-scale rehabilitation work in irrigation canals for a long time, water is not flowing to the tail end of the irrigation canals at present. Apart from this, the water control infrastructures built to control the flow of water at various places are dilapidated due to lack of necessary repairs. It is not possible to supply water to the farmer's land properly due to insufficient irrigation canals. At present, the demand for water has increased due to the increasing interest in agriculture among the people. As a result, construction of new tertiary irrigation canals has become necessary for adequate water supply. In the context of the current situation, the rehabilitation work of the Manu River Irrigation Project is urgently needed to implement the necessary repair and maintenance work of all the parts of the Manu River Irrigation Project.

Under these circumstances, this ToR has been prepared to develop plan for integrated management of pre-monsoon and monsoon floods, river management, improved drainage and



irrigation facilities, and overall improvement of socio-economic and environmental conditions in the haor areas of Kushiyara River Basin.

Study area

Kushiyara River originates from the Barak River in India, enters Bangladesh through Jakiganj Upazila of Sylhet District. Then the river passes 5 districts of Bangladesh namely Sylhet, Moulvibazar, Sunamganj, Habiganj and Kishoreganj. It fell into the Meghna (Upper) River flowing through Kalma Union of Austagram Upazila of Kishoreganj District. Bashiya, Deorbaga, Dhaleswari (Astagram), Moddhochor, Ishdar Khal-Barvanga, Juri, Kalni, Manu, Shosha, Singjuri, Togi, Sonai-Bardal, Bijna-Gungajuri, Bibiyana, Cerapur, Haturia, Norkhoi, Old Kalni, Boshira, Jhingri, Shutki are the tributaries and distributaries of Kushiyara river. The analysis area (Figure 1) covers Kushiyara whole river basin along with the sub-catchment of the all tributaries and distributaries. The study area covers Moulvibazar sadar, Rajnagar, Baralekha, Kamalganj, Srimangal, Kulaura upazila's in Moulvibazar District; Ajmiriganj, Nabiganj, Baniachong in Habiganj District as well as the other projects such as Monu River Irrigation project, haor projects etc. Kushiyara (Moulvibazar & Habiganj Districts), Juri, Monu, Dhalai etc. river basins along with the sub-catchment of the all tributaries and distributaries are included in these studies.

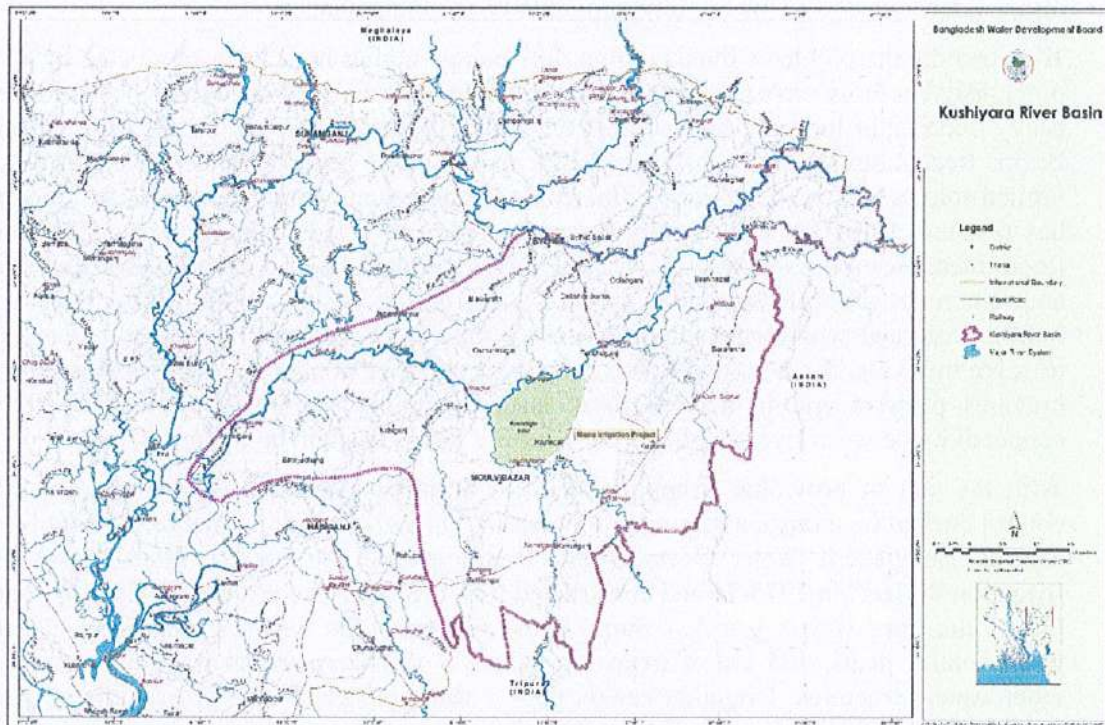


Figure 1: Analysis Area

2. Objectives

The overall objective of the study is to carry out a detailed feasibility study for comprehensive development of Kushiyara river basin focusing on integrated flood, water and river system management, drainage improvement and irrigation development for the improvement of socio-economic and overall environmental condition.

The specific objectives of the study are as follows:

- Review of the previous study reports, impact assessment of completed development projects and identify the prevailing problems (i.e. bank erosion,

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breaching in embankment, flash flood, monsoon flood, drainage condition, siltation, navigability, water scarcity, irrigation facilities etc. from water resources management perspectives) and underlying causes within the basin of the study area including rivers, its tributaries/ distributaries/ khals and relevant haors;

- Preparation of a holistic and integrated short, medium and long-term plan combining nature-based solution for integrated flood, water, river and haor management of whole Kushiya basin maintaining Environmental Flow requirement of all rivers and considering future land use pattern, climate change and sea level rise;
- Preparation of detailed design of proposed interventions for short-term plan and conceptual design for medium and long-term plan along with required resettlement action plan, dredging alignment and dredged material management plan;
- Detailed Environmental and Social Impact Assessment (ESIA) in the study area in a comprehensive way;
- Development of rehabilitation plan for Manu Irrigation Project and assessment of irrigation potentiality of the study area (i.e. Hakaluki Haor);
- Assessment of the project with respect to Environmental Sustainability, Climate Resilience and Disaster Risk and find the ways for reducing/mitigating negative impacts;
- Detailed cost estimate of the candidate projects in short term plan and qualitative cost estimate for the candidate projects in medium and long-term plan including economic and financial analysis to acquire the extended project outcomes.

3. Scope of the Works

The proposed study is expected to address the water management issues in the Kushiya river basin. The scopes of work are following but not limited to:

A. Data collection, survey and analysis:

- Review of previous study reports;
- Impact assessment of existing projects categorically and identification of problems;
- Collect and review of existing data, satellite images, maps, information and relevant available study reports;
- Detail mapping of in and around drainage network including rivers, tributaries, distributaries, linkage canal, khal, road network, haor, embankment and water control structures etc. in the Kushiya river basin;
- Develop a data collection map to conduct the study.
- Collection of all necessary secondary data such as bathymetry data, surface water, ground water, sediment, discharge, river bed sediment, soil sample, satellite imageries and so on;
- Carry out bathymetric survey, topographic survey, measurement of water level, discharge, current speed, wave, sediment concentration and all relevant data according to data collection map;



- Analyse the drainage congestion, flooding extent and dynamic erosion mechanism in details and demarcate the erosion prone areas along the bank of the Kushiyara river system;
- Identification and preparation of an inventory of structures (constructed by other organizations) that create obstacles to efficient drainage in the study area with present condition and necessary rehabilitation plan;
- Analysis of the impact of the structures to drainage, flood and erosion etc.;
- Analysis of time series bathymetric chart and satellite images;
- Identification of Chhara, Khal network, and river system and preparation of a map showing connectivity between river and other water bodies;
- Preparation of flow distribution map, river conveyance map, flood plain identification, and danger level fixation;
- Comparison of flood before and after embankments, road and other infrastructures;
- Previous flood asset loss and sustainable solution for this.
- Collection of damage data of the recent flood of 2024 in the Khowai and adjacent rivers.
- Flood risk mapping and pollution mapping.
- Assessment on the utilization of dredged materials of the rivers and haors for construction of submerged embankment.

B. Assessment of hydrologic and morphologic characteristics:

- Assessment of hydrological and morphological condition, fixing the boundary condition for model development and develop hydrological and morphological model including analysis of detail floodplain flow characteristics (using 2D overland flow model) in the study area to determine the optimum number of flood protection projects with optimum crest level of the submersible embankment, restore hydraulic connectivity between river and floodplains/haors that have been lost, and introduce/maintain several designated flood flow routes over the low-lying areas to mitigate flood severity in the haor area.;
- Formulation of options for restoration of connectivity between river and flood plains/haors, flood and water management options, options for rehabilitation of existing erosion vulnerable embankment, formulation of comprehensive river and haor management options based on the analysis of data and model results, and find the effectiveness of the options;
- Determination of the slope profile, avg. scour depth, avg. shear velocity, and bed shear at several locations to help in decision making;
- Assessment of the need and effectiveness of dredging on morphological processes;
- Assessment of climate change impacts on the selected option.
- Development of rehabilitation plan for Manu Irrigation Project and assessment of irrigation potentiality of the study area (i.e. Hakaluki Haor).
- Assessment of efficiency of Flood Fuse in the study area and identify suitable location for flood fuse.

C. Development of Short, Medium and Long Term Investment Plan and Design:

- Planning and design of flood, water, river and haor management measures for each haor and river separately and also in an integrated way for short, medium and long term investment plan;
- Review of the design of the existing interventions and recommend improving the existing design system;
- Identify existing navigation facilities and study potential of improving navigation through creating interconnecting links between the rivers/khals and its maintenance plan;
- Fixing the dredging alignment, design and estimating the volume of capital and maintenance dredging if needed;
- Preparation of dredged material management plan ensuring beneficiary use of the dredged material and following The Draft Dredging and Dredged Material Management Policies 2020;
- Detailed design with design considerations & construction sequence (showing in figure) of all the proposed interventions in short-term plan and conceptual design of the proposed interventions in medium and long-term plan;
- Incorporating the Delta Appraisal Framework (DAF) to align with the goals of BDP 2100 and principles of Adaptive Delta Management (ADM) .

D. Assessment with respect to Environmental Sustainability, Climate Resilience, and Disaster Risk Analysis

- Assessment of environmental, disasters and climate change impacts or risk from the projects;
- Disaster Impact Assessment (DIA);
- Planning the counter measures to reduce/mitigate these negative impacts;
- Determination of costs for reducing/mitigating the negative impacts;
- Finding alternative ways of the project deliverables without incurring these environmental costs;
- Selecting contingency plan for emergency disaster management;
- Determination of the rehabilitation period after, remaining risks and adequate risk reduction measures.

E. Environmental and Social Impact Assessment

- Establishment of physical, environmental and social baseline condition;
- Selection of valued environmental and social components impacted by the existing and proposed interventions in the project area;
- Assessment of environmental flow of the Kushiyara river system;
- Identification of important ecosystem (land/aquatic) and measures for conservation/restoring of the ecosystem of the study area;
- Social Impact Assessment (SIA) study due to implementation of the project interventions;



- Assessment of future development of agriculture, fisheries, navigation, urbanization etc.
- Assessment of land acquisition for establishing/restoration of rivers and preparing LAP & RAP
- Formulation of options for the development of fisheries production capacity;
- Environmental Impact Assessment (EIA) study of the proposed interventions;
- Environmental Management & Monitoring Plan;
- Preparation of environmental enhancement and conservation plan;
- Preparation of bio-diversity conservation plan;
- Collection of ESIA Clearance Certificate from DoE;
- Using the DAF tool to assess potential environmental and socio- economic impacts under present and future climate change and socio-economic uncertainties including demographic changes.
- Dissemination of the study results to all stakeholders by arranging workshops;
- Preparation of ESIA study reports;
- Presentation of the recommendations formulated based on the study at the District Coordination meetings and, as needed, at the District Water Management Committee.

F. Land Acquisition Requirement Assessment

- Collection of Mouza Maps (CS/SA/Diyara/BS map and Khatian);
- Assessment of land acquisition requirement and its amount;
- Reviewing land acquisition procedure and analysis alternative options to minimize amount of land to be acquired;
- Reviewing resettlement and compensation related act, rules and estimating the cost.
- Mouza wise assessment of total land acquisition based on CS/SA/Diyara/BS map and Khatian as per their classes.
- Identification of all illegal structures/encroachment that create obstacles to sustainable water resource management and efficient drainage in the study area, preparation of inventory of the encroachment based on CS/SA/Diyara/BS map and Khatian as per their classes with plan to eviction of illegal encroachment;
- Carry out detailed digital topographical survey to find out the total number of shops, markets, tin-shed/pucca/semi-pucca houses, mosques, temples, graveyards, crematoriums, schools, madrasahs etc. which will be affected by this proposed project.
- Assessment of total costing of land acquisition with all kinds of compensation.
- Preparation of Land Acquisition Plan (LAP) and Resettlement Action Plan (RAP).
- Preparation of legal and administrative framework for land acquisition.







G. Economic and Financial Analysis

- Preparation of detailed cost estimate of the candidate projects as per DPP format on the basis of recent actual schedule of rates in the short-term investment plan;
- Preparation of qualitative cost estimate of the candidate projects as per DPP format in the medium and long-term investment plan;
- Estimation of Benefits to be derived after implementation of the proposed project;
- Estimation of BCR, EIRR, NPV of each planning option based on the with and without project situation
- Detailed financial and economic analysis.

H. Workshops and Reports

- Workshop and consultation meetings for disseminating the study results to relevant stakeholders;
- Preparation of Inception Report, Interim, Draft Final and Final feasibility study report according planning commission format compiling the technical, social, environmental and economic aspects;
- Preparation of ESIA Report.

4. Expected Output and Outcome

The key components of the expected output of the study are:

- Index map and project map with inventory of existing structures;
- Inventory of the existing water related structures with present status;
- Flow Distribution Map, River Conveyance Map, Flood Plain Identification, Danger Level Fixation.
- Rehabilitation plan of existing Water and Flood management Projects.
- Rehabilitation plan of existing Manu Irrigation Project with detail design of proposed structures.
- Possible irrigation management plan of the study area (i.e. Hakaluki Haor) with detail design of proposed structures.
- Comprehensive Management plan for Kushiyara River, its tributary, distributary, inter-connecting khals, Haors separately and an integrated basin management plan.
- A comprehensive plan for sustainable and integrated water and flood management.
- Detail design, alignment and quantity of dredging/re-excavation of rivers/khals/haors and dredged material management plan.
- Inventory of structures (constructed by other organizations) that create obstacles to efficient drainage in the study area with present condition and rehabilitation plan of these structures with responsibilities of the various implementing agencies;
- Efficiency, location and details design of Flood Fuse in the study area.
- Location, length and alignment of river reaches requires bank protection measures.

- Land acquisition plan (LAP) and resettlement action plan (RAP) etc.
- Detailed design of all the proposed interventions in short-term plan and conceptual design of the proposed interventions in medium and long-term plan.
- Base map with Geo-referencing of the study area including in and around drainage network, road network hydro-meteorological stations and other important topographic features.
- Inventory of all illegal structures/encroachment that create obstacles to sustainable water resource management and efficient drainage in the study area based on CS/SA/Diyara/BS map and Khatian as per their classes with plan to eviction of illegal encroachment;
- Detailed cost of the project with economic and financial analysis.
- B/C ratio, EIRR, Cost Estimates of the proposed interventions.
- Environmental and Social baseline condition of the project and ESIA of proposed interventions.
- Environmental Management Plan (EMP), which should include:
 - Mitigation Plan.
 - Enhancement Plan.
 - Compensation Plan.
 - Environmental Monitoring Plan.
- Specific and clear recommendations about the proposed project.
- Feasibility Study report of the overall development plan (Prescribed Feasibility study report format of Planning Commission by following the indicators of DAF).

Any other, as deemed to be necessary, in compliance with the Scope of Works.

[All recommendations should be specific and clear.]

Outcome:

Comprehensive water resources management plan of Kushiyara river basin which will lead to increase in food security, decrease in water related disasters, and overall socio-economic development in Kushiyara river basin area.

5. Duration of the Services and Reporting

The duration of the study is 18 months, and the schedules of submission of deliverables are as follows:

Sl. No	Report Name	No. of copies	Deadline
1	Inception Report	20 hard copies and soft copy	At the end of 3 rd month from the date of the contract
2	Progress Report	10 hard copies and soft copy	At the end of 6 th month from the date of the contract
4	Interim Report	20 hard copies and soft copy	At the end of 9 th month from the date of the contract



Sl. No	Report Name	No. of copies	Deadline
7	Draft Final Report	20 hard copies and soft copy	At the end of 16 th month from the date of the contract (ESIA Report to be submitted as separate volume), Detailed Design (3 copies).
8	Final Report	20 hard copies and soft copy	At the end of 17 th month from the date of the contract including ESIA reports and Approved detail design.

N.B. Hard and Soft copies (along with CD/DVD and Portable Hard Drive) of all the reports, presentations, data, cross-sections, long profile, documents, model setup etc. have to be submitted to BWDB. Data and reports will be copyright property of BWDB. No part of this report may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods without the prior written permission of BWDB.

The office of the Procuring Entity at BWDB would be representing BWDB and receiving all the deliverables mentioned above. Review meetings with participation of concerned Planning, Design and Field level officials of BWDB would be held on Inception, Interim and Draft Final Reports. The procuring entity office would communicate with other line departments and all concerned for consultation, sharing of ideas and to discuss the findings as well as disputes.

6. Dissemination of Study Results

- Workshop and consultation meetings for disseminating the study results to relevant stakeholders;
- Preparation of Inception Report, Interim, Draft Final and Final feasibility study report according to planning commission format compiling the technical, social, environmental and economic aspects.

7. Seminar/Conference/Workshop

The consultant will arrange 1 (one) extended consultation workshop in the study area after the submission of Draft Final Report (DFR). Goal of arranging these workshops is to disseminate the study results among stakeholders, different government and non-government officials working in water and social sector, local administration, intellectuals, thinkers, representatives from development partners etc. The PE office shall provide necessary support to arrange the workshops.

8. Personnel and qualifications

It is estimated that to carry out the study requires **25 Professional** of **92 Man-Months**.

a) Key Personnel

It is estimated that to carry out the study requires **12 Key Professional** of **45 Man-Months**. The composition of the team and their man-months is given below.

Sl. No.	Professionals	No. of Persons	Month	Quantity (Man-Month)
1	Team Leader	1	6	6
2	Morphologist cum Morphological Modeler	1	3	3
3	Hydrologic and Hydrodynamic Modeler	1	4	4
4	Flood, Irrigation & Drainage Management Specialist	1	4	4
5	Sr. Design Engineer (Civil)	1	4	4
6	Sr. Mechanical Engineer	1	3	3
7	Sediment and Dredging Management Specialist	1	2	2
8	Sr. Electrical Engineer	1	3	3
9	Land Acquisition and Resettlement Specialist	1	4	4
10	Environmentalist	1	4	4
11	Sociologist	1	4	4
12	Economist	1	4	4
Sub-Total (key)		12		45

b) Non-key Personnel

It is estimated that to carry out the study requires **13 Non-key Professional** of **47 Man-Months**. The composition of the team and their man-months is given below.

Sl. No.	Professionals	No. of Persons	Month	Quantity (Man-Month)
1	Junior Hydrologic and Hydrodynamic Modeler	1	4	4
2	Fishery Specialist	1	3	3
3	Agronomist	1	3	3
4	Disaster Risk Management Specialist	1	3	3
5	GIS & Remote Sensing Specialist	1	3	3
6	Survey Specialist	1	3	3
7	Junior Design Engineer (Civil)	2	4	8
8	Junior Engineer	5	4	20
Sub-Total (non-key)		13		47

c) Key Personnel Qualification

Sl.	Professionals	Qualification	Responsibilities
1.	Team Leader	Master's Degree in Civil/Water Resources Engineering/ Hydrology/ Hydraulic Engineering/Environmental Science or equivalent.	<ul style="list-style-type: none"> • Guide and supervise the study team in carrying out the study program; • Responsible for formulation of specifications and strategy for data collection, processing and planning of improvement measures;



Sl.	Professionals	Qualification	Responsibilities
		<p>Higher degree in relevant subject is preferred. He/she should have 20 years of including 15 years' experience in carrying out feasibility in water resources planning, dredging and river management, flood management, drainage improvement, experience as a lead member in a multi-disciplinary team for preparation/evaluation of feasibility study for a FCDI project in haor region, impact assessment of integrated water resources interventions and field execution of such project.</p>	<ul style="list-style-type: none"> • Lead role to analyse the previous bottlenecks in the projects, present situation and advise all necessary way-outs from such causality; • Carry out overall co-ordination and top supervision of the different study activities and maintain close liaison with the client all sub-ordinates; • Review and study the existing project and identify problems; • Formulate strategy and action plan for the study; • Quality control of all primary and secondary data collection, modelling and devising outputs; • Review the hydraulic regimes of the river of the study area. • Developing baseline condition of flooding and drainage features of the study area; • Review and update hydrodynamic model for the study area; • Development of several options for flood management and drainage improvement. • Carry out dredged materials management plan for the study (if any) • Organise interaction meetings with local stakeholders and BWDB officials and workshop to disseminate study results; • Attending meeting as and when required; • Responsible to prepare and present Inception, Interim, Draft Final and Final Report.
2.	Morphologist cum Morphological Modeler	<p>Master Degree in Civil/Water Resources Engineering/ Hydrology or equivalent. Higher degree in relevant subject is preferred. He/she should have 15 years of professional experience including 10 years of working experience in hydraulics and water resources engineering, morphological modeling, flood management,</p>	<ul style="list-style-type: none"> • Review existing morphological condition of the study area; • Suggest data collection plan for morphological study sediment sampling and modelling; • Guide data analyst to carry out morphological data analysis; • Development, calibration and validation of morphological model of rivers; • Simulation of developed morphological model for scenario studies; • Assess the river behavior under different scenarios;

Sl.	Professionals	Qualification	Responsibilities
		drainage improvement projects etc.	<ul style="list-style-type: none"> Analyze and interpret the sediment data and develop morphological model to assess the morphological changes in river; Assessment of re-siltation rate in the river; Supervise laboratory data analysis; Attend meeting as and when required; Any other work that may be necessary for successful planning.
3.	Hydrologic and Hydrodynamic Modeler	Master Degree in Civil/Water Resources Engineering/ Hydrology or equivalent. Higher degree in relevant subject is preferred. He/she should have 15 years of professional experience including 10 years of working experience in projects involving river hydraulics, numerical modelling. Previous experience in similar environment will be preferred.	<ul style="list-style-type: none"> Establish the baseline hydrological and hydrodynamic condition of the study area; Set-up, calibration and verification of 1D, 2D hydrological and hydrodynamic model; Interpret model results in accordance with the requirement; Devise the design parameters for different proposed protection works and infrastructure; Rainfall Analysis and reserve the rain water for different uses; Assess the hydraulic condition and water availability in the project area; Participation in meetings with BWDB as and when required; Contribution to reports.
4.	Flood, Irrigation & Drainage Management Specialist	Master Degree in Civil/Water Resources Engineering/ Hydrology or equivalent. Higher degree in relevant subject is preferred. He/she should have 15 years of professional experience including 10 years of working experience in flood management, irrigation and drainage related project.	<ul style="list-style-type: none"> Carry out irrigation and drainage management related data collection. Considering the water availability and physical constrains, suggest future cropping pattern. Assessment of appropriate irrigation method. Provide training on irrigation management Assessment of total irrigation and drainage management requirement; Contribute in report writing and review milestone report.
5.	Senior Design Engineer (Civil)	Master Degree in Civil/Water Resources Engineering/ Hydrology or equivalent. Higher degree in relevant subject is preferred. He/she should have 15 years of	<ul style="list-style-type: none"> Review existing hydraulic structures in the study area; Suggest data collection plan to carry out detail design of structures; Suggest suitable structures to carry out planning of proposed project; Supervise detail design [with design

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Sl.	Professionals	Qualification	Responsibilities
		<p>professional experience including 10 years of working experience in planning and design of hydraulic structures.</p>	<p>considerations & construction sequence (showing in figure)] of recommended interventions;</p> <ul style="list-style-type: none"> • Revisit the existing design and design the structure for improvement of functionality; • Assist team leader as and when required; • Attend in meetings and workshop as and when required; • Any other work that may be necessary for successful planning.
6.	Senior Mechanical Engineer	<p>Master Degree in Mechanical Engineering or equivalent. Higher degree in relevant subject is preferred. He/she should have 15 years of professional experience including 10 years of working experience in water resources related Projects and design of Hydraulic Structures.</p>	<ul style="list-style-type: none"> • Prepare design criteria for mechanical works; • Prepare specifications and cost estimate of all mechanical works; • Prepare design criteria and specification for Different Pumps and related equipment; • Prepare necessary design drawings and report of mechanical works including design criteria, data, Specification, all calculation and drawing etc; • Participating in meetings and workshop when and where required. • Any other work that may be necessary for successful planning
7.	Sediment and Dredging management specialist	<p>Bachelor Degree in Civil/Water Resources Engineering/ Hydrology or equivalent. Higher degree in relevant subject is preferred. He/she should have 12 years of professional experience including 10 years of working experience in river morphology, hydraulics and water resources engineering with experience in sediment analysis, sediment modelling and dredging.</p>	<ul style="list-style-type: none"> • Identify the present morphological process of the whole Kushiyara river system; • Establish baseline morphological behavior based on model result and available data; • Formulation of sediment sampling strategy; • Analysis and interpretation of the sediment data; • Assess the scouring, river bank erosion) and sedimentation rate in the river; • Supervise the laboratory analysis of collected data; • Analysis of the overall sedimentation process in the main drainage channel; • Carry-out sediment modelling to predicate the sedimentation rate; • Contribute in preparing the reports and preparation of workshop materials; • Quantify the amount of capital and

Sl.	Professionals	Qualification	Responsibilities
			<p>maintenance dredging</p> <ul style="list-style-type: none"> • Prepare Dredged Material Management Plan.
8.	Senior Electrical Engineer	<p>Master's degree in Electrical Engineering. Higher degree in relevant subject is preferred. S/he should have 15 years of professional and 10 years of working experience in Water related Projects and design of Hydraulic Structures.</p>	<ul style="list-style-type: none"> • Prepare design criteria for electrical works; • Prepare specifications and cost estimate of all electrical works; • Prepare design criteria and specification for Different Pumps and related equipment; • Prepare necessary design drawings and report of electrical works including design criteria, data, Specification, all calculation and drawing etc; • Participating in meetings and workshop when and where required. • Any other work that may be necessary for successful planning;
9.	Land Acquisition and Resettlement Specialist	<p>Master's degree in Social Welfare/Sociology with 12 years or more professional experiences including 10 years' experience in land acquisition and resettlement in water sector including irrigation project. Advanced academic/professional qualifications will be preferred. Higher degree in relevant subject is preferred.</p>	<ul style="list-style-type: none"> • Demarcation of the existing acquired land/disputed land (if any) on CS/RS map under this project; • Analyzing and interpreting the data on CS/RS map; • Formulate a Land Acquisition Plan (LAP) and Resettlement Action Plan (RAP) and associated cost of relocation for project components along with Sociologist; • Attending meeting as and where required; • Maintain liaison with required other agencies; • Assisting team leader in co-ordinating the study.
10.	Environmental list	<p>Bachelor's Degree in Civil Engineering/ Water Resource Engineering / Master's Degree in Natural Sciences (Agriculture, Agronomy, Zoology, Botany, Environment and Ecology). Higher degree in relevant subject is preferred. S/he should have 12 years' professional experience and 10 years of working experience in preparing EIA/IEE in accordance with the rules</p>	<ul style="list-style-type: none"> • Review existing environmental condition of the study area • Suggest data collection plan to study environmental setting of the study area; • Prepare base environmental condition of the project area; • Conduct EIA due to implementation proposed project components; • Prepare EIA report including EMP in accordance with DOE and WARPO's guidelines; • Assist BWDB in dissemination and explanation of additionally confirmed and identified environmental issues to

Sl.	Professionals	Qualification	Responsibilities
		and guideline in Water Management Projects.	<p>public including holding public consultations;</p> <ul style="list-style-type: none"> • Assist BWDB in obtaining Environmental Clearance from DOE through presentation of EIA to DOE after submission of necessary NOCs and fees by BWDB; • Present Draft EIA report to BWDB for comments; • Present the EIA report to DOE for necessary environmental clearance; • Assist team leader as and when required; • Attend in meetings and workshop as and when required; • Any other work that may be necessary for successful planning;
11.	Sociologist	Masters in Sociology / Social Welfare / Statistics. Higher degree in relevant subject is preferred. S/he should have 12 years' professional experience and 10 years of working experience in sociological activities & field survey, i.e. interaction with the stakeholders, holding Focus Group Discussion (FGD), Target Group Discussion (TGD), Key Information Interview (KII) and work-shops/seminars at field level to find out the desired goal of the study and to disseminate the results of the study.	<ul style="list-style-type: none"> • Review existing social status of the project area; • Suggest data collection plan for social study; • Intensive field visit for collecting views of the local people, their present socio-economic activities and problems; • Identification of future probable social negative impacts of the project and social imbalance; • Consultation with local people about the potential scenarios of flood control and drainage improvement; • Arrange interaction meeting with the local stakeholders for selecting the proper alignment of the peripheral embankment and suitable locations of structures to be proposed; • Maintain close coordination among BWDB, Local Govt. Institutions (LGIs), and local stakeholders; • Assist in preparation of Final Report containing all the requirement of BWDB for the feasibility study; • Assist team leader as and when required; • Attend in meetings and workshop as and when required; • Any other work that may be necessary for successful planning;

Sl.	Professionals	Qualification	Responsibilities
12.	Economist	Master's degree in economics. Higher degree in relevant subject is preferred. S/he should have 12 years professional experience and 10 years of working experience in economic appraisal of agriculture sector project, natural resources management, physical and monetary valuation of possible environmental impacts.	<ul style="list-style-type: none"> • Collect, compute analyze and evaluate the socio-economic data of the project; • Assessment of cost that are related to economic benefits; • Identify all costs and benefit based on engineering, agronomic, social analysis including with and without project scenario; • Perform the economic and financial analysis of the proposed intervention in order to assess the economic and financial feasibility; • Any and all other works necessary for proper study. • Conduct necessary economic analysis including benefit-cost ratio, EIRR, NPV etc.; • Assessment of costs arising out of mitigation measures (or external dis-benefits); • Conclusion of socio-economic viability of each planning option and the project as a whole; • Prepare annual expenditure schedule; • Assist the Team Leader in preparation of Final report containing all the requirements of BWDB for the feasibility study. • Any other work that may be necessary for successful planning;

d) **Non-key Personnel Qualification**

Sl.	Professionals	Qualification	Responsibilities
1.	Junior Hydrologic and Hydrodynamic modeler	Bachelor degree in Civil Engineering/Water Resources Engineering with 05 years of professional experiences including 03 years of working experience in projects involving river hydraulics, numerical modelling. Previous experience in similar environment will be preferred. Higher degree in relevant subject is preferred.	<ul style="list-style-type: none"> • Establish the baseline hydrological and hydrodynamic condition of the study area; • Set-up, calibration and verification of 1D, 2D hydrological and hydrodynamic model; • Interpret model results in accordance with the requirement; • Devise the design parameters for different proposed protection works and infrastructure; • Rainfall Analysis and reserve the rain water for different uses; • Assess the hydraulic condition and water availability in the project area;

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			<ul style="list-style-type: none"> • Participation in meetings with BWDB as and when required; • Contribution to reports.
2.	Fishery Specialist	<p>Master's degree in Fisheries Science/ Zoology. Higher degree in relevant subject is preferred. S/he should have 12 years' professional experience and 8 years of working experience in fishery study, evaluation of fishery benefits of a project between pre & post project condition by introducing improved fisheries Activities.</p>	<ul style="list-style-type: none"> • Collect the inventory of the fish species and fish habitats found in the study area; • Fishermen and fish market survey for establishing the baseline conditions; • Compile and analyze necessary information related to fish culture, spawning of fishes such as spawning time, river condition, weather condition, water quality, habitat of mother fish, etc. within the study area; • Assess benefit of the proposed project with respect to fisheries and aquaculture aspects; • Contribute in report writing, attend meeting, workshop, etc.; • Assist the Team Leader as and when require. • Any other work that may be necessary for successful planning;
3.	Agronomist	<p>Master's degree in Agriculture / Crop Science. Higher degree in relevant subject is preferred. S/he should have 12 years' professional experience and 8 years of working experience in field survey, evaluation of agricultural benefits of a project between pre-& post project condition by introducing improved agricultural practices.</p>	<ul style="list-style-type: none"> • Collection and analysis of existing agricultural data and information (irrigated area, cultivated area with crops and yields, crop damaged area etc.) from secondary sources; • Carry out comparative study between present agriculture and level of production with the future to assess the financial and economic feasibility of the project; • Assessment of present agricultural situation with areas and cropping patterns based on soil type and fertility status, farming practices those influences the present cropping patterns, present cost of cultivation, availability livestock, and draft power, present irrigation use and method of application, present availability of extension services, present average yield per hectare, present use of fertilizer and pesticides; • Preparation of crop suitability map for the area; • Any other assignment given by the Team Leader; • Contribute in preparing the report and reparation of workshop materials.

			<ul style="list-style-type: none"> • Any other work that may be necessary for successful planning;
4.	Disaster Risk Management Specialist	<p>Bachelor's Degree in Civil Engineering/ Water Resource Engineering / Master's Degree in Natural Sciences. Higher degree in relevant subject is preferred. He/she should have 12 years of professional experience and 08 years of working experience in preparing DIA in accordance with the rules and guideline in Water Management Projects.</p>	<ul style="list-style-type: none"> • Review existing disaster risk condition of the study area • Suggest data collection plan to study disaster risk management setting of the study area; • Prepare base disaster management condition of the project area; • Conduct DIA due to implementation proposed project components; • Assist BWDB in dissemination and explanation of additionally confirmed and identified disaster management issues to public including holding public consultations; • Present Draft DIA report to BWDB for comments; • Assist team leader as and when required; • Attend in meetings and workshop as and when required; • Any other work that may be necessary for successful planning;
5.	GIS & Remote Sensing Specialist	<p>Master's in Bachelor's degree in Civil Engineering/Water Resources Engineering or equivalent. Higher degree in relevant subject is preferred. He/she should have 05 years of professional experience and 03 years of working experience in leading a field data collection program of water resources management project.</p>	<ul style="list-style-type: none"> • Prepare necessary GIS coverage (.shp) files based on field survey data and satellite images; • Preparation of index map and other maps of project area; • Preparation of project map showing existing and proposed infrastructures; • Preparation of maps for workshops and reports; • Assist team leader and other study team members as and when required; • Any other work that may be necessary for successful planning;
6.	Survey Specialist	<p>Bachelor's degree in Civil Engineering/Water Resources Engineering Urban and Rural Planning/Hydrology /Geography or equivalent. Higher degree in relevant subject is preferred. S/he should have 10 years of professional experience and 06 years of working experience in remote</p>	<ul style="list-style-type: none"> • Field visit and discussion with study team; • Formulate field data collection plan & schedule; • Lead and supervise the field data collection team with necessary safety measures; • Maintain close and intensive co-ordination with the field officials of BWDB and the local people; • Inform the status and progress of the data collection activities regularly to the

		sensing image analysis, producing GIS coverage, contour map, Digital Elevation Model.	<p>BWDB and other concerned;</p> <ul style="list-style-type: none"> • Responsible for timely completion of data acquisition in accordance with the specification mentioned in the ToR; • Attending meeting as and when required; • Assist the Team Leader as and when require. • Any other work that may be necessary for successful planning
7.	Junior Design Engineer (Civil)	<p>Bachelor's Degree in Civil/Water Resources Engineering (Higher degree in relevant subject is preferred) having a minimum of 05 years of professional experience with 03 years' experience in design of hydraulic structures. Previous experience in similar working environment will be preferred. S/he should have 03 years of experience in design of hydraulic structures. Design Engineer will be responsible for design of alternative structures/measures. S/he will calculate the cost estimate and compare the alternatives.</p>	<ul style="list-style-type: none"> • Design of recommended interventions; • Assist the senior Design Engineer for detailed design of proposed bank protective works, various water control structures, dredging section of river/khals etc.; • Preparation of cost estimates of the interventions on the basis of recent actual schedule of rates; • Preparation of different reports as required for the proposed study; • Any other work that may be necessary for successful planning;
8.	Junior Engineer	<p>Bachelor's degree Civil Engineering/ Water Resources Engineering or equivalent. Higher degree in relevant subject is preferred. He/she should have 03 years' experience in collection and analysis of different types of data including sediment, discharge, water level, flow velocity etc.</p>	<ul style="list-style-type: none"> • Compile collected data from either field survey and secondary sources under the guidance of the respective experts; • Consistency checking of collected data; • Carry out analysis of data required for study; • Provided necessary support with data for other task required for performance by the Study Team; • Analyse of all the surveyed data; • Assist the feasibility study team • Assist and participate in FGD, KII during the field visit. • Any other work that may be necessary for successful planning;






9. Study Organization, Duties and Responsibilities

9.1. BWDB's Responsibilities

The Consultant shall work under the direct supervision of the office of the Procuring Entity (PE), BWDB, Dhaka. The Hydrology wing of BWDB shall assist the project team as required, particularly with regard to the hydrological and morphological aspects of the study. The PE would also ensure the involvement of concerned officials of BWDB in survey works, field data collection activities as and when required by the consultant. Field survey and field data collection will be done by the consultant in close consultation with the concerned field Executive Engineers and design office of BWDB under the guidance of the concerned Superintending Engineers.

The PE of this project will ensure that the objective of the study as detailed in the ToR would be achieved within all agreed time schedule and that the contents of the report are acceptable to GoB and will direct the planning process and work program, supervise the study and monitor progress according to the objectives set in ToR. BWDB will only bear the cost of the items that were mentioned in the reimbursable cost. Other unspecified costs won't be borne by BWDB.

The PE of this project will arrange regular meetings between the consultant and BWDB professionals and concerned officials from other agencies to discuss technical and project management issues. Any unresolved issue either technical or otherwise shall be taken up with BWDB's senior engineers (Chief Engineer (Civil) Planning, concerned Chief Engineers, Chief Engineer (Civil) Monitoring, Chief Engineer Design and Chief Engineer (Civil) Hydrology or other GoB agencies as required). BWDB shall provide or make available the following data, services and facilities to the consultants, as per existing rules of BWDB. Concerned Design office will supervise the design and drawing and guide the consultant.

- Available hydrological, morphological, meteorological data and records on rivers and khals of the Study Area following existing BWDB data acquisition rules;
- Available contour maps, aerial photographs, mosaics, maps and previous study reports of the Study Area, if required;
- Any other services, available with BWDB, to help the consultants to carry out the data collection and project evaluation program as per ToR;
- Necessary guidance on study activities when required;
- Duty station and institutional arrangement of consultants should be in Dhaka and no rent or office space will be provided from client.
- Selection of consultancy service will be done by QCBS method following the GoB procurement guideline PPA-2006 and PPR-2025.
- Any clarification required about this document for clear understanding of the process of conducting project evaluation.

9.2. Consultant's Responsibilities

The consultant should carry out the services as detailed in "Objectives, Scope of Works and Expected outputs" in the best interest of the Government with reasonable care, skill and diligence with sound engineering, administrative and financial practices. The Consultants should be responsible to the client (BWDB) for discharge of responsibilities. It will be the responsibility of the consultant to collect all related information and data required for conducting the study. The consultant shall maintain full and continuous liaison with the BWDB concerned project and field offices. Throughout the consultancy period, the

20

consultant's activities will be reviewed time to time by BWDB conforming to the schedule of time. The consultant at every stage starting from planning of the study, developing methodology, conceptual solutions, river management plan, flood and drainage improvement measures, revision of plan, developing mathematical model etc. will meet with the expertise of BWDB to explain the issue and based on the discussion they will improve the measures. The consultant team will also take the opinions from the officials of relevant sectors through Technical Committee meeting. The study must be complied with Bangladesh Delta Plan 2100, Sustainable Development Goals (SDG), Bangladesh Water Act-2013, Bangladesh Water Rules-2018 and relevant acts, Rules, regulation, policies.

Reports prepared and submitted by the consultants shall be reviewed and approved in tripartite meeting. The consultant will strictly follow the objectives, scope of works, and outputs of the study. All the collected raw and processed data, reports and developed models with input data considerations are to be handed over to BWDB in GIS and any other format what so ever used in the study in soft copies. After completion of the study Printer and Computer accessories should be handed over to BWDB. The publication of the data and used in the study of third party require prior written permission of BWDB. In response to that, the consultant should-

- Make available all the primary and secondary data (entire set of information involving audio-visual recordings) to BWDB or other agencies concerned as and when required. Data and information would be submitted to the client both in hard and soft copies;
- Make necessary arrangements for site investigation, environmental and social survey & data collection as needed for performance of the assigned task and evaluation thereby;
- Provide all support for the effective delivery of the services as stipulated in the objectives, scope of works and expected outputs written in the ToR;
- Actively join the workshops with regard to the purpose of the study in presence of the BWDB officials and other stakeholders both at the project area;
- All types of technical support (like preparation of maps on necessity of the client and any other information related to the task the consultant is assigned with) to be provided to the client;
- Consultant will prepare design under the supervision and guidance of concerned design office.

All the stakeholder consultation sessions would be recorded for future documentation. Video recording would be done and the clips should be handed over to the client. Discussants would be introduced with necessary introductory information and mobile phone number duly incorporated in the reports. Discussion points should be focused properly and addressed accordingly.

10. Payment Schedule

Payments shall be made in line with agreed-on outputs according to the following schedule:

- **Inception Report:** Twenty (20) percent of the lump-sum Contract Price shall be paid upon submission of the Inception Report duly accepted by the Client.
- **Interim Report:** Twenty (20) percent of the lump-sum Contract Price shall be paid upon submission of the Interim Report duly accepted by the Client.



- **Draft Final Report:** Thirty (30) percent of the lump-sum Contract Price shall be paid upon submission of the Draft Final Report duly accepted by the Client.
- **Final Report:** Thirty (30) percent of the lump-sum Contract Price shall be paid upon submission of the Final Report duly accepted by the Client.

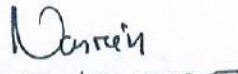
The objectives, scope of works, expected output etc. were properly evaluated and the Terms of Reference (ToR) was prepared by the ToR and Estimate Preparation Committee. Thus, the ToR is hereby forwarded for kind approval.


23.12.25
(Dr. Md. Khairul Islam)

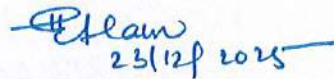
Superintending Engineer (Civil)
Directorate of Planning-1, BWDB, Dhaka
& Member-Secretary, ToR and Estimate
Preparation Committee


23.12.25
(M. Abdur Rakib)

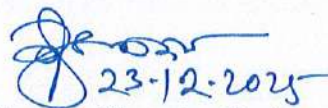
Executive Engineer (Civil)
Directorate of Planning-1, BWDB, Dhaka
& Member, ToR and Estimate Preparation
Committee


23.12.2025

(Shamima Nasrin)
Executive Engineer (Civil)
Design Circle-9, BWDB, Dhaka
& Member, ToR and Estimate Preparation
Committee



23/12/2025

(Md. Hafizul Alam)
Superintending Engineer (Civil)
Contract & Procurement Cell, BWDB, Dhaka
& Member, ToR and Estimate Preparation
Committee


23-12-2025

(Dr. Shamal Chandra Das)
Chief Engineer (Civil) Planning,
BWDB, Dhaka
& Convener, ToR and Estimate Preparation Committee

Approved.


20.01.2025

(Md. Enayet Ullah)
ID No. 670705001
Director General
BWDB, Dhaka.

পানি সম্পদ মন্ত্রণালয়ের যাচাই কমিটির সভার কার্যবিবরণী

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পানি সম্পদ মন্ত্রণালয়
পরিকল্পনা-৩ শাখা,
জাতীয়কোষ সচিবালয়, ঢাকা
www.mowr.gov.bd

বাংলাদেশ পানি উন্নয়ন বোর্ড কর্তৃক প্রস্তাবিত "কুশিয়ারা নদীর অববাহিকার সমন্বিত নদী, বন্যা ও পানি ব্যবস্থাপনার নিমিত্ত সম্ভাব্যতা সমীক্ষা" প্রকল্পের ডিপিপি'র ওপর ১১-১২-২০২৫ তারিখে অনুষ্ঠিত জারী কর্মসূচির সভার কার্যবিবরণী।

সভাপতি	
সভার তারিখ	১১/১২/২০২৫
সভার সময়	বেলা ০১.৩০ ঘটিকা
স্থান	পানি সম্পদ মন্ত্রণালয়ের সভাকক্ষ
উপস্থিতি	পরিশিষ্ট-৩

উপস্থিত সকলকে স্বাগত জানিয়ে সভাপতি সভার কার্যক্রম শুরু করেন। সভাপতির অনুমতিক্রমে সভাকে অবহিত করা হয় যে, "কুশিয়ারা নদীর অববাহিকার সমন্বিত নদী, বন্যা ও পানি ব্যবস্থাপনার নিমিত্ত সম্ভাব্যতা সমীক্ষা" শীর্ষক প্রকল্পটি মোট ৪৯৯.০০ লক্ষ টাকা প্রাক্কলিত ব্যয়ে জুলাই/২০২৫ থেকে জুন/২০২৭ পর্যন্ত মেয়াদে বাস্তবায়নের নিমিত্ত বাপাউবো কর্তৃক প্রস্তাব করা হয়েছে। প্রস্তাবিত সমীক্ষা প্রকল্পের সামগ্রিক উদ্দেশ্য হল কুশিয়ারা নদী অববাহিকার সমন্বিত বন্যা, পানি এবং নদী ব্যবস্থাপনা, নিষ্কাশন ব্যবস্থা, এবং সেচসহ সামাজিক-অর্থনৈতিক এবং সামগ্রিক পরিবেশগত অবস্থার উন্নয়নের নিমিত্ত একটি বিস্তারিত সম্ভাব্যতা সমীক্ষা সম্পাদন করা। সভায় আরও অবহিত করা হয় যে, এটি এ সমীক্ষা প্রকল্পের ওপর যাচাই কমিটির মূলত ২য় সভা। ১ম সভাটি ১১/১১/২০২৪ তারিখে অনুষ্ঠিত হয়েছিলো এবং সে সভায় সমীক্ষা প্রকল্পের ব্যয় বৌদ্ধিকভাবে সংকোচন করে পুনরায় উপস্থাপনের সিদ্ধান্ত গৃহীত হয়েছিলো। সে প্রেক্ষিতে পুনর্গঠিত প্রস্তাবনা পেশ করা হয়েছে এবং সেই আলোকেই আজকের সভা অনুষ্ঠিত হচ্ছে।

২.০। আলোচনাঃ

২.১। সভাপতির অনুমতিক্রমে বাপাউবো'র পক্ষ হতে সভাকে অবহিত করা হয় যে, সমীক্ষা এলাকার মধ্য দিয়ে প্রবাহিত কুশিয়ারা বাংলাদেশের উত্তর-পূর্ব অঞ্চলের বন্যা ব্যবস্থাপনার জন্য সবচেয়ে গুরুত্বপূর্ণ অববাহিকা। প্রতি বছর প্রাক-বর্ষা বা বর্ষাকালে পানির কুশিয়ারা নদীর অববাহিকায় অবস্থিত নদীসমূহে অতিরিক্ত প্রবাহের কারণে নদীগুলো তীর ভাঙন ও আকস্মিক বন্যার সম্মুখীন হয় যা বোরো ধান এবং ভূবল বীধসহ অন্যান্য অবকাঠামোর ক্ষতিসাধন করে। অপরিষ্কৃত ড্রেনেজ নেটওয়ার্ক ও নদীসমূহের তলদেশে পলি সঞ্চিত হওয়ার কারণে বর্ষা মৌসুমে নিষ্কাশন কার্যকারিতা হ্রাস, বন্যার প্রকোপ বৃদ্ধি এবং শুষ্ক মৌসুমে পানি প্রবাহ হ্রাস পেয়েছে। এছাড়া অত্র এলাকায় সুরমা-কুশিয়ারা নদীর দুই পাড়ে বিভিন্ন সময় বাপাউবো কর্তৃক বন্যা নিয়ন্ত্রণ বীধ নির্মাণ করা হয়েছে, যা সঠিক রক্ষণাবেক্ষণ এবং পর্যাপ্ত মেয়ামতের অভাবে নাজুক অবস্থায় আছে।


২.২। এই অঞ্চলের সমস্যাগুলো সমাধান করতে বাংলাদেশ পানি উন্নয়ন বোর্ড (বাপাউবো) পূর্বে কয়েকটি আংশিক সমীক্ষা করেছে, তবে সেগুলো স্থানীয় সমস্যাগুলো সমাধান করতেই সীমাবদ্ধ ছিল। ২০২৪ সালের জুন ও আগস্ট এই অঞ্চলে প্রচণ্ড বন্যা কুশিয়ারা বেসিনের বেশ কয়েকটি উপজেলার উপর গুরুতর নেতিবাচক প্রভাব ফেলেছে। সাম্প্রতিক বন্যাগুলো থেকে স্পষ্ট যে, পূর্ববর্তী সীমিত সমীক্ষা ও প্রকল্পগুলোর মাধ্যমে সমগ্র এলাকার সমস্যা সমাধানে কার্যকর ফল পাওয়া যায়নি। বন্যাপ্রবণ এলাকায় অতি দ্রুত নগরায়ণ, নদীর অবৈধ দখল এবং প্লাবনভূমি ও নদীর মধ্যে সংযোগের অভাবে বন্যার প্রকোপ বৃদ্ধিতে ভূমিকা রেখেছে। বর্ষা মৌসুমে বন্যা ও জলাবদ্ধতা এবং শুষ্ক মৌসুমে পানির অভাবে অত্র অঞ্চলের কৃষি ও মৎস্যক্ষেত্রের উন্নতি ব্যাহত হচ্ছে। ফলে বন্যার ক্ষয়ক্ষতি নিরসনসহ দুর্ঘোণ ব্যবস্থাপনার জন্য তাৎক্ষণিক ব্যবস্থা গ্রহণের দাবি ওঠে। উক্ত দাবির প্রেক্ষিতে প্রকল্প গ্রহণের নিমিত্ত সম্ভাব্যতা সমীক্ষার প্রয়োজন পড়ে। সুরমা বেসিনের প্রবাহ বাইপাস এবং সুরমা-কুশিয়ারা বেসিনের হাওরসমূহের সমন্বয় এই সমস্যার সমাধান হতে পারে। এই পরিস্থিতিতে কুশিয়ারা নদী অববাহিকায় পূর্ববর্তী প্রকল্পগুলোর প্রভাব মূল্যায়ন, বন্যা এবং জলাবদ্ধতা নিরসন, নিষ্কাশন ব্যবস্থার উন্নয়নসহ হাওর এলাকার আর্থ-সামাজিক ও পরিবেশগত অবস্থার সামগ্রিক উন্নয়ন এর নিমিত্ত প্রস্তাবিত সমীক্ষা প্রকল্পটি গ্রহণ করা হয়েছে।

২০। সভাপতি সভায় অংশগ্রহণকারীদের প্রস্তাবিত সমীক্ষার বিষয়ে মতামত তুলে ধরার জন্য আহ্বান জানালে সমীক্ষা এলাকার অন্যান্য সংস্থার বিভিন্ন অবকাঠামো চিহ্নিত করা এবং এসব অবকাঠামো পুরো এলাকার নিষ্কাশন ব্যবস্থায় কি প্রভাব ফেলে তা চিহ্নিত করার বিষয়ে মতামত প্রদান করা হয়। এছাড়া ইতোপূর্বে সিলেট এলাকায় যেসব অন্যান্য সমীক্ষা প্রকল্প গ্রহণ করা হয়েছে সে সব প্রকল্পের প্রস্তাবনার সাথে বর্তমান সমীক্ষার সামঞ্জস্যতা বজায় রেখে সকল ধরনের দ্বৈততা পরিহার করার নির্দেশনা প্রদান করা হয়। এছাড়া বিল খনন করে সেই মাটি ব্যবহার করে ভূবল বীধ নির্মাণ করা যায় কি-না সেই বিষয়েও আলোচনা করা হয়। সমীক্ষা প্রকল্প এলাকার সকল অবৈধ স্থাপনা চিহ্নিত করা এবং এ সকল প্রতিবন্ধকতার যথোপযুক্ত সমাধান Report-এ অন্তর্ভুক্ত করার মতামত প্রদান করা হয়। সবশেষে সমীক্ষা প্রকল্পটি পরিচালন বাজেটের অন্তর্ভুক্ত প্রকল্প সম্ভাব্যতা সমীক্ষা উপখাতে সম্পাদন করার বিষয়ে আলোচনা করা হয় এবং তৎক্ষণাত্ বাপাউবো ToR সংশোধন করতঃ সমীক্ষা কাজ আরম্ভ করার বিষয়ে আলোচনা হয়।

৩.০। সিদ্ধান্ত/সুপারিশসমূহঃ

- ইতোপূর্বে সিলেট এলাকায় গৃহীত “সিলেট জেলার সুরমা কুশিয়ারা নদীর অববাহিকায় সমন্বিত পানি সম্পদ ব্যবস্থাপনা ও উন্নয়ন এর নিমিত্ত সম্ভাব্যতা সমীক্ষা” প্রকল্পের অধিক্ষেত্র ও কর্মপরিধির সাথে বর্তমান সমীক্ষার দ্বৈততা পরিহার করতে হবে;
- সমীক্ষা এলাকার পানি সম্পদ ব্যবস্থাপনায় প্রতিবন্ধকতা সৃষ্টিকারী সকল অবৈধ স্থাপনা চিহ্নিত করা এবং এসব প্রতিবন্ধকতার উপযুক্ত সমাধান Report-এ অন্তর্ভুক্ত করতে হবে;
- বিল খনন করে সেই মাটি ব্যবহার করে ভূবল বীধ নির্মাণ করা যায় কি না সেই বিষয়ে প্রতিবেদন সুপারিশ দাখল আকস্মিক;
- সমীক্ষা এলাকার অন্যান্য সংস্থা কর্তৃক নির্মিত বিভিন্ন অবকাঠামো যা পানি নিষ্কাশন ব্যাহত করছে সেসব অবকাঠামো চিহ্নিত করতে হবে;
- কুশিয়ারা অববাহিকায় বিভিন্ন খাল, বিল এবং পানি নিয়ন্ত্রণ অবকাঠামোসহ পানির সামগ্রিক নেটওয়ার্ক সম্পর্কে সমীক্ষা প্রতিবেদনে একটা পূর্ণাঙ্গ চিত্র প্রতিফলিত হতে হবে;
- সমীক্ষা এলাকায় Flood Fuse এর উপযোগীতা এবং স্থান চিহ্নিত করা আবশ্যিক;
- এই সমীক্ষা কার্যক্রমের অনুকূলে পরিচালন বাজেটের আওতায় পানি সম্পদ মন্ত্রণালয়ের আওতাভুক্ত প্রকল্প সম্ভাব্যতা সমীক্ষা উপখাত (কোড ৩২৫৭৩০৮) হতে বরাদ্দ প্রদানের সিদ্ধান্ত গৃহীত হয়;
- বর্ষিত সিদ্ধান্তের আলোকে প্রস্তাবিত সমীক্ষার ToR পুনর্গঠন করতে হবে। পুনর্গঠিত সমীক্ষা প্রস্তাবের অনুকূলে প্রশাসনিক আদেশ জারির জন্য পানি সম্পদ মন্ত্রণালয়ের বাজেট অধিশাখা প্রয়োজনীয় ব্যবস্থা গ্রহণ করবে।

সভায় অন্য কোনো আলোচনা না থাকায় উপস্থিত সকলকে ধন্যবাদ জানিয়ে সভাপতি সভার সমাপ্তি ঘোষণা করেন।


 ১০-১১-১০১০
 মোঃ মোকাম্মিল হোসেন
 সিনিয়র সচিব
 ১২৩৩৫১৭৭৩
 ৩০ অক্টোবর ১৫০১ বঙ্গাব্দ
 তারিখ: ১৫ ডিসেম্বর ২০১৫ খ্রিঃাব্দ

বিভরণ (জ্যেষ্ঠতার ক্রমানুসারে নয়):

- ১। অতিরিক্ত সচিব, উন্নয়ন অনুবিভাগ, পানি সম্পদ মন্ত্রণালয়।
- ২। মহাপরিচালক (চলতি দায়িত্ব), মহাপরিচালক-এর দপ্তর, বাংলাদেশ পানি উন্নয়ন বোর্ড।
- ৩। যুগ্মসচিব, পরিকল্পনা অনুবিভাগ, পানি সম্পদ মন্ত্রণালয়।
- ৪। যুগ্মসচিব, বাজেট ও অডিট অধিশাখা, পানি সম্পদ মন্ত্রণালয়।
- ৫। যুগ্মসচিব, পরিবীক্ষণ ও বাস্তবায়ন অধিশাখা, পানি সম্পদ মন্ত্রণালয়।
- ৬। অতিরিক্ত মহাপরিচালক (পূর্ব রিজিয়ন) (চলতি দায়িত্ব), অতিরিক্ত মহাপরিচালক (পূর্ব রিজিয়ন), বাংলাদেশ পানি উন্নয়ন বোর্ড।
- ৭। অতিরিক্ত মহাপরিচালক (পরিকল্পনা) (চলতি দায়িত্ব), অতিরিক্ত মহাপরিচালক (পরিকল্পনা, নগ্না ও গবেষণা), বাংলাদেশ পানি উন্নয়ন বোর্ড।
- ৮। উপসচিব, পরিকল্পনা-১ অধিশাখা, পানি সম্পদ মন্ত্রণালয়।
- ৯। উপসচিব, পরিকল্পনা-২ অধিশাখা, পানি সম্পদ মন্ত্রণালয়।
- ১০। উপসচিব, পরিবীক্ষণ ও বাস্তবায়ন শাখা-১, পানি সম্পদ মন্ত্রণালয়।
- ১১। প্রধান প্রকৌশলী (পুর), প্রধান প্রকৌশলী (পুর), পরিকল্পনা এর দপ্তর, বাংলাদেশ পানি উন্নয়ন বোর্ড।
- ১২। প্রধান প্রকৌশলী, প্রধান প্রকৌশলী, ডিজাইন এন্ড রিসার্চ এর দপ্তর, বাংলাদেশ পানি উন্নয়ন বোর্ড।
- ১৩। উপসচিব, পরিকল্পনা-১ শাখা, পানি সম্পদ মন্ত্রণালয়।
- ১৪। সিনিয়র সচিবের একান্ত সচিব, সিনিয়র সচিবের দপ্তর, পানি সম্পদ মন্ত্রণালয়।
- ১৫। উপসচিব, পরিকল্পনা-২ শাখা, পানি সম্পদ মন্ত্রণালয়।
- ১৬। তত্ত্বাবধায়ক প্রকৌশলী (পুর), পরিকল্পনা-১ পরিদপ্তর, বাংলাদেশ পানি উন্নয়ন বোর্ড।
- ১৭। তত্ত্বাবধায়ক প্রকৌশলী, মৌলভীবাজার পুর সার্কেল, বাপাউবো, মৌলভীবাজার।
- ১৮। সিনিয়র সহকারী সচিব, পরিকল্পনা-৩ শাখা, পানি সম্পদ মন্ত্রণালয়।
- ১৯। সিনিয়র সহকারী সচিব, পরিকল্পনা-৬ শাখা, পানি সম্পদ মন্ত্রণালয়।
- ২০। নির্বাহী প্রকৌশলী(পুর), পরিকল্পনা-১ পরিদপ্তর, বাংলাদেশ পানি উন্নয়ন বোর্ড।
- ২১। নির্বাহী প্রকৌশলী, মৌলভীবাজার পানি উন্নয়ন বিভাগ, বাপাউবো, মৌলভীবাজার।
- ২২। উপ-বিভাগীয় প্রকৌশলী (পুর), পরিকল্পনা-১ পরিদপ্তর, বাংলাদেশ পানি উন্নয়ন বোর্ড।
- ২৩। অফিস কপি, মাস্টার নথি।


মোঃ মাসুম রেজা
উপসচিব

পানি সম্পদ মন্ত্রণালয়ের যাচাই কমিটির সভার সিদ্ধান্তের প্রতিপালন

১১/১২/২০২৫খ্রি. তারিখে অনুষ্ঠিত “কুশিয়ারা নদী অববাহিকার সমন্বিত নদী, বন্যা ও পানি ব্যবস্থাপনার নিমিত্ত সম্ভাব্যতা সমীক্ষা” শীর্ষক প্রকল্পের পিএফএস এর বিষয়ে যাচাই কমিটির সভার সিদ্ধান্তের প্রতিপালন নিম্নে দেওয়া হলো।

সূত্রঃ পানি সম্পদ মন্ত্রণালয়ের স্মারক নং-৪২.০০.০০০০.০০০.০৪৩.১৪.০০০৭.২৪, তারিখ: ১৫/১২/২০২৫খ্রি.

ক্রমিক নং	সিদ্ধান্ত	সিদ্ধান্তের প্রতিপালন
১	ইতোপূর্বে সিলেট এলাকায় গৃহীত “সিলেট জেলার সুরমা কুশিয়ারা নদী অববাহিকায় সমন্বিত পানি সম্পদ ব্যবস্থাপনা ও উন্নয়নে এর নিমিত্ত সম্ভাব্যতা সমীক্ষা” প্রকল্পের অধিক্ষেত্র ও কর্মপরিস্থির সাথে বর্তমান সমীক্ষার দ্বৈততা পরিহার করতে হবে।	ইতোপূর্বে সিলেট এলাকায় গৃহীত “সিলেট জেলার সুরমা কুশিয়ারা নদী অববাহিকায় সমন্বিত পানি সম্পদ ব্যবস্থাপনা ও উন্নয়নে এর নিমিত্ত সম্ভাব্যতা সমীক্ষা” প্রকল্পের অধিক্ষেত্র ও কর্মপরিস্থির সাথে বর্তমান সমীক্ষার দ্বৈততা পরিহার করা হয়েছে। পূর্বের সমীক্ষা এলাকার যেসব উপজেলায় ইতোমধ্যে সমীক্ষা সম্পাদিত হয়েছে সেসব এলাকা প্রস্তাবিত সমীক্ষার বিশ্লেষণ এলাকা হিসেবে অন্তর্ভুক্ত থাকবে কিন্তু পুনরায় অবকাঠামো পরিকল্পনা প্রণয়ন করা হবেনা।
২	সমীক্ষা এলাকার পানি সম্পদ ব্যবস্থাপনায় প্রতিবন্ধকতা সৃষ্টিকারী সকল অবৈধ স্থাপনা চিহ্নিত করা এবং এসব প্রতিবন্ধকতার উপযুক্ত সমাধান Report-এ অন্তর্ভুক্ত করতে হবে।	সমীক্ষা এলাকার পানি সম্পদ ব্যবস্থাপনায় প্রতিবন্ধকতা সৃষ্টিকারী সকল অবৈধ স্থাপনা চিহ্নিত করা, সিএস/আরএস ম্যাপ অনুসারে তালিকা প্রণয়ন এবং এসব অবৈধ স্থাপনা উচ্ছেদের নিমিত্ত পরিকল্পনা Report-এ অন্তর্ভুক্তকরণের বিষয়টি ToR এ উল্লেখ করা হয়েছে। (অনুচ্ছেদ ৩, পৃষ্ঠা ৬)
৩	বিল খনন করে সেই মাটি ব্যবহার করে ডুবন্ত বাঁধ নির্মাণ করা যায় কি না সেই বিষয়ে প্রতিবেদনে সুপারিশ থাকা আবশ্যিক।	বিল খনন করে সেই মাটি ব্যবহার করে ডুবন্ত বাঁধ নির্মাণ করা যায় কি না সেই বিষয়ে প্রতিবেদনে সুপারিশ করার বিষয়টি ToR এ উল্লেখ করা হয়েছে। (অনুচ্ছেদ ৩, পৃষ্ঠা ৪)
৪	সমীক্ষা এলাকার অন্যান্য সংস্থা কর্তৃক নির্মিত বিভিন্ন অবকাঠামো যা পানি নিষ্কাশন ব্যাহত করছে সেসব অবকাঠামো চিহ্নিত করতে হবে।	সমীক্ষা এলাকার অন্যান্য সংস্থা কর্তৃক নির্মিত বিভিন্ন অবকাঠামো যা পানি নিষ্কাশন ব্যাহত করছে সেসব অবকাঠামো চিহ্নিতকরণ, তালিকা প্রণয়ন ও পুনর্বাসনের বিষয়ে ToR এ উল্লেখ করা হয়েছে। (অনুচ্ছেদ ৩, পৃষ্ঠা ৪)
৫	কুশিয়ারা অববাহিকায় বিভিন্ন খাল, বিল এবং পানি নিয়ন্ত্রণ অবকাঠামোসহ পানির সামগ্রিক নেটওয়ার্ক সম্পর্কে সমীক্ষা প্রতিবেদনে একটা পূর্ণাঙ্গ চিত্র প্রতিফলিত হতে হবে।	কুশিয়ারা অববাহিকায় বিভিন্ন খাল, বিল এবং পানি নিয়ন্ত্রণ অবকাঠামোসহ পানির সামগ্রিক নেটওয়ার্ক সম্পর্কে সমীক্ষা প্রতিবেদনে একটা পূর্ণাঙ্গ চিত্র প্রতিফলনের বিষয়ে ToR এ অন্তর্ভুক্ত করা হয়েছে। (অনুচ্ছেদ ৩, পৃষ্ঠা ৩)
৬	সমীক্ষা এলাকায় Flood Fuse এর উপযোগিতা এবং স্থান চিহ্নিত করা আবশ্যিক।	সমীক্ষা এলাকায় Flood Fuse এর উপযোগিতা এবং স্থান চিহ্নিতকরণের বিষয়টি ToR এ অন্তর্ভুক্ত করা হয়েছে। (অনুচ্ছেদ ৩, পৃষ্ঠা ৪)
৭	এই সমীক্ষা কার্যক্রমের অনুকূলে পরিচালন বাজেটের আওতায় পানি সম্পদ মন্ত্রণালয়ের আওতাভুক্ত প্রকল্প সম্ভাব্যতা সমীক্ষা উপখাত (কোড ৩২৫৭৩০৮) হতে বরাদ্দ প্রদানের সিদ্ধান্ত গৃহীত হয়।	এই সমীক্ষা কার্যক্রমের অনুকূলে পরিচালন বাজেটের আওতায় পানি সম্পদ মন্ত্রণালয়ের আওতাভুক্ত প্রকল্প সম্ভাব্যতা সমীক্ষা উপখাত (কোড ৩২৫৭৩০৮) হতে বরাদ্দ প্রদান করার আলোকে ToR প্রণয়ন করা হয়েছে।
৮	বর্ণিত সিদ্ধান্তের আলোকে প্রস্তাবিত সমীক্ষার ToR পুনর্গঠন করতে হবে।	বর্ণিত সিদ্ধান্তের আলোকে পুনর্গঠিত ToR মন্ত্রণালয়ে দাখিল করার জন্য প্রয়োজনীয় ব্যবস্থা গ্রহণ করা হলো।

মহাশয়
23.12.2025
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পরিকল্পনা-১ পরিদপ্তর
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