



## SMALL SCALE WATER RESOURCES DEVELOPMENT PROJECT (Phase-2) SSWRDP-2 TERMS OF REFERENCE FOR BASELINE STUDY OF BME

### ***Background and Introduction***

1. Local Government Engineering Department (LGED), Small Scale Water Resources Development Project (Phase-2) (SSWRDP-2) builds on lessons from previous SSW-1 (1996-2002), SSW-2(2002-2010), SSWRDP (JICA-1)(2007-2016) and PSSWRSP (2010-2018) projects implemented from 1996 to 2018 and developed 1123 subprojects in 61 districts of the country. Under the project 290 numbers of Sub-projects (145 new subprojects, 90 Additional Development form the existing SSWRD subproject of JICA-1, Flagship Development of 9 existing subproject of JICA-1 and 46 Number Rehabilitation/Enhancement subprojects completed by during SSW-1 and SSW-2. SSWRDP-2, funder by JICA in 29 Districts of Dhaka, Mymensingh, Sylhet and Rangpur Division will support the development of inclusive water management cooperative associations (WMCAs) that include landowners, land operators, women, fishers and other vulnerable groups. Within an enabling institutional framework, they will be capable to maximize their collective potential to increase agricultural production in the subproject areas. Each subproject is designed to improve water management – Water control Structures, flood management, and/or drainage improvement and command area development (CAD) in an area of up to 1,000 ha benefited area for the purpose of increasing production in agricultural and fishery sectors, employment generation, and to contribute to overall reduction of poverty.

2. A **Baseline Study** is planned to be conducted 30 number of sub-projects which will be implemented under funder by JICA in 29 Districts of Dhaka, Mymensingh, Sylhet and Rangpur Division. Further Benefited Monitoring and Impact will be down among those sub-project.

3. The present document provides the TOR for **Baseline Study**. The LGED will engage an independent specialized organization (the ‘Organization’) to carry out the **Baseline Study** following the **Fixed Budget Selection (FBS)**. The TOR describes the objectives, scope, and a brief methodology. It further describes what information already exists for the subprojects, the detailed survey work requirements including other aspects to be used as ready reference for conducting the above study.

### ***Objectives***

4. The **Baseline Study** shall assess, among others farm income for different farm categories, daily wages, additional employment creation (on a gender disaggregated basis), in/out migration, distributive impacts of changes in fish production (distinguishing between capture and culture fishery), changes in biological species diversity and water quality, and perceptions of subproject benefits. The **Baseline Study** will provide all required information and analysis that will allow the impact assessment to later assess the following:

- a. Impact of the selected subprojects in terms of agricultural production at household and subproject levels;
- b. Benefits accrued in terms of employment and increased production by various categories of farmers;
- c. Growth in income and employment of landless laborers at the household and subproject level;
- d. Impacts on fish production and on any changes in the livelihood of those engaged in capture fisheries;
- e. Impact on bio-diversity and water quality, and
- f. Impact on poverty alleviation and overall socio-economic development.



## Scope of Work

The **Baseline Study** will consist of collection, compilation, analysis, and interpretation of findings on the socio-economic parameters that are likely to change as a result of the subprojects. The main impact indicators will be agricultural production, fisheries production, employment generated, and household incomes, disaggregated by farm size classes, occupational groups, and where relevant, by gender. The poverty situation in the subproject areas will need to be reflected on the basis of standard research methods.

The **Baseline Study** will be conducted on 30 subprojects located in the 29 districts covered by the Project (Dhaka, Mymensingh, Sylhet and Rangpur Division). The Project Management Unit (PMU) and Project Consultant will select the subprojects for the **Baseline Study**, based on set guidelines, and in consultation with the selected Institution/Firm.

## Suggested Methodology

The **Baseline Study** will be carried out under the direction of the PMU/IWRMU (Integrated Water Resources Management Unit) of LGED.

The Institution/Firm will propose a detailed methodology for the **Baseline Study** incorporating modern survey methods, and utilizing econometric and statistical tools to ensure, on one hand, that the results are statistically credible and on the other hand, will show how the **Baseline Study** will lead to the subsequent **Impact Assessment**. **The quantitative data will be statistically valid within 5%**. The methodology will also describe how the subsequent **Impact Assessment** will distinguish subproject specific patterns of change from the overall patterns of change in Bangladesh.

The suggested and approved methodology will be given in the Inception Report for the Study.

## Information on Subprojects

The **Baseline Study** will involve, but may not be limited to: (a) preparation of household sampling design and finalization of questionnaire checklist, schedule, etc; (b) recruitment and training of supervisors and enumerators; (c) collection and checking data; and (d) tabulation, analysis and interpretation of the data.

Baseline information will be collected in the following general areas, plus any others deemed necessary by the Institution/Firm:

- i. Water resources (surface & ground water)
- ii. Agricultural production
- iii. Fisheries production (capture and culture), and
- iv. Biodiversity and water quality
- v. Employment creation (on a gender disaggregated basis)
- vi. Level of poverty

It is suggested that the baseline information includes a brief description of the subproject engineering infrastructure constructed under the project and its condition / "fit-for-purpose" assessment.

## Study Team Responsibilities and Tasks

The key professionals for the **Baseline Study** will include a team of 8 (eight) key professionals with required academic qualifications and experience including (1) Senior Socio Economist (Team leader), (2) Water Management Specialist, (3) Agriculture/Agronomy Specialist, (4) Environmentalist, (5) Fisheries Specialist (6) Gender and Development Specialist (7) Statistician, ) (8) Socio Economist and (8) Quantitative Data Analyst.

The responsibilities and tasks of the above key persons are described below:



**Senior Sociologist/Team Leader** will have minimum master's degree in social science and at least 15 years of experience including 5 years in BME, impact and other studies. The tasks of Senior Sociologist/Team Leader will include, but not be limited to:

- Overall coordination among team members as well as with SSWRDP-2 management and timely completion of the BME study.
- Designing the methodology of the study.
- Preparation and submission of all draft and final reports.
- Preparation of the work-plan and manning schedule.
- Participate in discussion meetings with PMU, IWRMU/Project Consultants on the outcome of the study.
- Checking and review of survey questionnaires with the respective professionals and the Project Authorities (IWRMU/ PMU/Project Consultants) and finalizing the same.
- Selection/Recruitment of field staff and data coding/editing and data entry computer personals.
- Management and orientation of staff.
- Management and co-ordination of pre-testing of questionnaires.
- Management and co-ordination of field data collection.
- Management and supervision of data coding and tabulation.
- Monitoring/follow-up of each professional's analysis of field data & preparation of his/her related part/chapter of the report.
- Review and share the first draft report with the Project Authorities.
- Finalization/printing and submission of the required number of copies of the report to PMU in due time.
- Maintaining close contact and liaison with the Project Director and other concerned Project Officials/Project Consultants and have regular discussion with them on progress of work and all survey related matters.

**Water Management Specialist** will have at least a Bachelor Degree in Water Resources/Civil Engineering with at least 10 years of work experience including at least 5 years in water resources development projects. The tasks of the Water Management Specialist will include, but not be limited to:

- Designing water management related questionnaire/ checklist and review the same with the Team Leader and the PMU/Consultants and finalizing the same.
- Taking part in the orientation of field and other staff and in pre-testing of questionnaires.
- Making field visits to collect base line data on existing water resources related problems and prospects and supervising field data collection as needed. The data will include:
  - existing water resource projects and their status
  - flood/drought including any other water related problems in the subproject area
  - water resources potential existing in the subproject area
  - people's perceptions on further development of water resources
- Preparing data tabulation plan and review of the same with the Team Leader.
- Preparation of the relevant part of the report and review of the same with the Team Leader including other team members.
- Providing all necessary assistance to the Team Leader in discharging this assignment.
- Making field visits to collect base line data on existing water resources related problems and prospects and supervising field data collection as needed. The data will include:



**Fisheries Specialist** should have at least a Master's degree in Fisheries/Zoology/Marine Biology with at least 10 years of work experience including 4 years of similar experience in water sector projects.

- Designing fisheries related questionnaire/checklist and review the same with the Team Leader and the PMU and finalizing the same.
- Taking part in the orientation of field and other staff and in pre-testing of questionnaire.
- Making field visits to collect relevant data and supervising fieldwork, whenever required.
- Preparing tabulation plans and review of the same with the Team Leader.
- Prepare the relevant part of the report and review of the same with the Team Leader.
- Providing all necessary assistance to the Team Leader in discharging the assigned responsibilities.

**Agronomist** will have at least a master's degree in agriculture/agriculture economics with at least 10 years of work experience including 4 years work experience in water sector projects. The tasks of the Agronomist will include, but not be limited to:

- Designing fisheries related questionnaire/checklist and review the same with the Team Leader and the PMU and finalizing the same.
- Taking part in the orientation of field and other staff and in pre-testing of questionnaire.
- Making field visits to collect relevant data and supervising fieldworks in order to ensure the reliability of the field information.
- Preparation of tabulation plans and review of the same with the Team Leader.
- Preparation of the relevant part of the report and review of the same with the Team Leader including other team members.
- Providing all necessary assistance to the Team Leader in discharging this assignment.

**Economist** will have a master's degree in economics with at least 10 years of work experience including 4 years' experience in water resources development project. He/ she should have a proven expertise in rural economic growth, income and employment analysis and experience and expertise in poverty measurement and analysis. The tasks of the Economist will include, but not be limited to the following:

- Designing economic related questionnaire/checklist and review of the same with the Team Leader and the PMU/ Consultants and finalizing the same.
- Taking part in the orientation of field and other staff and in pre-testing of questionnaire.
- Making field visits to collect relevant data and supervising fieldworks in order to ensure the reliability of collected information.
- Preparation of tabulation plans and review of the same with the Team Leader.
- Assist in preparation of the relevant part of the report and review the same with the Team Leader including other team members.
- Work as the Principal Field Survey Co-coordinator.
- Supervise and coordinate the data tabulation work.
- Providing all necessary assistance to the Team Leader in discharging this responsibility.

**Statistician** will have a master's degree in economics with at least 10 years of work experience including 4 years of working experience in statistical work. The tasks of the Statistician will include, but not be limited to the following:

- Taking part in the orientation of field and other staff and in pre-testing of questionnaire.
- Checking and preparation of tabulation plan and review of the same with the Team Leader.
- Taking lead role in developing and practicing tabulation plan using latest electronic devices.



- Checking statistical data and finalizing the same.
- Providing all necessary assistance to the Team Leader in discharging this responsibility.

**Sociologist** will have a master's degree in sociology with at least ten years of working experience including at least 5 years in Water Resources development. The tasks of the Sociologist will include, but not be limited to the following:

- Designing sociological related questionnaire/checklist and review the same with the Team Leader and PMU/ Consultants and finalizing the same.
- Taking part in the orientation of field and other staff and in pre-testing of questionnaire.
- Making field visits to collect relevant data and supervise fieldworks in order to make sure that data is collecting as per design of the study.
- Preparation of tabulation plans and reviews the same with the Team Leader.
- Preparation of the relevant part of the report and review of the same with the Team Leader including other team members.
- Providing all necessary assistance to the Team Leader in discharging this responsibility.

**Environmentalist** should have at least a master's degree in natural sciences with at least 10 years of work experience including 4 years' experience in water resources development projects. The tasks of the Environmentalist will include, but not be limited to the following:

- Designing environmental related questionnaire/ checklist and review the same with the Team Leader and PMU/ Consultants and finalizing the same.
- Taking part in the orientation of field and other staff and in pre-testing of questionnaire
- Making field visits to collect relevant data and supervised fieldworks in order to ensure the reliability of collected data.
- Preparation of tabulation plans and reviews the same with the Team Leader.
- Preparation of the relevant part of the report and review of the same with the Team Leader including other team members.
- Providing all necessary assistance to the Team Leader in discharging this responsibility.

**GAD Specialist** should have at least a master's degree in social science, with a minimum of 10 years of work experience including 4 years experiences in Water Resources Development and water sector in relation to GAD/WID/Gender study. The tasks of the GAD Specialist will include, but not be limited to the following:

- Designing WID related questionnaire/checklist and review of the same with the Team Leader and PMU/ Consultants and finalizing the same.
- Taking part in the orientation of field and other staff and in pre-testing of questionnaire.
- Making field visits to collect relevant data and supervise fieldworks in order to ensure the reliability of collected data.
- Preparation of tabulation plans and review of the same with the Team Leader.
- Responsible for writing a gender specific section of the report on the basis of information collected from the field.
- Preparation of the relevant part of the report and review the same with the Team Leader. In particular, review overall report and provide comments from gender point of view before finalization of the report, to make it gender sensitive.
- Providing all necessary assistance to the Team Leader in discharging his/ her responsibility.



**Quantative Data Analyst** shall have a Bachelor degree in social science discipline with a minimum of 10 years of work experience including 2 years experiences in statistical work. The tasks of the Quantative Data Analysis will include, but not limited to the following:

- Preparation of Social Survey and conducting the survey activities
- Formulating the system of analysis the survey outputs

Apart from the above 30 individual reports, the **Baseline Study** will include a **Main Report** summarizing the findings of the 30 subprojects

### ***Study schedule***

The Baseline Study will be conducted over a 12 month period starting at the beginning of 2021 and shall be completed according to the following schedule: