



ARIAS SOCIETY

Assam Rural Infrastructure and Agricultural Services Society

(An Autonomous Body of the Govt. of Assam)

Project Management Unit (PMU) of the Asian Development Bank financed

Assam Sustainable Wetland and Integrated Fisheries Transformation (SWIFT) Project

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Terms of Reference (ToR) for Conducting the Baseline Survey

1. Background of the Project:

The Government of Assam, through the ARIAS Society as 'Executing Agency' and the Department of Fisheries as 'Implementing Agency,' with financial assistance from the Asian Development Bank (ADB), would be implementing the Assam Sustainable Wetland and Integrated Fisheries Transformation (SWIFT) Project.

The SWIFT project seeks to promote the sustainable management of Assam's wetland (beel) ecosystems and fisheries development by actively engaging local communities in the management process and enhancing their economic and livelihood conditions. SWIFT's integrated approach combines institutional strengthening for ecosystem conservation with the development of the beel fisheries value chain. This dual focus benefits both the environment and the local community, ensuring long-term sustainability and economic growth.

Specifically, the project is aligned with the following impact: income of small-scale food producers of Assam enhanced (Assam Vision 2030, Fisheries Sector); and the project will have the following outcome: beel fishery productivity and community-based sustainable wetland management enhanced in the state of Assam. Three outputs are envisaged.

Output 1: Institutional capacity and regulatory framework for sustainable beel ecosystem and fisheries management strengthened. The output aims to reform the current government system on beel management, particularly the leasing system. It will support the following activities: (i) updating relevant beel management and fishery acts, regulations, and rules for community-based management, and preparing public awareness-raising materials; (ii) preparing rules or guidelines for community-based beel management system, considering various hydrology of wetlands, channels, agroecological situations, and providing necessary training on the subject; (iii) preparing a sustainable operational model as a project exit plan; (iv) capacity building and training of the Department of Fisheries (DoF) staff and other allied public institutions, including the state's wetland authority, in latest fisheries stocking and conservation techniques, community-based beel management best practices, and use of digital technologies; (v) supporting research and development in beel management and fisheries, including carbon sequestration benefits from beel management, climate change impacts and adaptation measures, seed production and breeding, and ex-situ conservation of endangered species; (vi) strengthening beel community-based institutions – specifically Beel Development Committees (BDCs); and (vii) operating beel management monitoring system through the development of project information system and beel fisheries knowledge platform, complementing the state wetland authority's wetland notification process.

Output 2: Community-based fisheries business developed and beel community income diversified. The project will ensure the sustainability of beel community-based institutions by enhancing their financial viability and strengthening women's and marginalized groups' participation in economic activities. The project will: (i) support the development or strengthening of the Beel Development Committees (BDCs), some of whom are or will operate as fisheries cooperatives; (ii) conduct capacity building for these BDCs through training in organizational and financial management, as well as branding, marketing and processing along the value chain; (ii) provide public sector support for the development of community-based fisheries value chain infrastructure, including fish landing sites and local aggregation points/centers; (iii) promote private sector led fisheries commercialization by creating matching grant facilities for hatchery, feed mill, primary processing and other value addition initiatives; and (iv) support other income generation activities for self-help groups through strengthening or revitalizing self-help groups based on their needs assessment.

Output 3: Beel conservation and restoration planned and managed. The project addresses habitat loss caused by the loss of connectivity with the adjacent river and decreasing water depth, and macrophyte growth that hinders fisheries productivity in beel's. The beel restoration approaches will focus on: (i) beel demarcation; (ii) beel rejuvenation, such as de-weeding and desilting; and (iii) beel's water inflow and outflow control improvement, including desilting, constructing embankments, installing silt traps, building water retaining structures and peripheral bunds, and installing biofilters.

In line with the Design & Monitoring Framework (DMF) of the SWIFT Project, a comprehensive baseline study/survey is required at project inception. Accordingly, this ToR has been drafted to recruit an agency to undertake a Baseline Survey across project locations to establish benchmark values/data for project indicators across outputs and outcomes, monitoring, evaluation, mid-term review and impact assessment over the project lifecycle.

2. Objectives of the Baseline Survey

The overall objective of the consultancy assignment is to design and implement a robust baseline study for the SWIFT Project, aligned with the indicators and targets specified in the draft Project Administrative Manual (PAM)/DMF, to:

- a) **Establish baseline values** for key indicators related to:
 - o Beel governance and community-based management practices
 - o Fisheries productivity and market performance
 - o Cooperative/SHG functioning and institutional capacity
 - o Livelihood status of beel-dependent households
 - o Women's and marginalized groups' participation in fisheries and related livelihoods
 - o Environmental and ecological health of beels
- b) Capture baseline conditions of beel ecosystems, fisheries productivity, institutions, livelihoods, and governance systems
- c) Generate comprehensive socio-economic, ecological, and institutional profiles of all targeted beels and communities.
- d) Identify constraints and opportunities for fisheries value chain enhancement, livelihood diversification, and community institution strengthening.
- e) Provide baseline reference for future monitoring under Output-1, Output-2, & Output-3.

3. Scope of Work

The selected agency shall undertake the following tasks:

3.1 Desk Review & Inception Activities

- Review the approved/draft PAM, DMF, RRP, safeguards documents, gender action plan, and related technical notes
- Review project documents, feasibility studies, DPRs, the results framework, and existing datasets from DoF and other allied institutions like CIFRI, WISA etc.
- Extract and map all relevant outcome and output indicators requiring baseline values, including cross-cutting indicators on gender, climate resilience, institutional capacity, and livelihoods
- Conduct stakeholder meetings with DoF, fisheries cooperatives, SHGs, local government, and technical partners.
- Prepare an '**Indicator-Variable-Data Source Matrix**' clearly linking each PAM/DMF indicator to survey instruments and data sources
- Develop a detailed **Inception Report**, including methodology, data collection instruments, sampling framework, field plan, and staffing plan.

3.2 Data Collection and Analysis

A. Institutional and Governance Baseline

- Status of existing beel leasing system, regulatory arrangements, and governance structures
- Functionality and capacity of fisheries cooperatives/ BDCs/BDMCs/CBOs, SHGs, and local committees

- Current knowledge and practices on community-based beel management- Awareness and application of rules/guidelines related to beel management
- Level of women's leadership, decision-making participation, and representation
- Identification of vulnerable groups and inclusion gaps
- Skill deficiency, training needs, and institutional readiness

B. Fisheries Productivity & Value Chain Baseline

- Current fish production, species composition, fishing seasons, and yield per hectare
- Use of sustainable and climate-resilient fishing practices
- Availability and quality of inputs (seed, feed, gear, stocking practices)
- Existing value addition, processing, branding, and traceability practices
- Access to markets, infrastructure, finance, and services
- Market channels, price realization, certification/traceability practices, and market constraints
- Status and functionality of fisheries infrastructure (landing sites, cold storage, processing units)
- Status of cooperatives' entrepreneur skill levels, financial literacy, and business practices

C. Livelihoods and Socioeconomic Baseline

- Household demographic profile, asset ownership, income sources
- Dependence on beel fisheries and vulnerability to climate variability
- Status of women-led groups, economic activities, and access to capital
- Women's participation in fisheries, value addition, and SHGs
- Livelihood diversification options and barriers

D. Beel Ecological and Environmental Baseline

- Physical characteristics: beel area, depth, water levels, hydrological connectivity
- Status of siltation, macrophyte infestation, water inflow/outflow
- Presence of biodiversity, endangered species, and ecological threats
- Data on beel health indicators required for future performance-based incentives
- Assessment of climate risks, habitat degradation, and restoration needs

3.3 Sampling Methodology

- Cover **50 beels** under the project through a mixed-methods approach.
- Stratified sampling of fisher households ensuring representation by gender, caste, minority groups, and livelihood categories. Define sampling framework covering:
 - Selected beels (by cluster/CPIU);
 - Beel-dependent households and fishers;
 - Women, SHGs, vulnerable and marginalized groups;
 - Beel Development/Management Committees (BDCs/BDMCs);
 - Relevant institutions (DoF offices, cooperatives, SHGs).
- Household sample size: minimum **20% of households per beel or 50 households**, whichever is larger.
- Conduct qualitative research:
 - FGDs with men, women, cooperatives, SHGs
 - Key informant interviews (KIIs) with government staff, traders, hatchery owners, wetland experts
 - Ecological assessments through field observations and scientific tools

3.4 Methodology

The agency shall propose a robust methodology aligned with international standards for baseline surveys:

- a) **Mixed-methods approach** (quantitative + qualitative + ecological assessment)
- b) Use of **mobile-based data collection tools** (KoBo, ODK, CommCare etc.)
- c) GIS mapping of beels with GPS coordinates
- d) Standardized templates for ecological measurement
- e) Triangulation of data across sources
- f) Gender-sensitive and socially inclusive research protocols
- g) Climate vulnerability and livelihood risk assessment tools
- h) Develop survey instruments, including:
 - o Household/ fisher questionnaires;
 - o Beel-level ecological and fisheries assessment formats;
 - o Institutional and governance assessment tools;
 - o Gender and social inclusion modules
- i) Data Collection and Field Implementation
 - o Recruit, train, and deploy enumerators with local language proficiency.
 - o Pilot test survey tools and refine instruments.
 - o Conduct field surveys across all selected clusters and beels.
 - o Ensure ethical standards, informed consent, and data confidentiality.
 - o Implement quality assurance and back-check mechanisms.
- j) Provide baseline values with clear definitions, units, and disaggregation (sex, location, social group)

The methodology will be finalized in consultation with the Project Management Unit (PMU).

4. Key Deliverables, Reports and Payment Schedule

SI	Deliverable	Description	Timeline	% Payment
1	Inception Report	Methodology, tools, sampling, work plan and draft questionnaire for household survey	Within 21 days of contract signing	10
2	Draft data collection tools	Structured questionnaires (post testing with samples), FGD guides, ecological checklists	Along with inception report	-
3	Baseline dataset	Raw and cleaned data in digital form with metadata	After data collection	-
4	GIS Maps	Beel-level maps, ecological layers, resource use patterns	With draft report	-
5	Draft Baseline Survey Report (BSR)	Preliminary findings, iindicator-wise tables, graphs, analysis <i>(Presentation on preliminary findings to PMU/PIU for validation and Incorporate feedback and finalize baseline values)</i>	Within 100 days of contract signing	40
6	Final Baseline Survey Report and Clean Dataset	Incorporating PMU/DOF feedback, ready for publication	Within 20 days after comments by PMU on draft BSR	50

5. Duration of Assignment

Total duration: **120 days**, including preparation, fieldwork, data analysis, and reporting.

6. List of key professional positions whose CV and experience would be evaluated:

The consultancy firm will have to deploy the following key staff, whose CVs will be Evaluated for the purpose of Evaluation of the Technical proposal:

Position	Minimum years of experience	Minimum qualification
1. Team Leader / Principal Investigator	10+ years in baseline/M&E in EAP	Post Graduate degree in Economics / Environmental Science/Environmental Engineering / Natural Resources Management or any related field
2. Fisheries Expert	7+ years	Post Graduate degree (M.F.Sc) in Fisheries
3. Wetland Ecologist / Hydrologist	7+ years	Post Graduate degree in Hydrology/ Environmental Science/ Environmental Engineering / Wetland Ecology or a related field
4. Socio-economic & Livelihood Expert	7+ years	Post Graduate degree in Sociology / Development Studies / Livelihood studies or any related field
5. Gender & Social Inclusion Expert	5+ years	Post Graduate degree in Sociology / Anthropology / Development Studies or any related field
6. GIS/Remote Sensing Specialist	5+ years	Post Graduate degree in GIS / Geoinformatics / Remote Sensing / Geography / Geology or any related field
7. Statistician/Data Analyst	5+ years	Post graduate degree in Statistics

Note: Prior experience of key staff with ADB/World Bank-funded projects and familiarity with Assam's fisheries/wetland context will be preferred. Field Coordinators and Enumerators (non-key staff) with Assam field experience are desirable.

7. Responsibilities of the Key Professionals

#	Suggested Position	Responsibilities
1	Team Leader / Principal Investigator	<ul style="list-style-type: none"> Provide overall leadership and quality assurance for the baseline survey. Develop the detailed study design, sampling strategy, and methodological framework. Lead stakeholder consultations and coordinate with the PMU, DoF, and other agencies. Supervise team members, ensure timely completion of tasks, and approve analytical frameworks. Lead the drafting and finalization of the baseline report.
2	Fisheries Expert	<ul style="list-style-type: none"> Conduct assessments on fisheries productivity, input systems, stocking practices, and harvesting methods. Assess capacity and performance of fisheries cooperatives and value chain actors.

#	Suggested Position	Responsibilities
		<ul style="list-style-type: none"> • Lead analysis of fish species composition, production trends, and market linkages. • Provide inputs to indicators related to Output 1 & Output 2.
3	Wetland Ecologist / Hydrologist	<ul style="list-style-type: none"> • Conduct ecological and hydrological assessments of beels including water depth, siltation, macrophytes, biodiversity, inflow/outflow connectivity, and habitat condition. • Develop ecological baseline indicators • Lead field ecological surveys and ensure consistency in data collection methods. • Support GIS team in ecological mapping and spatial analysis.
4	Socio-Economic & Livelihood Expert	<ul style="list-style-type: none"> • Design socio-economic survey tools for households, cooperatives, and SHGs. • Assess income, livelihoods, vulnerability, climate risks, dependency on beel resources. • Identify livelihood diversification potentials and constraints. • Lead quantitative analysis of household-level data.
5	Gender & Social Inclusion Expert (GESI Specialist)	<ul style="list-style-type: none"> • Integrate gender-sensitive approaches and inclusion principles into survey design and fieldwork. • Conduct targeted FGDs with women, marginalized groups, SHGs. • Analyze women's participation in fisheries, SHGs, governance structures, and markets. • Develop GESI baseline indicators and recommendations.
6	GIS/Remote Sensing Specialist	<ul style="list-style-type: none"> • Prepare beel-level GIS maps (boundary, inflow/outflow, vegetation, depth contours where feasible). • Manage spatial datasets and integrate ecological, socio-economic, and governance layers. • Produce visual geospatial outputs for baseline report.
7.	Statistician/Data Analyst	<ul style="list-style-type: none"> • Lead design of sampling framework. • Support development and validation of survey instruments. • Establish data management protocols. • Supervise data entry, cleaning, and validation. • Conduct statistical analysis of baseline data. • Generate baseline values for all DMF indicators. • Prepare tables, dashboards, and analytical annexes. • Support interpretation of findings.

The Consultant may propose any additional specialists that may be required to carry out the assignment. The CVs of the additional specialists will not form a part of the Key professional positions, whose CVs will be evaluated during the technical evaluation.

8. Reporting Requirements

The agency will report to the State Project Director, ARIAS Society through the PMU. All data and reports will be submitted in both digital and hard copy formats. Ownership of data will rest with the DoF and the PMU. All primary data, datasets, reports, and tools generated under this assignment shall be the property of the DoF/PMU/Government of Assam. The consultant shall not use or disclose the data without prior written approval of the PMU.

9. Review mechanism:

- a) The State Project Director (SPD), ARIAS Society either by himself or constitute a committee for the purpose to review the performance of the Consultant as & when felt necessary, wherein at least the Team Leader of the consultancy firm will have to remain present.
- b) The M&E Specialist of the PCU will undertake day-to-day monitoring of the assignment.

10. Results Framework with Baseline Indicators

The following framework aligns with project Outputs 1 to 3 and measurable baseline indicators for the survey. **Outcome:** Beel fishery productivity, market access, and sustainable community-based wetland management improved in Assam

a) Key Outcome Indicators for Baseline

Indicator	Baseline Value (Expected to Capture)	Data Source
1. Average fish productivity (kg/ha/year) in project beels	Current production levels by beel	Fisheries expert survey, beel records
2. % of fisher households with increased annual income from fisheries	Current income levels	Household survey
3. % of beels under functioning community-based management	Current number and status of community institutions	Institutional assessment
4. Level of women's participation in fisheries governance (%)	Current representation in committees	KIIs, cooperative records
5. Ecological health score of beels (composite index)	To be created from ecological parameters	Ecological assessment

b) Institutional capacity & regulatory framework strengthened Indicators

Indicator	Baseline Data to be Collected
1. Number and functionality score of beel committees/cooperatives	Committee existence, meetings, roles, decision-making processes
2. % of cooperatives with clear by-laws and management plans	Availability and quality of documents
3. Training needs identified for DoF, cooperatives, SHGs	Capacity gaps, skill levels
4. Existence and status of beel leasing system	Present lease terms, transparency, governance gaps
5. % of members aware of community-based management practices	Awareness scores from respondents
6. Women's leadership roles in beel CBO (number, percentage)	Female executive positions

c) Community-based fisheries businesses developed & income diversified Indicators

Indicator	Baseline Data to be Collected
1. Current fish production per beel (tons/year)	Production records, household data
2. % of fisher households using sustainable / climate-resilient practices	Gear type, stocking, harvesting methods
3. Market linkage score	Number of buyers, distance to markets, price realization
4. % of cooperatives with business plans and financial management systems	Current documentation gaps
5. Average price realization per kg	Current price and variability

Indicator	Baseline Data to be Collected
6. Number and functionality of SHGs	Active/inactive status, savings, credit, activities
7. % of SHGs engaged in income-generating activities	Types and scale of activities
8. Household livelihood diversity index	Number of income sources
9. Access to credit or capital	SHG/cooperative linkages

d) Beel conservation & restoration planned and managed Indicators

Indicator	Baseline Data to be Collected
1. Beel area (ha) & depth profile	Mapping, ecological surveys
2. Degree of siltation & macrophyte coverage (%)	Field ecological assessment
3. Hydrological connectivity status (inflow/outflow)	Connectivity rating
4. Biodiversity score	Key species richness, sightings
5. Water quality parameters	pH, turbidity, DO, temperature
6. Climate vulnerability score	Exposure, sensitivity, adaptive capacity
7. Number of beels requiring restoration interventions	Identified through ecological gap analysis

Suggested Annex of the Baseline Report

	DMF Indicator	Baseline Variable(s)	Unit / Disaggregation
A. Impact Level			
1	Sustainable consumption and production practices in natural resource management enhanced	Existence and status of sustainable beel management practices; baseline adoption of conservation-oriented fishing and wetland management practices	Qualitative index; district/cluster-wise
B. Outcome Level			
1	Beel fishery productivity improved	Average annual fish yield per beel; catch per unit effort (CPUE)	kg/ha/year; by beel
2	Market access for beel fisheries improved	Share of fish sold through organized markets/value chains; average distance/time to market	%; km/minutes
3	Community-based wetland management improved	% of beels under functional community-based management arrangements	%; by cluster
4	Income of beel-dependent fishers increased	Average annual household income from fisheries and allied activities	₹/household/year; sex-disaggregated
C. Output 1: Institutional Capacity and Regulatory Framework Strengthened			
1	Beels with functional Beel Development/Management Committees (BDCs/BDMCs)	Number of existing BDCs/BDMCs; functionality score (meetings, plans, records)	Number; functionality index
2	Staff trained in sustainable beel and fisheries management	Number of DoF/other staff trained prior to project	Number; gender-disaggregated
3	Beel management plans prepared and implemented	Number of beels with approved management plans at baseline	Number
4	Beel health monitoring system established	Existing monitoring mechanisms, parameters tracked, and frequency	Qualitative baseline
D. Output 2: Community-Based Fisheries Business and Livelihoods Developed			
1	Fisheries cooperatives/producer groups strengthened or formed	Number of existing cooperatives/producer groups and their operational status	Number; functionality score
2	Women participating in fisheries and allied value chains	% of women engaged in fisheries, processing, marketing, or SHGs	%; by activity
3	Beel-dependent households with diversified income sources	Share of households with non-fisheries income sources	%; gender-disaggregated
4	Value chain infrastructure operational	Existing fish landing sites, aggregation centers, processing units	Number; condition status
E. Output 3: Beel Conservation and Restoration Planned and Managed			
1	Beels assessed for restoration and conservation	Number of beels with baseline ecological and hydrological assessment	Number
2	Beel area restored/rejuvenated	Existing beel area requiring restoration (silted, weed-infested)	ha; by beel
3	Water connectivity of beels improved	Baseline status of inlet/outlet connectivity with rivers	Qualitative/score
4	Biodiversity in beels enhanced	Baseline fish species richness, presence of SIFs and threatened species	Number of species; by beel
F. Cross-Cutting: Gender Equality, Social Inclusion, and Climate Resilience			
1	DMF Indicator	Baseline Variable(s)	Unit / Disaggregation
2	Women in leadership roles in beel institutions	% of women in executive positions in BDCs/SHGs/cooperatives	%
3	Vulnerable groups benefiting from project interventions	Share of beneficiaries from SC/ST/minority/vulnerable households	%
4	Climate-resilient practices adopted	Existing climate-resilient fisheries and wetland practices	Qualitative index

Note: This is a draft ToR and will be updated or modified at the time of issue of RFP.