

ARIAS SOCIETY
Assam Rural Infrastructure and Agricultural Services (ARIAS) Society
(An autonomous body of the Government of Assam)
World Bank financed Assam Agribusiness and Rural Transformation Project (APART)

***Draft* TERMS OF REFERENCE (TOR)**
for hiring of Consulting Services for
Conducting Baseline Environmental Monitoring for Project APART

(A) BACKGROUND:

1. Government of Assam (GoA), through the Government of India has received a loan of US\$200 million from the World Bank (W.B.) for implementation of the **Assam Agribusiness and Rural Transformation Project (APART)**. The Project Development Objective (PDO) of APART is to ***“add value and improve resilience of selected agriculture value chains, focusing on smallholder farmers and agro-entrepreneurs in targeted districts of the State of Assam”***. The targeted districts (undivided as of 1st April, 2016) are Nagaon, Sonitpur, Barpeta, Karbi Anglong, Kamrup, Dhubri, Golaghat, Kokrajhar, Lakhimpur, Darrang, Cachar, Sivasagar, Jorhat, Goalpara, Morigaon and Nalbari. The project will adopt a value chain and clusters approach to achieve the targeted objectives. The targeted value chains are those of (i) cereals (rice, maize), (ii) pulses (lentil, pea and blackgram), (iii) spices and condiments (ginger, turmeric, mustard), (iv) fruits (banana) & vegetables, (v) livestock & fisheries (pork, milk, fish), (vi) speciality commodities (eri and muga silk). Expected duration of the project is seven years.
2. There are four components to the APART. **The first component is Enabling Agri Enterprise Development**, with sub components being (i) enhancing state capacity to attract private investments, (ii) setting up an Agribusiness Enterprise Development and Promotion Facility (EDPF) (iii) Agribusiness Investment Fund (AIF) support (iv) establishing sector stewardship councils. **The second component is Facilitating Agro Cluster Development** with subcomponents being- (i) support establishment of cluster level Industry Associations (IAs), (ii) supply chain support (roads, warehouses, markets). **The third component is Fostering Market Led Production and Resilience Enhancement** with sub components being (i) promoting climate resilient technologies and their adoption (ii) facilitating market linkages through market intelligence and product aggregation (iii) facilitating access to and responsible use of financial services. **The fourth component is project Management, Monitoring and Learning.**
3. APART would support value addition in the production and post-harvest segments of selected agriculture value-chains; facilitate agribusiness investments through inclusive business models that provide opportunities to smallholder farmers as well as stimulate the establishment of new small and medium agribusiness enterprises; and support resilience of agricultural production systems in order to better manage increasing production and commercial risks associated with climate change and marketing of agro produce, in the targeted districts. The project would adopt a cluster strategy within the targeted districts to generate economies of scale; promote vertical and horizontal links between local agricultural enterprises; enable diffusion of innovations; leverage network externalities; and channel public support for services and infrastructure. By adopting a cluster approach, the project would enable all the value chain participants to develop competitive and innovative products that meet market demands rapidly and successfully.
4. APART is fostering market led production and resilience enhancement. It also supports small to large scale infrastructure development activities. Development of these projects as per the envisaged objectives would have potential for negative environmental impacts. As an

environmentally aware and socially responsible Society/Organization, Assam Rural infrastructure and Agricultural Services (ARIAS) Society is cognizant to the need to mitigate the negative environmental impacts of projects in its portfolio and has developed systems to safeguard the environmental concerns. To comply with the environmental safeguard requirement a baseline environmental status of project sites has to be established before activity initiates in the field. It will be done through primary monitoring and surveys for relevant parameters and secondary data collection.

5. To provide a database against which short or long term environmental impacts of the project can be determined, the existing baseline environmental data are to be collected. Baseline Environmental monitoring of certain environmental attributes like Soil quality, Sediment quality, Ground Water quality, Surface Water quality etc. is a basic need of this project which may be complied through this consultancy services.
6. With this in view, the ARIAS Society intends to hire a reputed laboratory (*NABL accredited/MoEFCC accredited/SPCB certified would be preferred*) to take up a Baseline Environmental Monitoring in all 16 Project Districts under APART.

(B) OBJECTIVES:

7. The key objectives of the assignment are:
 - a) To provide a database of certain environmental attributes like Soil quality, Sediment quality, Ground water quality, Ground water availability, etc. against which short or long term environmental impacts of the project can be determined;
 - b) To provide an early indication should any of the environmental parameters fail to achieve the acceptable standards
 - c) To monitor the performance of the project and the effectiveness of mitigation measures;
 - d) To verify the environmental impact predicted in the EMF/EMP
 - e) To determine compliance with regulatory requirements
 - f) To take remedial action if unexpected problems or unacceptable impacts arise; and
 - g) To provide data to enable an environmental audit

(C) SCOPE OF THE ASSIGNMENT & TASKS TO BE CARRIED OUT BY THE CONSULTANT:

8. The baseline environmental status of project area will be established through collection and analysis of environmental attributes like Soil quality, Sediment quality, Ground water quality, Ground water availability, Surface Water quality, etc. During March to April 2019 (Pre-monsoon season) and September to October 2019 (Post-monsoon season).
9. The study should include the following but not limited to:

Type of Monitoring (Baseline)	Frequency and Season	Parameters
Surface Water (Agri. And fish Production Cluster)	Twice a year in Pre & Post monsoon season. Analyse 25 parameters as listed	<ul style="list-style-type: none"> • Total Carbon • pH • Dissolved Oxygen • Biological Oxygen Demand • Free Ammonia (as N)Boron • Sodium Absorption Ratio • Electrical Conductivity • Pesticide and fertilizer content
Ground Water (Agri. Production Cluster)	Twice a year in Pre & Post	<p>(a)General : Colour, odour, temp, pH, EC, TDS</p> <p>(b)Nutrients : NO₂ + NO₃, orthophosphate</p> <p>(c) Organic Matter : COD</p>

Type of Monitoring (Baseline)	Frequency and Season	Parameters
	monsoon season. Analyse 20 parameters as listed	(d)Major ions : K+, Na+, Ca++, Mg++, CO ₃ , HCO ₃ , Cl, SO ₄ , (e)Other inorganics : F, Fe, B, As, Pb, Pesticide and fertilizer content and other location-specific parameter, if any *Potential yield and depth of water table information
Soil (Agri. Production Cluster)	Twice a year in Pre & Post Monsoon season.	pH, Texture, Particle size distribution, Electrical Conductivity, SAR, Fertility, Total Organic Carbon, NPK ratio, Al, Sulphates, Exchangeable Potassium, Exchangeable Sodium, Exchangeable Calcium, Exchangeable Magnesium, CEC, Water content, Moisture retention capacity, boron (B), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo), zinc (Zn), nickel (Ni) and chloride (Cl), Pesticide and fertilizer content
Sediment (Agri. And fish Production Cluster)	Twice a year in Pre & Post Monsoon season.	Texture and Elements: Texture, Organic matter, Total carbon, nitrogen and sulphur, Organic carbon Trace/ heavy metal : Antimony (Sb), Arsenic (As) Selenium (Se) Berelium (Be), Zinc (Zn), Mercury (Hg), Cadmium (Cd), Lead (Pb), Copper (Cu) and Iron (Fe)

The proposed service includes sampling, laboratory testing of samples and analysis of environmental monitoring report as per CPCB standard guideline. Sampling details are as under:

Sl. No.	Environmental Attribute	Frequency	Sampling Locations	Total No. of Samples
1.	Soil Quality	Twice (Pre and Post Monsoon)	45	90
2.	Sediment	Twice (Pre and Post Monsoon)	10	20
3.	Surface Water Quality	Twice (Pre and Post Monsoon)	45	90
4.	Ground Water Quality	Twice (Pre and Post Monsoon)	45	90

Note:

- I. The exact sampling / monitoring location must be selected as per criteria provided by ARIAS Society.
- II. ARIAS society may ask the consultancy firm to carry out soil, sediment, water sampling in presence of ARIAS subject experts.
- III. A team should be deployed at site for carrying out field monitoring. These persons should be available at site till the end of the monitoring period.
- IV. Sampling and analysis should be carried out as per CPCB and MoEF codes and guidelines.
- V. The analysis of samples shall start within 01 (one) day from the date of receipt of samples from the site and should be completed with 10 days. The complete analysis results of all samples should be submitted within 15 days after completion of each seasonal sampling

- VI. Safety and security of consultancy firm's personnel and the machinery brought or used by them will not be the responsibility of the ARIAS Society and neither shall the Society be liable for the same in any case whatsoever.

(D) FIELD VISITS/ STUDY AREA:

10. The field work is to be conducted in the 45 blocks (30% of total 148 blocks) spread over 16 districts of Assam viz. Nagaon, Sonitpur, Barpeta, Karbi Anglong, Kamrup, Dhubri, Golaghat, Kokrajhar, Lakhimpur, Darrang, Cachar, Sivasagar, Jorhat, Goalpara, Morigaon and Nalbari. Selection of sampling location/blocks will be finalised through detailed discussion with the consultancy firm before commencement of work in the field.

(E) CONSULTANCY PERIOD:

11. The assignment shall be completed within **6 months (180 days)** of contract signing in two phases i.e. post-monsoon and pre-monsoon season. Since time is an essence of this assignment, there shall be no delay in conducting the study and submission of reports as per prescribed time schedule. There may be a three months lean period between these two seasons when no work will be performed by the consultant in field.

(F) TEAM COMPOSITION: KEY PROFESSIONALS WHOSE CVS WILL BE EVALUATED:

12. The CVs of following professionals will be evaluated for the purpose of deciding merit

S. No.	Designation	Qualifications and Experiences
1.	Team Leader	Master's Degree in Science or equivalent or Bachelors Degree in Engineering / Technology or equivalent or Ph.D. with minimum of 15 years experience in laboratory work. Experience in handling assignment assisted/funded by any international/national organization like UN, the World Bank, DFID, etc and/or any international/national NGO institution is desirable
2.	Supervisor/Manager	Master's Degree in Science or equivalent or Bachelors Degree in Engineering / Technology or equivalent with minimum of 10 years experience in laboratory work
3.	Sampling and analysis Specialist	Bachelor's Degree in Basic Science or equivalent with minimum of 5 years experience in laboratory work
4.	Laboratory Assistant and Field Staff	High School with Science with minimum of 2 years experience in laboratory work or similar in nature

(G) SERVICES AND FACILITIES TO BE PROVIDED BY THE CLIENT:

13. The services and facilities to be provided by the client are:-
- The Client will provide relevant documents as per availability to enable the consultant perform the job smoothly during the period of consultancy. A list of project blocks where sampling will be done will also be made available to the consultant.
 - If necessary cooperation of the line Departments involved shall be ensured by ARIAS Society.

(H) EXPECTED OUTPUT FROM THE CONSULTANT:

14. A well compiled data report with possible analytical details on baseline environmental attributes with special reference to the selected blocks for this study, including all relevant issues as per objective and scope of the assignment. The report should clearly spell out the level of each parameter within certain environmental attribute with reference to standard. ARIAS Society may desire the consultant to make a power-point-presentation, indicating summary of activities, findings, special remarks, etc after submission of draft report at mutually agreed time & date(s). The views of the Review Committee emerging during the presentation shall be addressed in the final report.

(I) SCHEDULE FOR SUBMISSION OF REPORTS & PAYMENTS:

15. The consultant shall furnish to the client, the following reports in soft and hard copy. All documents shall be in English.
- a) Inception Report: The consultant is required to submit an inception report within 10 (ten) working days from the date of contract agreement. It is expected that the consultant will mobilize the resources within 7 (seven) days from the date of contract agreement. The report shall cover the following:
 - i) Task assignment and monitoring schedule
 - ii) Work programme
 - iii) Proforma for data collection
 - iv) Key personnel to be employed
 - v) Time frame for submission of various reports
 - vi) The consultant shall carryout the modification if required in the inception report based on the client's observations and comments. The approval to the inception report will be given by the client within 7 (seven) working days of its submission with desired changes incorporated.
 - b) The consultant is required to submit a monitoring results within 45 (forty five) days from the date of contract agreement. This report should contain all monitoring results in prescribed format following the scope of work.
 - c) Final Report: The consultant shall submit a final report for each season containing final complied monitoring results with photographs, coordinates & other details within 75 (seventy five) days from the date of contract agreement as per schedule shown below. Comments of the ARIAS Society on the draft report based on discussions with the consultants would be given within 7(seven) working days of its receipt. The consultant shall incorporate modifications as required in the draft report and submit the final report for approval within 10(ten) working days.

Sl. NO.	Report Type	Number of Copies	Schedule from the date of agreement	Payment	Remarks
Season 1					
1	Inception Report: After mobilization of monitoring team; submission of detailed monitoring schedule for season 1	3 copies	Within 10 days	10%	Payment on acceptance of the report
2	Submission of monitoring results	3 copies	Within 45 days	20%	Make a power-point-presentation
3	Final complied monitoring results with photographs, coordinates & other details	3 copies	Within 60 days	20%	Payment on acceptance of the report
Season 2					
1	After mobilization of monitoring team; submission of detailed monitoring schedule for season 2	3 copies	Within 10 days	10%	Payment on acceptance of the report
2	Submission of monitoring results	3 copies	Within 45 days	20%	Make a power-point-presentation

Sl. NO.	Report Type	Number of Copies	Schedule from the date of agreement	Payment	Remarks
3	Final complied monitoring results with photographs, coordinates & other details	3 copies	Within 60 days	20%	Payment on acceptance of the report

Note:

- i) Reports are to be furnished in hard copies along with soft copies in PDF as well as in MS Office applications.
- ii) Review Committee: All reports will be examined and approved by a committee indicated in para 16 below.

(J) REPORTING AND REVIEW:

16. The consultant will report to the Sate Project Director (SPD) of ARIAS Society, Govt. of Assam. The reports will be reviewed by a committee comprising the Deputy Project Director (Chairman); Environment Management Specialist (Member Secretary) and other designated member of PCU.
