

# Draft **Terms of Reference**

## Consulting Services for 'Preparation of Detailed Project Report (DPR) for Education and Research in Assam Forest Department'

### **I. Background:**

Assam's population is expected to increase to 34 million by 2021<sup>1</sup> and continue to grow. A vast majority (86%) still resides in rural areas<sup>2</sup>. Catering to the demands of a rising population as well as meeting its developmental goals is going to be a major challenge for the state, especially in terms of managing the pressure on its forests and natural resources to meet those needs. It is also important to note that Assam is a primarily rural state, with 53% of its population engaged in agriculture<sup>3</sup>. Production of all crop types has been increasing<sup>4</sup>, and the majority of the rising population is bound to stay within the sector. This means that the pressure on forest areas to make way for more agricultural land is set to continuously increase. This also sets the stage for increasing instances of man-animal conflicts as people breach natural habitats to meet their needs. Further, the global issue of climate change is a major threat to Assam's rich and complex ecosystems. Forest communities that depend directly on forests will be especially vulnerable. This interrelated web of challenges being faced by the state needs urgent solutions. The Forest Department, being the custodian of the forests, operates at the juncture where people and natural resources interact. The department needs to address these challenges, while also increasing its capacity to do so.

To support the Forest Department of Assam in its endeavor to effectively manage its forest and biodiversity, the French Development Agency – Agence Française de Développement (AFD) and the State Government of Assam co-funded "Assam Project on Forest and Biodiversity Conservation (APFBC)". Phase – I of the project was implemented between February 2012 and May 2019.

After successful implementation of Phase I, APFBC Phase II began in August 2019, with a budget of € 62.5 million (INR 500 crore). AFD will contribute 80% of the budget at € 50 million (INR 400 crore) and Government of Assam will contribute 20% of the budget at € 12.5 million (INR 100 crore).

### **II. Project Description:**

The Assam Project on Forest and Biodiversity Conservation Society (APFBCS), a Special Purpose Vehicle created by the Government of Assam and registered under the Societies Registration Act is mandated with overall execution, management, and coordination of the project activities through a Project Management Unit (PMU) established to implement the project. Project implementation sites - Forest Divisions and other entities – is considered as Field Implementation Units (FIUs). The PMU is supported by the Project Management and Monitoring Consultant (PMMC) for technical assistance and project monitoring. The overall vision of the project is that it contributes through the Forest Department to the conservation of nature for a "*healthier ecosystem and happier communities*". Participatory biodiversity management, sustainable livelihoods of communities dependent on forests and biodiversity, and institutional strengthening are key objectives under Biodiversity Conservation. These actions would support larger goals under the Conservation of Ecosystems component and the overarching vision of the project.

The Forest Department of Assam has a technical wing - Research, Education, and Working Plan (REWP) wing, details are mentioned in the site (<https://forest.assam.gov.in/information-services/rewp-research-education-and-working-plan>). There is 1 circle and 8 divisions under the REWP wing. This technical wing of the department is responsible for the following functions:

1. Forest resources inventory and assessment

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1 [http://censusindia.gov.in/Census\\_Data\\_2001/Projected\\_Population/Projected\\_Population.pdf](http://censusindia.gov.in/Census_Data_2001/Projected_Population/Projected_Population.pdf)

2 [http://censusindia.gov.in/2011census/censusinfodashboard/stock/profiles/en/IND018\\_Assam.pdf](http://censusindia.gov.in/2011census/censusinfodashboard/stock/profiles/en/IND018_Assam.pdf)

3 <https://hfw.assam.gov.in/documents-detail/population-and-women-empowerment-policy-of-assam>

4 <http://planningcommission.gov.in/plans/stateplan/present/assam.pdf>

2. Working Plan: There are three Working Plan Divisions in Assam.

- a. Upper Assam Working Plan Division, Jorhat
- b. Lower Assam, Working Plan Division, Jalukbari
- c. Working Plan Division, Hills Diphu

The Working Plan Divisions are responsible for preparing the Working Plans for all Reserved Forests in Assam on the basis of field data.

3. Silviculture Division: This Division is responsible towards the following:

- a. Standardization of nursery technique
- b. Study of change of vegetation
- c. Study of growth of species in different forest types
- d. Development of method of bamboo propagation
- e. Development of method of orchid propagation
- f. Cultivation method of medicinal plants

4. Genetic Cell Division:

- a. Selection of candidate plus trees and plus trees
- b. Management of seed stand/seed production area
- c. Development of seedlings, see orchards and clonal orchards
- d. Research on high tech nursery and advanced techniques

5. Education:

There are two Forest Schools under the Assam Forest Department namely - The Assam Forest School, Jalukbari, and the Assam Forest Guard's School, Makum. The frontline staffs of the Assam Forest Department are trained in the Schools. Two types of trainings are imparted in both the schools (i) 6 months induction training for newly appointed front line staff and (ii) 3 months in service training for the old staffs. Refresher courses of short term are also organized in the school.

6. Timber treatment and seasoning along with furniture manufacturing

7. Capacity building and training of frontline staff

This wing has the responsibility of strengthening the Research, Education, and Working Plan activities in the state, including planning, strategizing, implementing, and designing road maps for the Department.

In the APFBC Phase II, the REWP wing would contribute in the implementation and monitoring of important project activities like strengthening of research & education cell, silviculture research, and forestry education also ensuring outcome and disseminating the findings for strengthening the department.

**The REWP envisages a detailed roadmap of the priority activities which would be implemented by the Department and support in APFBC Phase II project. The roadmap shall specify the action plan to implement the activities in the coming years in a structured manner. The detailed roadmap would be an output of the Detailed Project Report (DPR).**

**III. The project is divided into four major components. Brief description of each component is presented below:**

1. *Component 1: Conservation of Ecosystems:* the key focus of Phase II is conservation of forests and wildlife. The component is divided into two sub-components to ensure each receives due attention:
  - a. *Sustainable Forest Management:* activities will include
    - State-wide forest resource mapping will be conducted to form a database of the state's natural resources and conservation needs.
    - 12,500 ha of plantations,
    - Setting up Climate Change and REDD+ processes and
    - Improvement of infrastructure needed by frontline staff
  - b. *Biodiversity Conservation:* addresses the critical conservation needs of the rich biodiversity of the state through activities as
    - Improvement of Protected Area management,
    - Conservation efforts for a few key species (especially those that have not received enough attention so far),
    - Outreach efforts to spread public awareness and
    - Supporting the Assam State Biodiversity Board in making its Biodiversity Management Committees stronger.

This component will also contain a number of technological interventions aimed at enhancing the department's conservation efforts and effectiveness.

2. *Component 2: Community Engagement* aims to
  - a. Further strengthen the 136 existing communities from Phase I as well as support 125 new communities through training and supporting JFMC/EDCs for joint forest management and linking them with alternate livelihood options.
  - b. Build market linkages to ensure that the livelihood interventions are successful and sustainable.
  - c. Converge with existing government schemes to ensure forest fringe communities reduce their dependence on forest resources
  - d. Form Self Help Groups and Joint Liability Groups to allow beneficiaries to function independently and reap benefits from the activities initiated under the project even after the project is over.
3. *Component 3: Institutional Strengthening* addresses Forest Department's most urgent institutional gaps, ensuring that it is equipped to deal with the complex challenges it faces.

Activities are as under:

- a. Conduct of a comprehensive HR study including strengthening of the legal cell, procurement cell and research and education cell
- b. Digitizing deptts.'s work by strengthening the Forest Management Information System (FMIS),
- c. Improving the human resource module of the FMIS,
- d. Supporting the Forest Schools by addressing their infrastructural requirements.
- e. Project management of Phase II.

#### 4. *Component 4 (Transverse Component): Climate, Gender and Social Inclusion*

Throughout the project activities, *Climate, Gender and Social Inclusion* will be recurring and cross-cutting themes for all activities. This is reflected in the Project's Environmental and Social Commitment, which will be fulfilled through the Environmental and Social Management System and the Gender Action Plan. The project is committed to ensuring fair gender representation as well as inclusion of vulnerable sections of all stakeholders, especially in case of its beneficiary communities. This translates to a participative approach wherever applicable, such as for microplanning with the community; and an inclusive approach inviting a broad representation of community members, such as in case of livelihood trainings. Considering the wide ambit of project activities which would interact with forests, biodiversity and other large infrastructural undertakings (equipment, vehicles, buildings, etc.), the Project shall closely monitor its activities to ensure alignment with its climate, gender and social inclusion commitments.

**Expected Outcomes of the Project:** The expected outcomes of APFBC Phase-II are as under:

- Enhanced sustainable and participatory forest management under changing climatic conditions.
- Sustainable and participatory management of biodiversity/ecosystems.
- Improved livelihood of forest-dependent communities.
- Strengthened institutional capacities for inclusive management of natural resources.

**Project Documents:** Further details of the project, implementation arrangements, and the project documents are available on the project website [www.apfbc.nic.in](http://www.apfbc.nic.in) .

#### **IV. Scope of the Assignment:**

The scope of the assignment is to prepare a Detailed Project Report (DPR) for the REWP Wing by the Consultants/Agency. The DPR would prepare a roadmap for infrastructure facilities, utilities and activities required to meet the need of REWP for the next two decades

The following are the suggested (but not limited to) scope of the assignment:

- (a) Assess the infrastructure needs/gaps for strengthening research & education cell, silviculture research, and forestry education
- (b) Preparation of the plan for forest resources inventory and assessment, training of frontline staff, silviculture research, genetic and planting material research, timber, and Multi Function Panel (MFP) treatment and seasoning along with furniture and cottage industry manufacturing
- (c) Detailing the need for real time monitoring of departmental research plots, up-gradation of arboretum for research, the establishment of seed production areas, quality seedling production, seed testing and certification, vegetative propagation area, maintenance of the orchid house and herbal garden and propose market linkages for scaling up the activities at state-wide level.
- (d) Draft a detailed proposal for development of laboratory for endemic species, rare and endangered flora, formation of a statistical cell for data analysis and record-keeping, the establishment of a tissue culture lab, and establishment of an herbarium collection
- (e) Forest education section must-have detailing of establishing proper physical fitness facilities, including the creation of a gymnasium, improvement of the ground, and procuring sports equipment, specialized efficiency enhancement training and provision of inviting trainers from other states/counties for special training needs.
- (f) Provide detailed designs that include construction drawings, detailed cost estimates, engineering drawings, for all proposed facilities/infrastructure in each of the target activities. The technical specifications should be following the approved Indian Standards on sustainable infrastructure designs and adhere to the applicable regulatory standards of the Govt. of India.

- (g) Assess the capacity needs of the stakeholders in implementing the proposed activities and facilities to develop the capacity
- (h) Prepare a plan to leverage the partnership and converge with the schemes of the Government line Departments to sustain the proposed activities
- (i) Prepare a sustainability and maintenance plan of the proposed activities and facilities
- (j) Submit regular progress reports to the Project Director, Project Management Unit (PMU) on the preparation of DPR

**V. Components of DPR :**

To upgrade the research, education, and working plan activities, the following components are to be covered in DPR by the Consultants.

**A. Strengthening of Research&Educationcell**

Research Education and Working Plan wing is the specialized, technical wing of the Forest Department. Under this component, the following sub-activities may be covered:

1. Review of existing Draft Working Plans, update data and fill in the gaps to meet the National Working Plan Code-2014 standards.
2. Take up forest resources inventory and assessment especially for rare and endangered plant species including Minor Forest Produce and medicinal and aromatic plants that have the potential to be propagated for their conservation and economic/cultural values.
3. Prepare a road map for the revitalization of the existing timber treatment and seasoning plant and explore the possibilities of alternatives including bamboo / Lantana seasoning and furniture and cottage industry manufacturing.

**B. Silviculture and GeneticResearch**

- a. The Silviculture Cell had received an infrastructure upgrade under APFBC Phase 1 and have conducted a few research activities. The DPR would provide a detailed list of activities and implementation plan of the silviculture and genetic research that would be implemented under the Phase II. Under this component, the following sub-activities are to be covered in the DPR:

- Analyze and undertake trends analysis of data obtained from departmental research plots and suggest ways for real-time monitoring using RS/GIS options.
- Strengthening existing departmental Arboretums with development of key conservation education and outreach materials
- Plan and delineate seed collection and propagation methods for Rare endangered or threatened (RET) species
- Provide linkages with academic / research institutions for quality seedling production, seed testing, and certification
- Provide community support livelihood linkages for scaling up production in departmental orchid house, herbal and medicinal plans gardens

- b. The Genetic Cell focuses on the conservation of rare and hard-to-grow species and identifying best practices for their cultivation. Under the project, a hi-tech nursery was implemented to study and revise growth techniques of the critical species. This research proved valuable as the hi-tech nursery is now being used as a training tool to demonstrate best practices on how to grow high-quality seedlings. For Phase II, the following sub-activities are to be covered:

- Development of collaborative academic/ market linkages labs for propagation conservation of endemic species including RET flora
- Establish statistical cell and analyze historical data to derive up to date trends and analyses
- Develop E-Herbarium and create digital archive of relevant historical silvicultural / forestry records

### C. Forestry Education

There are two forest schools in Assam: The Assam Forest School at Jalukbari and the Assam Forest Guard School at Makum. Currently, both require infrastructural improvement. The DPR should prepare a roadmap for the activities to improve its two training institutes in the following:

1. Plan to establish proper physical fitness facilities, including the creation of a gymnasium, state-of-the art running track and football ground (at AFS Jalukbari), Swimming Pool, and procuring sports equipment
2. Provide road map for preserving heritage structures (including archival data) at both the training schools and Timber Treatment Plant for a potential Assam Forest Musuem.
3. Support with development of course curriculum and specialized efficiency enhancement training
4. Develop revised course material for frontline staff and general trainings for the frontline staff
5. Design and develop training schedule and modules for Training of Trainers (ToT)
6. Lease and establish collaborations with scope for future MOUs for training and advance courses of specific areas at suitable and recognized national and international organizations.

### VI. Duration of the assignment:

The duration of the assignment is for 4 months. The duration may be extended depending on the need of the project with mutual agreement of the parties.

Sl.	Activities	Months			
		M1	M2	M3	M4
1	Conduct stakeholder consultation				
2	Conduct needassessment of the capacity building, education and research priorities				
3	Prepare plan for strengthening of Research & Education Cell				
4	Prepare silviculture research plan				
5	Prepare forestry education plan				
6	Submit draft DPR and state level validation workshop report				
7	Submit final Detailed Project Report (DPR)				

### VII. Deliverables and Schedule of Payment:

Sl.	Deliverables/Milestone	Submission Timeline from contract signing	% of payment
1	Report highlighting training and capacity building, education and research priorities and needs assessment of the stakeholders	M1	20%
2	Draft DPR and state level validation workshop	M3	50%
3	Final Detailed Project Report (DPR)	M4	30%

### VIII. Team composition:

The consultancy firm needs to deploy the following key staffs, whose CVs are to be evaluated during evaluation of the technical proposal. The details of the non-key experts and support staff, if required for the execution of this project are also to be mentioned:

Sl.	Position	Qualification	Area of specific expertise desired / prerequisite	Person months required
<b>Key Experts*</b>				
1.	Biodiversity and Forest Management Specialist (Full time)	Doctorate/Postgraduate or advanced degree in Forestry Management/ Forestry/Biodiversity/Life science/ Ecology/ environmental Sciences/Physical geography (RS/GIS) or related field.	Minimum 15+ years of experience in Forestry research, teaching/training, working plan, wood technology, extension, administration, and management with experience in research projects, policy formation, implementation, and analysis. Experience in project management/ leading teams in government projects/ Research Institute/ organization is mandatory.	4
2.	Communication Specialist (Full time)	PG degree in Mass Comm/ Media Studies/ Journalism/ Env Sciences or Graduate with 5 years plus work experience in journalism.	5+ years in Designing, planning, and implementing multimedia communication plan/campaigns. Demonstrate extensive experience in communication projects of forest and biodiversity conservation/ livelihoods promotion/gender, social work etc.	3
3.	Education/Training Specialist (Full time)	Postgraduate or advanced degree in Forest Management/ Forestry/Education/ Social Sciences/ Life Sciences or related fields.	8+ years of experience in teaching Forestry, training and extension, training and management with experience in formulation and implementation of education projects. Experience in project management in government projects/ Research Institute/ organization would be preferred.	2
4.	Forest Management Specialist (Full time)	Postgraduate or advanced degree in Forest Management/ Forestry/Education/ Life Sciences or related fields.	5+ years of experience in Forestry Management training and implementation. Experience in project management in government projects / Research Institute/ management organization would be preferred.	3
<b>Non-Key Experts</b>				
5.	Project Associates (3 nos) (Full Time)	Postgraduate in or advanced degree in Forest Management/ Forestry/Education/ Social Sciences/Life Sciences or related fields.	2+ years of experience in research/ extension/teaching in government projects. Experience in northeast region is preferred. Knowledge of local language would be an added advantage.	12 (4 months x 3persons)

\* (The Team would be allocated space in REWP Division, AranyaBhawan to function on daily basis, however frequent travel to Divisions is expected).

### IX. Data, Services and Facilities to be provided by the Client:

Services and Facilities: PMU shall provide the Consultant with all services, necessary/relevant inputs, and background information/documents at its disposal in respect of the project, as may be required, including training venue and logistics cost.

Counterpart Personnel from Forest Department's side shall be decided during the project inception meeting.

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