



Government of the People's Republic of Bangladesh
Office of the Project Director
Sustainable Forests & Livelihoods (SUFAL) Project
Bangladesh Forest Department
Ban Bhaban, Agargaon, Dhaka-1207, Bangladesh

Terms of Reference (TOR)

Consulting Services for
Valuation of Ecosystem Services (Wealth Accounting)
and
Assessment of Payment for Ecosystem Services
(Package no: SD 37)

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Bangladesh Forest Department

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1. Background of the Project

Bangladesh Forest Department (BFD) under the Ministry of Environment, Forest and Climate Change has received IDA loan of US\$175.00 million and GoB contribution of US\$3.90 million for a period of 5 years (01 July 2018 to 30 June 2023) to implement Sustainable Forests & Livelihoods (SUFAL) Project. The overall objective of the project is to improve collaborative forest management and increase access to alternative income generation activities for forest-dependent communities in targeted sites. This will be achieved by: (i) improving public sector management of forest resources and increasing participation of communities in forest conservation and restoration and, (ii) reducing direct dependence and exploitation of forest resources by offering alternative livelihood sources to dependent communities and improving the enabling environment for trees outside forests. Together, these will result in the eventual improvement of forest cover and ecosystem functions, coastline protection and increased employment opportunities for some of the poorest and most vulnerable communities, including women and small ethnic communities. Project will implement a number of activities which are grouped under following four components:

- Component-1: Strengthening Institutions, Information Systems and Training
- Component-2: Strengthening Collaborative Forests and Protected Areas Management
- Component-3: Increasing Access to Alternative Income Generating Activities (AIGAs)
Forest Extension Service & Trees Outside Forests (ToF)
- Component-4: Project Management, Monitoring, and Reporting

This project is designed to contribute in improving organizational effectiveness by adopting improved policy and regulatory framework including infrastructural development, management information system upgrade, and capacity building of BFD officials and investing in degraded and denuded forest restoration and building green belt along the cost. This project will finance tree cover improvement in the ToF (Trees outside Forests) areas, technology transfer, training, research and innovation support and engage forest dependent communities in collaborative forest management practices. By and large the project will enhance wildlife and PA management practices and thereby improve forest and wildlife conservation and to sustain country's Ecosystem Services. These are defined as the benefits that are gained by current and future generations of people from the existence of these ecosystems.

Natural capital includes energy, minerals, land, forests and protected areas and provide outputs and outcomes that directly and indirectly effect human wellbeing and these considerations can be



mainstreamed in development planning and national economic account. Natural capital is especially important to many developing countries because it forms a large share of their total wealth.

No estimation of the value of services (e.g. provisioning, regulating, supporting and cultural services) of Natural Capital of forests and PAs has ever been made in Bangladesh and may at least partly explain the low annual budgetary allocations for the conservation and management of natural capital for long term prosperity and well-being. Countries rely on GDP (gross domestic product) as a measure of economic performance. However, GDP only measures current income and production, telling us nothing about income for the long term, or the assets that underpin income. This truly underestimates and undermines the value of natural capital of the country whereas these forests and PA provide provisioning, regulating, supporting and cultural services to the country and to the communities. For this reason, there lies a rationale of valuating the natural capital and to recommend the government for taking the contribution into consideration of the natural capital into the national accounting system of Bangladesh.

The assignment is targeted to ignite cognizance among policy and decision makers about the true economic value of the forests and PA ecosystems and their services by unveiling the ecosystem's economic worth. Under the Component 1 of this assignment, an output is planned to get a framework for the Valuation of Ecosystem Services (natural capital: Forests and Protected Area) and apply in three areas namely Teknaf Wildlife Sanctuary (TWS), Modhupur National Park (MNP) and Ramgarh-Sitakunda Reserved Forest (RSRF) to influence sustainable development by mainstreaming natural resources in development planning and national economic account. Besides, this assignment shall also look at the opportunity of Payment for Ecosystem Services to set up Payment of Ecosystem Service (PES) scheme in Ramgarh-Sitakunda Reserved Forests (RSRS) under Chattogram Forest Circle.


2. Objective of the assignment

This consultancy has the objective to a) devise a set of Natural Capital Accounts for forestry in Bangladesh that meets international standards, apply these nationally and to selected Protected Areas, and b) explore the feasibility of Payments for Ecosystems Services in Ramgarh-Sitakunda Reserved Forests. In summary, the tasks will include

- a. Devise a methodological approach for compiling forest accounts for Bangladesh that is aligned to the System of Environmental-Economic Accounting Central Framework (SEEA CF)¹ and compliments the standard national accounts of the country. The approach should be informed by the System of Environmental-Economic Accounting for Agriculture, Forestry and Fisheries (SEEA AFF)² and be capable of demonstrating the sustainability of the ecosystem services they provide;
- b. Based on available data, compile draft Natural Capital Accounts for the forests and Protected Areas of Bangladesh;

¹ <https://seea.un.org/>

² <http://www.fao.org/documents/card/en/c/ca7735en>



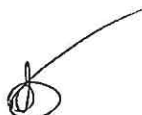
- c. Apply the developed framework to make more detailed valuation of Natural Capital in Teknaf Wildlife Sanctuary (TWS), Modhupur National Park (MNP) and Rangarh-Sitakunda Forest Reserved Forests (RSRF);
 - d. Undertake scoping assessment/feasibility study for setting up Payment for Ecosystem Service (PES) scheme in the Rangarh-Sitakunda Reserved Forests (RSRF);
 - e. Conduct a workshop to disseminate the results of National NCA framework, Forest and Protected Areas Accounts, application in selected PA's and PES Feasibility
3. Scope of Services of the Consultancy

Objective (a)

Ecosystem Service Valuation (ESV)/Natural Wealth Accounting of Teknaf Wildlife Sanctuary, Modhupur National Park & Rangarh-Sitakunda Reserved Forests

TASK I: Development of Framework and Protocol

- i. Conduct a desktop review of inventories, assessments and other studies of ecosystem valuation for targeted forest ecosystem in Bangladesh and validation of data. Give particular attention to recent forest inventories conducted under REDD+project, including Bangladesh Forest Inventory (BFI), Forest Reference Level (FRL) and Drivers of Deforestation and Forest Degradation, and Bangladesh National REDD+ Strategy;
- ii. The consultant shall also study and review existing national financial policy and guideline, accounting and budgeting system of the country;
- iii. Conduct a desktop review of inventories of methods of renowned international organization (World Bank, UNDP, FAO, UNEP, DEFRA etc.) for natural wealth accounting and review existing methods and approaches and prepare analytical report;
- iv. Select appropriate assessment and economic valuation methods, or any other agreed initiative where possible, for financial quantification of social, economic, cultural value of forested ecosystems, stock value, products/goods and services. Methods should be repeatable and replicable, so that follow-up valuations can be conducted to monitor social and economic changes in ecosystem values over time;
- v. Review and analyze international experience in applying methods and approaches for economic valuation of natural wealth (ecosystem service valuation) and make recommendations for their implementation in the context of Bangladesh;
- vi. Prioritize and adapt international experience in applying methods and approaches for economic valuation of ecosystem services to implement in Bangladesh with regards to context of the country (policy, institutional and socio-economic etc.);



- vii. The consultant shall also study and review the Natural Wealth Accounting Framework (NWAf) (Valuation of Ecosystem Services) of the WAVES (of the World Bank) to promote sustainable development by ensuring that natural resources are mainstreamed in development planning and national economic accounts;
- viii. Develop a national guidelines/methodology and prepare a Framework of Natural Wealth Accounting (Valuation of Ecosystem Services) Tool including economic modeling for value prediction in support to develop framework for Protected Areas of the country. This should provide a simple framework for using economic valuation to identify financial and economic instruments which can support conservation in the real world, by helping decision-makers to better recognize, demonstrate and capture the values of ecosystems and biodiversity;
- ix. The consultant shall work on three basic principles, (i) step-by-step implementation of System of Environmental-Economic Accounting Experimental Ecosystem Accounting (SEEA EEA) forest accounts, taking into account available data, regulatory requirements and needs of integrated forest management; ii) flexible and modular approach, in accordance with the priorities in forest management, development of national statistics, and international comparisons; and iii) cross-cutting inter agency interactions. The consultant shall also study and review the similar exercises done in other countries of the world;
- x. Based on the review result, as mentioned above, the consultant shall develop a framework/protocol for Ecosystem Service Valuation (Natural Wealth Accounting) and share this framework/protocol by arranging a workshop in consultation with the PMU to get better insights and comments on the developed framework/protocol;
- xi. The consultant shall consider all the suggestions and comments that would come from the workshop, finalize the Natural Wealth Accounting Framework (NWAf)/Protocol of Teknaf Wildlife Sanctuary, Modhupur National Park and Ramgarh-Sitakunda Reserved Forests (RSRF) and submit to the BFD/PMU for approval;
- xii. The scope of the consultancy also includes study of forest ecosystems and their trends, analyzing their roles in providing direct and indirect services to communities/country;
- xiii. The assignment shall focus on the potential customer's attitude towards forest originated services, how they wish to conserve forest resources for future, willingness to pay to current services and future values;
- xiv. This valuation is expected to concentrate on, tangible and intangible services of the ecosystem including but not limited to forest land assets, trees, herbs and shrubs, other forest and environmental assets like present carbon stock etc.;
- xv. This Consultancy is expected to foster national capacity development and knowledge transfer through learning by doing and training to FD Officials and relevant stakeholders;



- xvi. The determined economic valuation of the natural wealth shall be presented in Bangladeshi taka and US dollars;

TASK II: Field Level Survey

- i. The consultant shall undertake the field level survey (following appropriate statistical methods) based on the approved Framework/Protocol in the PAs: Teknaf Wildlife Sanctuary, Modhupur National Park and Ramgarh-Sitakunda Forest Reserve (RSFR) to get the data of Teknaf Wildlife Sanctuary, Modhupur National Park and Ramgarh-Sitakunda Reserved Forests (RSRF);
- ii. This is expected that the consultant shall design a clear data collection plan and coordinate with the concerned Divisional Forest Officer for the data collection;
- iii. The processing and analyzing of collected data shall have to be done which shall show the current or baseline value of the identified ecosystems services (e.g. provisioning, regulating, supporting and cultural services) and shall be disaggregated according to the different beneficiary groups, sectors and scales as far as possible;
- iv. Raw data, analysis, result etc. and the findings of the survey will have to submitted to the PMU;

TASK III: Development of training manual and training conducting

- i. Based on material reviewed, methods and approaches adapted for valuation of ecosystem services (natural wealth accounting), the consultant shall develop learning materials for (a) Training of trainers ("TOT") and (b) trainings for a wide range of stakeholders.

Objective (b)

Payment for Ecosystem Service (PES) scheme in Ramgarh-Sitakunda Reserved Forests (RSRF)

The overall objective of the assignment is to conduct a scoping assessment/feasibility study of ecosystem services suitable for setting up PES schemes in Ramgarh-Sitakunda Forest Reserve of Chattogram North Forest Division and identify potential buyers of such services, institutional and technical capacity required to supervise such deals, implementation arrangements and PES agreements. This assignment is to be done based on the findings of natural wealth accounting (Valuation of Ecosystem Services) of Ramgarh-Sitakunda Reserved Forests (RSRF)

The consultant/firm will work in close collaboration with SUFAL project and will carry the following tasks:

- i. Review relevant literature and available studies on the types of payments for ecosystem services including successful models at the global and regional levels to assess applicability in the context of Bangladesh.



- ii. Prepare a work plan outlining the approach for a scoping assessment/feasibility study based on the available methodologies, including UNEP publication on payments for ecosystem services³.
- iii. Review of legal system, policies, programs, plans, projects and practices that have an impact on decision-making regarding sustainable land management, degradation and forest conservation in Bangladesh.
- iv. Hold stakeholder consultations (Government, NGOs, Academia, Businesses, local industries, local communities etc.) to inform the potential schemes.
- v. The firm shall go for preparation of strategic plan for potential PES which shall include the following-
 - ✓ defining and assessing potential ecosystem services that could be sold in a particular area
 - ✓ determining their marketable value
 - ✓ Identifying potential buyers who are interested in such services and undertaking an assessment of their willingness to pay
 - ✓ Assessing technical and institutional capacity that would be required to supervise such business transactions (policy, landownership context, existing or required new rules, surveying capacity)
 - ✓ Proposing implementation arrangements, i.e. PES management plan, possible payment types and options, environmental and social impacts, contract types, etc.
- vi. Preparation of PES scheme framework in consultation with key stakeholders on Incentive or market-based mechanisms; Charges (e.g. taxes and user fees), Tradable permits (e.g. emissions trading), Certification schemes (e.g. eco-labels)
- vii. Present report to stakeholders on the outcomes of the analytical work at a workshop;
- viii. Incorporate stakeholder comments in the final report.

4. Key Professionals and their qualification and experience requirements

The consulting firm should have the ability to engage at least the following Key professionals/Key experts along with other non-Key experts to conduct the studies and accomplish the assignment.

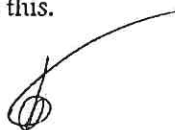
Sl.	Key Position	Minimum Educational Qualifications	Specific Expertise and Experiences
1	Forestry Expert/ (Team Leader)	Master's degree in Forestry/botany/ /Ecology/Natural Resource Management/ Zoology/ Environmental Science or related subjects; preferably a PhD	Twenty (20) years of experience. Proven record of managing projects in similar environment. Demonstrated knowledge and understanding of biodiversity related issues in Bangladesh.

³ <https://wedocs.unep.org/20.500.11822/9150>

Sl.	Key Position	Minimum Educational Qualifications	Specific Expertise and Experiences
2	Ecosystems Valuation Specialist (International specialist for 3 mm intermittent)	Master's degree in Forestry, Botany/Ecology/Natural Resource Management/ Environmental Science or related subjects; preferably a PhD.	Fifteen (15) years of proven experience of ecosystems and/or natural resources valuation in international arena. Experience as International consultant of at least 2/3 assignment of similar nature is much desired. Proven record of capacity development by disseminating knowledge, techniques through training, seminar, and workshop is preferable. Good knowledge and understanding of biodiversity related issues in Bangladesh.
3	Ecosystems Valuation Specialist (National specialist for 12 mm)	Master's degree in Forestry, Botany/Ecology/Natural Resource Management/ Environmental Science or related subjects; preferably a PhD.	Ten (10) years of proven experience of ecosystems and/or natural resources valuation. Experience as national consultant of at least 2/3 assignment of similar nature is much desired. Proven record of capacity development by disseminating knowledge, techniques through training, seminar, and workshop is preferable. Good knowledge and understanding of biodiversity related issues in Bangladesh.
4	Forest Economist	Master's degree in Forest Economics/ Development Studies/ Economics/Forestry /Ecology/Natural Resource Management/ Environmental Science/ related subjects	Ten (10) years of experience for national consultant and 15 (fifteen) years of experience for international consultant experience in Resource /Environmental Economist in similar assignment. Proven experience in preparation of technical/training manuals/guidelines, research papers on natural resource economy in the national/international scenario.

5. Transfer of Knowledge (seminar/consultation workshop/training)

This Consultancy is expected to foster national capacity development and knowledge transfer through learning by doing and training. It will utilize internationally accepted, culturally appropriate, and gender sensitive methods and approaches compatible with the national financial and economic analysis framework along with traditional knowledge. It is desired that the International Ecosystems valuation Specialist will provide training on the methods of valuation of ecosystem services in the PAs and in the Rangarh-Sitakunda Reserved Forests (RSRF). At least 100 officers shall have to be imparted training on this.



6. Data, Personnel, Facilities and Local Services to be provided by the Client

The Project Director (PD) will provide necessary information as per requirement of the Firm. PD will also inform all cost centers to provide arrangements for necessary data and documents as needed for the preparation of reports by the consultant. Consulting firm will engage staff and experts for field data collection.

7. Institutional arrangements

The consultant will report to the PMU and work in coordination with other project consultants and concerned divisional forest officers of the BFD. The firm, for all administrative matters, will report to the PD. All technical reports as well as the quarterly progress reports shall be submitted to the Project Director and Chief Technical Advisor (CTA).

8. Duration of the assignment

- Duration of the consultancy services will be 12 months for study, methodology development, consultation and delivery of valuation Report and all other tasks as listed in the scope of services and lists of deliverables.
- The basic consideration and the essence of the contract shall be strict adherence to the quality and time schedule for performing the consultancy services.

9. Schedule of Deliverables (applicable for both ESV and PES)

Sl	Name of deliverable	Detailed deliverables	Time of Delivery	Payment Percentage
1	Inception Report	a. Detailed work plan of the assignment with timeline b. Detailed framework/protocol development tools with methodology for ESVs of PAs c. Field survey plan (including appropriate statistical methods) for data collection d. Field level survey monitoring plan e. Data analysis techniques	Within 1 st month of contract signing	10%
2	Training manual	a. Valuation of Ecosystem Services (natural wealth accounting) training manual b. Payment of ecosystem service training manual	Within 3 rd month of contract signing	10%
3	Mid-term progress report of field level survey	a. Mid-term field survey report of ESV of Teknaf Wildlife Sanctuary (TWS), Modhupur National Park (MNP) and Ramgarh-Sitakunda Reserved Forests (RSRF) b. Mid-term field survey report of PES of Ramgarh-Sitakunda Reserved Forests (RSRF)	Within 7 th month of contract signing	20%
4	Draft Final Report	a. Draft survey report of ESV of Teknaf Wildlife Sanctuary (TWS), Modhupur National Park (MNP) and Ramgarh-Sitakunda Reserved Forests (RSRF)	Within 10 th month of contract signing	30%

Sl	Name of deliverable	Detailed deliverables	Time of Delivery	Payment Percentage
		b. Draft survey report of PES of Ramgarh-Sitakunda Forest Reserve (RSRF)		
5	Consolidated and final report	a. This report shall be a detailed one which shall include framework/protocol and ecosystem service valuation (natural wealth accounting) & scoping result Payment for Ecosystem Service; b. Training manual and awareness materials etc. c. Valuation of Ecosystem Services (Natural wealth accounting) d. Elaborated report on payment of ecosystem services (PES) e. Formulated, focused communication and marketing strategy targeted to draw attention of high-level government decision makers; f. All reports are to be presented in the national level workshop	Within 11 th month of contract signing	30%



