Department of Fisheries (DoF)
Ministry of Fisheries and Livestock, Bangladesh
Matshya Bhaban,Ramna, Dhaka

Terms of Reference
For
Coastal Aquaculture Expert (National)
Package No.: SD 65

Sustainable Coastal and Marine Fisheries Project (SCMFP)

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1.0 Project Background

Bangladesh lies within the Ganges-Brahmaputra-Meghna Delta—the world's largest, most densely populated delta and one of the richest in aquatic resources. In March 2018, Bangladesh met the requirements for graduating from the LDC upon meeting eligibility criteria in Gross national Income (GNI) of US$ 1230, and according to BBS, the current GNI reaches US$ 1610. This initiates graduating process for Bangladesh to receive official developing country status by 2014. Bangladesh's remarkable development achievements notwithstanding, high levels of poverty and population density remain pressing development challenges, particularly in coastal areas and in the context of climate change.

Given the increasing population pressure the Government of Bangladesh (GoB) has recognized that the expansion of coastal and marine fisheries, both capture and culture, could offer an important pathway to sustainable economic development and poverty reduction. It accounts for nearly a quarter of the agricultural GDP thus emerging as a major growth driver, in the last two decades, as compared to the livestock or the still-dominant crops sectors. In 2018-19, the fisheries sector reached 3.76 percent of total GDP and is also as a leading nation for foreign exchange earner, contributing more than USD 546.28 million in export earnings, with shrimps and prawns as the main species exported.[1,2] In addition, two recent UN tribunal awards, including a Blue Economy Cooperation Agreement with Myanmar and India, extended Bangladesh's Exclusive Economic Zone (EEZ) to 118,813 km2 into the Bay of Bengal and the Indian Ocean. As a result, Bangladesh's maritime area exceeds its land area, offering a new frontier to expand the country's national aspiration toward deriving greater economic wealth from its maritime areas and in doing so, transitioning to a blue economy.

In view to explore the potential from blue economy, the Government of the People's Republic of Bangladesh (GoB) has received a credit (IDA Credit No. V077-BD) from the International Development Association (IDA) for the Sustainable Coastal and Marine Fisheries Project (SCMFP) phase-1 being implemented by the Department of Fisheries (DoF), towards comprehensive, multi-year program to improve the management and economic performance of the country's coastal and marine fisheries (both capture and culture), while improving the livelihoods of the coastal fishers and fishing communities.

The fisheries sector plays a significant role in the food supply, food security, and livelihood security of the country's millions of fishers and other stakeholders. Fish provides 60 percent of all animal protein consumed in Bangladesh[3]. The GoB recognizes the potential for the country to increase the value of its coastal and marine fisheries through more sustainable management and in doing so, improve the lives of poor, coastal inhabitants. Several key sector-wide challenges necessitate government intervention and investments to enable responsible private-sector-driven growth. These include (i) the absence of an effective regulatory framework for managing coastal and marine fisheries; (ii) limitations in the basic public infrastructure necessary to enable private sector investment; and (iii) limitations in both public and private sector capacity for improved fisheries management and optimal productivity.

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[1] World Fish. (2016). Review on Current Situations and Future Prospects of the Fisheries Sector in Bangladesh.
[2] FAO Fishery and Aquaculture Country Profiles. Bangladesh Country Profile Fact Sheets, 2014. At http://www.fao.org/fishery/facp/ BGD/en.
[3] Department of Fisheries, Ministry of Fisheries and Livestock (DOF, MOFL). National Fish Week 2014. Compendium (in Bengali). 144p.

The GoB, supported by the World Bank has launched the implementation of an investment program supporting the fisheries sector. The proposed program goal is to increase coastal and marine fisheries' contribution to the economy, poverty reduction, and environmental stability. Taking into account the need for a long-term commitment and support to effectively strengthen the country's coastal and marine fishing sector and address rural poverty, a program of series of projects (SOP) has been under development since 2016.

Projects Development Objective is to increase coastal and marine fisheries' contribution to the economy, poverty reduction and environmental stability.

The proposed Project Development Objective (PDO) of -BSCMF Phase I, is to improve the management of coastal and marine fisheries and aquaculture.

The SCMFP Phase I have four components mentioned below focusing on:

Proposed Project Components	Proposed Sub-components
22. Enabling Activities for Sustainable Fisheries Sector Investment and Growth Intermediate Objective: Build the capacity of the GoB and research agencies to conduct evidence-based stock management and implement MCS for the artisanal and industrial fisheries.	1.1. Stock Assessment and Development of National Fisheries Management Plan 1.2. Creating enabling conditions for investments in sustainable fisheries 1.3. MCS development for IUU Reduction
2. Improving Infrastructure and Production Practices for Coastal Belt Fisheries (Capture and Culture) Intermediate Objective: Improve quality to ensure food safety and higher value capture from export-oriented fishery and mariculture.	2.1. Infrastructure Improvements for Capture and Culture Fisheries 2.2. Fishery sector value chain and food safety development 2.3. Boosting Aquaculture Survival and Growth Rates
3. Community Empowerment and Livelihood Transformation Intermediate Objective: Stabilize fish stocks and improve coastal communities and poor fishers' livelihoods	3.1 Fishing community institutions and alternative livelihood development 3.2. Business development and market linkages for alternative livelihoods
3. Project Management and monitoring	

2.0 Project Development Objective (s)

1. The envisioned Program Goal is to increase coastal and marine fisheries' contribution to the economy, poverty reduction, and environmental stability. The proposed PDO is to improve management of coastal and marine fisheries and aquaculture.

PDO indicator 1: Issuance of industrial fishing licenses in line with precautionary principle;

PDO indicator 2: Share of industrial and motorized artisanal vessels with installed and functioning vessel monitoring and distress communication equipment;

PDO indicator 3: Share of landed catch and aquaculture production in targeted coastal belt fisheries in safe handling, according to defined criteria;

PDO indicators 4: Targeted households with access to project-promoted livelihood activities outside of capture fisheries (disaggregated by sex).

Component 2 of the project "Improving Infrastructure and Production Practise" is aligned with the targets of PDO indicator 3 and aims to support closing basic infrastructure and technical-capacity gaps

to promote integrated value chain development and compliance with standards. The component will support measures for improving genetic quality, biosecurity, and disease control in shrimp hatcheries that are expected to significantly reduce coastal aquaculture exposure to devastating disease outbreaks and production crashes. These measures are expected to generate productivity increases of up to 20 % to reduce collection of Post larvae (PL) and juvenile fish as a by-product of the harvest of wild shrimp seed. Infrastructure support will be implemented to incentivize private-sector investments, where feasible, and will be phased-in in conjunction with the progress of sector management reforms supported by the project. Such sequencing is important in order to avoid generating additional overfishing pressure by increasing the sector's value. In capture fisheries, the initial efforts will focus on the semi-industrial and motorized artisanal fleet, and will be extended to the industrial fleet in sync with the progress of management reforms. Where feasible, the project will promote green infrastructure technologies for seafood production that support broader ecosystem services and coastal defences, such as mangrove rehabilitation, sea grass, and oyster beds. Investments in value chain development will include mapping, identification, and piloting of new economic opportunities for female workers, who currently operate on the margins and in less remunerative segments of fisheries value chains.

The project will facilitate in establishing and upscale of Cluster Shrimp Farming approach for shrimp and prawn through facilitating conditional matching grants for increased productivity by introduction of GAP/BMP in all level of value chain to ensure quality product and increased market access through improved compliance with international trade requirements from small-scale farming system. This can enhance knowledge and capacity of over 200,000 shrimp farmers of the south-west and South-East region of the country to intervene improved extensive farming practices complying standards for aquaculture production.

This component will further support aquaculture cluster development and cluster farming productivity increase, targeting up to 600 new clusters, including deployment of extension agents for clusters producer mobilization and technical assistance for development of business/infrastructure plans. Competitive Grant funds will be made available on a competitive basis for targeted cluster subprojects aiming at increasing productivity and the post-harvest value added of up to 200 graduating clusters. As an incentive for expansion of aquaculture cluster production, the grant resources will further target (a) enterprise improvements and input shifts to more disease-resistant and higher-yield production, as well as (b) enabling access to basic utilities in order to overcome one of the major obstacles to increasing aquaculture yields per unit area – i.e. the limited availability of 3-phase electricity for pond aeration – with potential rise in farm incomes by up to 25 percent in the short term. In parallel, the subcomponent will support works for canal desilting and rehabilitation of selected canals supporting shrimp aquaculture in the southwest coastal belt. Technical assistance will be provided for consulting services for salinization mapping, hydrological survey, and canal rehabilitation design for scaling up these investments under Phase II, in order to increase survival and growth rates and improve the intensification of aquaculture production throughout the entire coast. The project will intervene shrimp cluster approach in 40 upazilas of 7 coastal districts covering 600 clusters with an average of 15 clusters in each upazila. .

The implementation of cluster approach will be supported by deployment of 1 (one) Coastal Aquaculture Expert (CAE), DPD & APD, PMU of the Project, concerned Upazila and District fisheries Offices to provide with technical, management, administrative support and monitoring of the overall success of shrimp farming system following compliance with GAP/BMP, HACCP procedure to ensure food safety and quality product for improved market access and increased value. Concerned experts and consultants deployed in the PMU will also be responsible for extending expert services on various pertinent issues. The DoF field officials at district and of the project command area will provide necessary assistance like selection of clusters as per approved criteria, delivery of training, facilitates for improved market access, and monitor programmed activities. The knowledge and experiences generated by the Standards and Trade Development Facility (STDF) funded by the World Trade Organization through FAO will be shared for successful organize cluster farming.

In order to improve value chain in cluster shrimp farming area, the infrastructure facilities will be provided as mentioned in 2.1.1, where project will assist to rehabilitate, construct and operationalize

existing post-harvest service centers, upgrade basic and advanced rehabilitation, and modernize of existing service centers/depots/collection centers and built standard service blocks to ensure quality of product. The installation of these centers will be facilitated with ice plant, flake ice, crusher, chilled storage, potable water supply, drainage, and sanitary system with water testing facilities and refresh rooms for workers. Selection of potential service centers will be finalize during project implementation through multiple stakeholder consultation process involving a technical committee comprised with PMU, experts and design and supervision consultancy.

Farm registration including update of existing farmers' database and preparation, printing and supply of ID cards and adoption of e-traceability system be implemented within the project command area including all the cluster shrimp farming operations. Almost three lac (2.0 lac shrimp and 1.0 lac finfish) shrimp and finfish farmers will be covered under this program. The Codex Alimentarius Commission (2004) defined traceability or product tracing as the ability to follow the movement of a food through specified stage(s) of production, processing and distribution. Systems for traceability of fish products are deemed necessary as key elements in ensuring quality and safety pertaining information along the whole fish supply and value chain, from farming to consumer. The overriding goal of traceability is to reinforce the consumers' faith in fish products as high-quality, healthy, clean and safe. A comprehensive electronic database of shrimp/finfish farmers adopting e-traceability be developed and functionalize through project support by deploying a consulting firm during the project period.

3.0 Objectives of the Assignment

Under the over all managérial, administrative and technical supervision of Project Director, PMU, and SCMFP, DoF, the Coastal Aquaculture Expert (CAE) will be responsible for the delivery of services as specified in the Terms of Reference (ToR) and scopes of services mentioned below :

4.0 Scope of Services, and Tasks

Coastal Aquaculture Expert (CAE) will be deployed with the Project Management Unit (PMU) at the head quarter of DoF and s/he will provide co-ordination, technical support and services maintaining liaison with relevant DPDs, APDs, national and international consultants for successful implement in achieving the objectives PDO Indicator 3. The CAE will be responsible to assist PMU in implementation of the envisioned activities of the project with transparency and accountability covering the following tasks:

1. Identify coastal aquaculture sites and cluster farmers for diversify coastal aquaculture specially shrimp and prawn maintaining environmental harmony, economic and market factors, biophysical criteria, and socioeconomic and cultural constraints; and evaluate them in terms of prospective private sector investment;
2. Technical support to conduct training, workshop, seminar, module preparation and provide backstopping support to field staff and clusters farmers for skilled farm management; good aquaculture practices, food safety and hygiene;
3. Develop strategies for prevention and control of disease problems in aquaculture farming system;
4. Assist to address environmental concerns and provide mitigation measures for coastal aquaculture activities;
5. Contribute to the preparation of a design and implementation plan for a central aquaculture information system;
6. Review and assess existing infrastructure (e.g. water supply and drainage), soil and water suitability and services (e.g. hatcheries and feed mills) in the coastal aquaculture subsector and providing technical assistance in semi-intensive culture system;
7. Assist in monitoring of overall success of shrimp farming system following compliance with GAP/BMP, HACCP and other standards to ensure food safety and quality product;
8. Assist in developing cluster farming guideline and internal control system and provide guidance to its implementation through stakeholders consultations at field level;
9. Carry out any other relevant tasks assigned by the Project Director/PMU as and when required;

5.0 . Deliverables Required

- Inception report and work plan within 1 month of joining;
- Guideline preparation for design and implementation plan for a central aquaculture information system.
- Operational Manual for prevention and control of disease problems in Aquaculture farming system.
- Technical handouts on different aquaculture technology;
- Regular monitoring of sub-projects under grant facilities of the projects;
- Submission of monthly, quarterly, annual reports and other progress report as required by the Project.

6.0 Profile of the Consultant

(i) Required qualifications:

- Minimum Master Degree in Marine Science /Coastal Aquaculture/ Fisheries Science.
- Ph. D. in relevant field will be preferred.

(ii) Preferred qualification

- Minimum 15 years working experience in the coastal aquaculture operations especially in shrimp/fin-fish;
- Experience in aquaculture certification, diseases management protocol and audit system development will be an advantage;
- Good team spirit and profound knowledge and experience in the field of project management, administration, communication and facilitation, team building and executing capacity, understand program planning and budget, M&E, reporting system;
- Very good inter-personal skills and demonstrated ability to engage and work with local communities;
- Excellent working knowledge of English & Proficiency in computer application and information technology;
- Experience in relevant field with Development Partner/IDA financed project will be an advantage.

7.0 Selection Method

A consultant will be selected following the Selection of Individual Consultants method as set forth in the World Bank Procurement Regulations for IPF Borrowers, July 2016 revised November 2017.

8.0 Duration of Assignment

The duration of the contract will be for 12 months or up to project period whichever is earlier. However, the duration of the assignment may be increased or reduced based on the performance of the consultant, project needs and availability of budget.

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

The PD, PMU, DoF will arrange all necessary information relevant to the assignment. Office space and necessary logistics will be provided from the project.

10.0 Institutional Arrangement

The consultant will be based at the SCMFP PMU in Dhaka and will report directly to the Project Director. The Individual Consultant will work closely with other consultants working at the PMU and departmental officials. The consultant is expected to undertake the activities (scope of services)

mentioned in this ToR in order to achieve the stated objectives. Under this consultancy, travels are being envisaged. However, travels necessary of the services to achieve the desired objectives, may be undertaken but with prior permission of the PD, PMU and in such cases daily subsistence allowance (DSA) as per contract signed and only the actual costs for travel will be reimbursement. The deliverables will be submitted on time by the consultant to the PD, SCMFP Project, DoF, Dhaka, Bangladesh.