

## Terms of reference for individual Consultants (Crab Hatchery)

### 1.0 Background

Fisheries sector plays an important role in the socio-economy of Bangladesh contributing 3.65% to the National GDP, 23.81% of the agricultural sector, supplying 60% of the domestic animal protein consumption along with the 2<sup>nd</sup> highest sources of export earning and providing direct or indirect employment to 11% of the total population of the country (DoF, 2016). Next to garments, shrimp/Crab/Cuchia and fish product (frozen foods) are the main export items from Bangladesh having increasing potentials to explore trade and employment opportunity due to upraising global demands for quality live/frozen foods. Aquaculture and Fish/Shrimp/Crab/Cuchia export recently considered as the most effective tools for employment generation, poverty alleviation and economical growth of the country. During the last two decades, the trends of frozen food production and export from Bangladesh achieved an appreciable development which increased from 23,761 MT with a value of Tk. 4240.50 million on 1986-87 to 83524 MT with an export value of Tk. 4660.60 million in 2014-2015 (DoF, 2016). Out of 83524 MT exported fisheries products, total 12558.00 MT were Crab and Cuchia. The export earnings from Fish/Shrimp/Crab/Cuchia is expected to be exceeded Tk. 50000.00 million in the current year (2016-17). In fact, the fisheries activities generated during this period mostly due to the attractive profit returns and rapid involvement of the private sector with a view to exploring the expanding domestic and foreign market of the shrimp/Crab/fish products. No doubt, export potentiality of fish/shrimp/Crab/Cuchia mostly enhances the rapid expansion of aquaculture activities through the adoption of recent aquaculture technologies as well as encouraged private investment in fisheries sector. The participation of different stakeholders in the chain of inputs supply, production, transportation, handling, preservation, processing and export of shrimp, Crab, Cuchia and fish industry ultimately creates a sustainable diversified way for investment, employment and agro-business enterprise development.

*Scylla serrata* is the common mud crab lives in the estuarine and mangrove areas and is commonly called as “Shila kakra” and it lives in saline waters. In Bangladesh, coastal farmers have been practicing mud crab fattening mainly in encircled earthen ponds. Increasing demand of mud crab in the local and international markets, it has been gaining popularity among the coastal communities in greater Khulna, Barisal and Chittagong regions. Gravid female with full orange-red egg masses are in great demand in seafood restaurants of the South-east Asian countries. Due to its high market value, people has started to catch immature female crabs and release in some kinds of enclosures and fed them until the gonads developed and filled the mantle cavity. It is needed to improve fattening techniques of mud crab by semi intensive culture method. Crab fattening will be changed the socio-economic status of the coastal communities.

But the coastal crab farmer collects the crabs from natural resource (Mangrove area) and meets up their demand for traditional culture. Now a days, a tendency of pen and cage culture practice of crab is increasing day by day in the coastal area. As a result, the number of crab population is decreased from nature. So, to mitigate this pressure, a crab hatchery is essential to establish in coastal region at Cox,s Bazar or any other suitable area decided by the authority.

### 2.0 Culture of Cuchia (Mud Eel) and Crab in the selected areas of Bangladesh and research Project

Considering the available water bodies and human resources in the country and their potentials for future development, lessons learned from the crab and cuchia fish culture in a small scale form, this particular project has been designed and proposed. Therefore, for better management and uses of fisheries resources, the present Development Project Proposal (DPP) on **Culture of Cuchia (Mud Eel) and Crab in the selected areas of Bangladesh and research** has been designed for implementation over a period of 4 (four) years (July 2015 - June 2019) with an estimated cost of Taka **2573.96 lakh**. The main activities of this project are establishing demonstration farm of Cuchia and Crab, training of DoF officials and farmer, refresher training, workshop and seminar, exchange visit, data collection and data bank development, crab hatchery establishment and operation e.tc. If the proposed project can be implemented properly, it will boost up total fish and crab production, generate income and employment, and enhance export and foreign earnings.



**Objectives :**

- To develop the culture techniques for Crab in coastal area and Cuchia in ponds/rice field;
- To explore of indigenous knowledge on crab and Cuchia, and its habitat regarding community based management of resource;
- To develop skills of all stakeholders on Crab and Cuchia culture and management;
- To create employment opportunities for the poor beneficiaries (Ethnic people) to improve their livelihoods;
- To develop ecosystem health of the aquatic resources for better management of Crabs and Cuchia; and
- To promote export of Crab and Cuchia.

**3.0 Objectives of the Assignment**

The objectives of the assignment (But not limited to) are-

- To assist in the evaluation of the site, planning, designing and construction of a crab hatchery at Cox's Bazar or any other suitable area approved by the authority;
- To assist in the Mud Crab hatchery operation to produce crablet using the appropriate technology;
- To train (Capacity Building) selected DoF officials on the Mud Crab Hatchery operation to produce crablets.

**4.0 Qualifications, Experiences, and Responsibilities of Consultant (Crab Hatchery)**

The qualifications, experiences and responsibilities of consultant are outlines in the table that follows. Responsibilities will include but not be limited to the activities mentioned in column 5.

Sl. No.	Consultant	Educational qualifications	Experiences	Responsibilities
1	2	3	4	5
1.	Consultant (Crab Hatchery) Duration: 12 man months	Must have Master of Science degree in Fisheries/ Marine Science/ Mari culture/ Aquaculture or related subject. PhD holders will get extra benefit.	<ul style="list-style-type: none"> <li>• Must have at least 05 years previous experience in the planning and designing of Mud Crab Hatchery;</li> <li>• Must have at least 08 years experience in the construction of Mud Crab Hatchery;</li> <li>• Must have prior experience in the operation of Crab Hatchery and Crablet production;</li> <li>• Fluency in English and good communication skill.</li> </ul>	<ul style="list-style-type: none"> <li>• S/he will report directly to the Project Director and shall be accountable to the Project Director for his day to day activities.</li> <li>• Consultant (Crab Hatchery) must have to be responsible for overall technical and management activities of Crab Hatchery establishment and hatchery operation under the guidance of the Project Director, DOF.</li> <li>• Provide technical guidance about the designing, construction and operation of Crab Hatchery.</li> <li>• Consultant will be trained up selected DoF officials on the relevant appropriate technology.</li> <li>• The Consultants will work under direct control of the Project Director.</li> <li>• Relevant any other task assigned by the Project Director/project management as and when required.</li> </ul>