



A Study on Sector-based Need Assessment of Business Promotion Council – Fisheries Products

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1. Introduction

The total area of Bangladesh is 147,570 sq km and a wide portion of its land is covered by large rivers. The coastal and marine zone of Bangladesh is one of the richest ecosystems of the world, having high biological diversity. The country is rich in fishery resources, including 260 freshwater fish species, 475 marine fish species, 24 freshwater shrimp species, 36 marine shrimp species, and other important species. The newly-settled maritime boundary with neighbouring states, Myanmar and India, up to 200 nautical miles from the coastline comprising 11.88 million hectares of maritime waters (MoFA, 2014)¹ have huge potential for marine fisheries in artisanal, industrial and coastal sub-sectors. A large part of the coastal area is suitable for shrimp farming, particularly of black tiger shrimp (*Penaeus monodon*) variety identified by the Government as a priority area. Fish and fishery products are the main protein source of Bangladesh. More than 17 million people, including about 1.4 million women depend on fisheries sector for their livelihood by fishing, fish farming, fish handling, processing etc. According to a report published by the Department of fisheries, in 2015, the total number of employed (full-time & part-time) in this sector is about 17.80 million; this is about 11 % of the total population. Out of 17.80 million women employment is 1.40 million, which is about 8.5% of fisheries sector employment.

This study is an attempt to find out the major challenges in the production process, local consumption, export, compliance issues, including SPS (sanitary and phyto-sanitary), of fishery products as well as non-tariff barriers. Appropriate recommendations have been included in the report on how to develop this sector. This study also focuses on the constraints faced by the producers, stakeholders as well as for exporters and suggests which types of training, workshop, seminar are necessary to develop skills of the workforce of this sector. From those trainings and workshops, the fish producers, intermediaries and stakeholders will learn how to produce and process these in a hygienic way, how to freeze, store and package in the world-class standards. They will also gain knowledge of the export procedure. In addition, this research will also help to increase awareness to stop illegal fishing.

2. Objectives of the Study

- To explore the production process and export scenario of fish and fishery products in Bangladesh;
- To examine the major challenges for domestic supply and export of fishery products;
- To identify the domestic market consumption scenario; and
- To find out the necessity of sector-based trainings and workshops to improve the productivity as well as export potential of this sector.

¹ Bay of Bengal Maritime Boundary Arbitration between Bangladesh and India

3. Methodology of the Study

The study has focused on conducting an in-depth analysis of fishery products in Bangladesh. As per the requirement of the project proposal, entrepreneurs and exporters were selected for questionnaire survey. In addition, the qualitative information was collected from various stakeholders, who are directly related to the export of fishery products. Both primary and secondary data have been collected to complete the research task. The researchers have conducted field survey and gathered information through direct interview, telephonic interview as well as through e-mail.

The study has focused on collecting primary data. To that end, interviews have been conducted with key stakeholders using a Structured Questionnaire. The stakeholders in this case were producers, processors, exporters, market authorities etc. Based on the potentials in the fishery sector, the related associations and their members were randomly selected and interviewed for the purpose of this study. The study has also focused on collecting secondary data from different statistical yearbooks, journals, magazines etc. Primarily project documents, such as project proposals, quarterly progress reports, books, journals, and result frameworks and other available documents as well as websites of several organisations were used in order to explore pertinent variables for the study.

4. Overview of the Sector

There are ten exportable frozen foods items in Bangladesh; she exports mainly to European Union, America (North and South), Russia, Middle East and Asian markets. Exported frozen food items produced by the private and public entrepreneurs are Frozen Shrimps & Prawns; Frozen Fish; Fresh & Chilled Fish; Frozen Fillets & Steaks of Fish, Sharks Shells, Skates & Rays; Shark Fins & Fish Maws; Salted & dehydrated Fish; Dry Fish; Live Crabs & Tortoises; and Fish meals. Value Added Shrimp & Fish Products. Among the key items of the above products, frozen shrimp is the main and frozen fish is the second highest exporting items from Bangladesh. In the FY 2014-15, the contribution of the fishery sector to the National GDP is 3.69% and Agricultural GDP is about 23.12%². Bangladesh has exported fish and fishery products about 565.61 million US dollars in 2014-15. At present, only about 20%-25% of installed capacity of the operational shrimp and fish processing factories is being used. About 48% to 50% of the processed shrimp has been exported to EU Countries, 30 % to the USA and the rest to Japan and other countries.

² Bangladesh Economic Review 2015

4.1. Status and Performance of the Fisheries sector of Bangladesh

This section will highlight the status and performance of Fisheries sector in Bangladesh. The following table shows the year-wise fish production in Bangladesh during the last 5 years

Table 1:Year-Wise Fish Production in Bangladesh during the last 5 years ((Metric Tons)

	2010-11	2011-12	2012-13	2013-14	2014-15
A. INLAND FISHERIES	2515354	2683162	2821266	2952730	3085048
(a)Inland Open water (Capture)	1054585	957095	961458	995805	1023991
(b)Inland Close water (Culture)	1460769	1726067	1859808	1956925	2061057
B. MARINE FISHERIES	546333	578620	588988	595385	599846
(a) Industrial	41665	73386	73030	76885	84846
(b) Artisanal	504668	505234	515958	518500	515000
COUNTRY TOTAL (A+B)	3061687	3261782	3410254	3548115	3684894
ANNUAL GROWTH RATE (%)	5.6	6.5	4.55	4.04	3.85

Source: Department of Fisheries, Bangladesh Ministry of Fisheries and Livestock

Fish Production (2014-15): 3.68 m metric tons

Inland Open Water (Capture): **1.02 m metric tons**

Inland Closed Water (Culture): **2.06 m metric tons**

Marine Fisheries: **0.60 m metric tons**

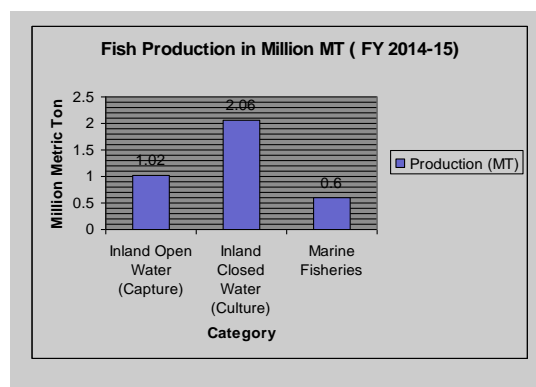


Fig. 1: Fish Production

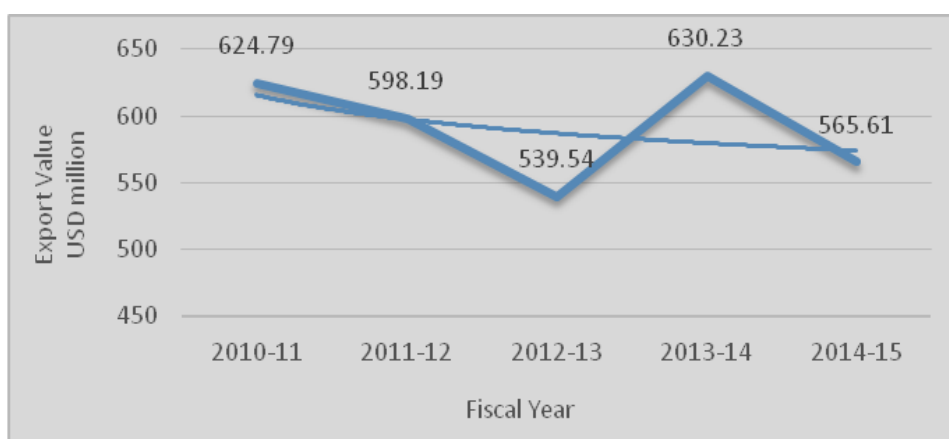
From the above Table 1, we observe that the highest fish production growth rate was 6.5% in 2011-12. After that, production growth rate started to decline and in 2014-15, growth rate was 3.85 % only.

4.2. Export Scenario of Fishery Products:

The major export items of the Fishery sector are Frozen Shrimp & Prawn, Frozen Fish, Fresh & chilled Fish, Salted & dehydrated Fish, Dry Fish and Value Added Shrimp & Fish Products. In the Following table, year-wise export of the Fisheries sector of Bangladesh is given: From the table we can observe that the export growth is negative, except in 2010-11 and 2013-14. In the fiscal year 2015-16(July to April), the export is worth 438.71 million USD.

Table 2: Export Scenario of Fisheries products

Year	Value in million US\$	Growth rate (%)
2009-10	437.39	-
2010-11	624.79	42.84
2011-12	598.19	-4.45
2012-13	539.54	-10.87
2013-14	630.23	14.39
2014-15	565.61	-11.42
2014-15(July-April)	491.92	
2015-16(July- April)	438.71	

**Fig. 2: Value of Export of Fishery Products**

Source: Frozen Shrimp, Fish & others Export from Bangladesh, Export Promotion Bureau (EPB)

4.3. Major Export Destination in 2014 -15 :

According to the Export Promotion Bureau (EPB) data, during FY 2014-2015, the major export destination of frozen fish food are as follows:

Table 3: Major Export Destination

Country	Export (Million US\$)
Belgium	80.51
Netherlands	62.13
UK	55.74
Germany	38.7
USA	20.48

Country	Export (Million US\$)
Russia	18.96
France	16.19
Country	Export (Million US\$)
China	7.30
Denmark	5.71
Saudi Arabia	5.16
Portugal	5.01
Hong Kong	3.43
UAE	3.02

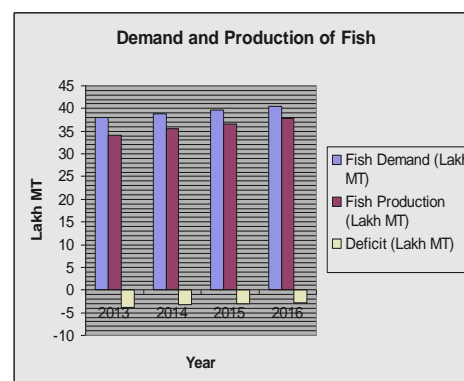
The frozen fish and shrimp sector is the second largest export sector of Bangladesh. Therefore, this sector has a good prospect in our export basket.

4.4. Demand for Fish

Fish requirement or demand based on human nutrition and protein contents in daily diets of Bangladeshi people may be viewed from different angles. Following points are considered for fish requirements/demands: minimum nutritional requirements for the people; fish requirements for poultry and aquaculture feeds; export necessity; probable wastage during handling, transporting and processing; purchasing capacity of the people, etc.

Table 4: Fish demand, production and surplus/deficit

Items	2013	2014	2015	2016
Fish Demand (Lakh Metric Ton)	37.92	38.78	39.65	40.55
Fish Production (Lakh Metric Ton)	34.10	35.55	36.6	37.8
Deficit (Lakh Metric Ton)	-3.82	-3.23	-3.05	-2.75



Source: Department of Fisheries,
Bangladesh Ministry of Fisheries and Livestock

Fig. 3: Demand, Production & Deficit of Fish

4.5. Fish Marketing

Marketing channels are the different routes of product flows from producers to consumers. Value chain may be long or short for a particular commodity depending on the qualities of products, size and nature of consumers and producers and the prevailing social and physical environment.

Major Supply Chain

Domestic Market
Supply Chain – I : Fishermen – Aratdar – Paiker – Aratdar – Retailer – Consumer (Distant market)
Supply Chain – II : Fishermen – Aratdar – Paiker – Retailer – Consumer (Local market)
Supply Chain – III : Fishermen – Aratdar – Retailer – Consumer (Local market)

Overseas Market
Supply Chain – IV : Fishermen – Aratdar – LC paiker – Consumer
Shrimp Marketing Channel in Bangladesh
Channel – I : (shrimp catching from sea ground) Collector - Direct shipment (washing, storage, package in the ship)
Channel – II : (Firm Shrimp) Catchers – Middlemen - Depot owners - Local agents - Exporter

5. Findings from the Field Survey

In this phase, the study has synthesised all the data and information received through primary field survey, email, telephonic interview with the associations related to the fishery sector of Bangladesh. There are four Associations of Bangladesh Fishery Products.

Related Associations of Bangladesh Fishery Products:

Bangladesh Frozen Foods Exporters Association (BFFEA)

Bangladesh Salted & Dehydrated Marine Foods Exporters Association (BSDMFEA)

Shrimp Hatchery Association of Bangladesh (SHAB)

National Shrimp Farmers Association (NSFA)

Based on survey conducted by BFTI, information concerning the constraints faced by the associations, challenges and issues faced by the entrepreneurs, necessity of trainings and workshops as well as expectations of the associations have been organised.

5.1. Constraints identified by the Associations - Fishery Products

Code	Constraints
A	Lack of training and research
B	Illegal fishing
C	Lower supply of quality inputs (quality seed , medicine, food)
D	Lack of knowledge about appropriate fish cultivation and use of medicine
E	Lower access to finance
F	Unavailability of pond/ places for cultivation
G	Unavailability of modern technology
H	Processing standards packaging requirements
I	Problem in storage capacity
J	Low level of knowledge on SPS(Sanitary Phyto-Sanitary) & TBT (Technical Barriers to Trade) measures
K	Inefficiency in disease control

Code	Constraints
L	Lack of awareness building
M	Knowledge gap for market access
N	Lack of market access strategy as well as market diversification
O	Lack of knowledge regarding export procedures
P	Challenges in maintenance of quality

[Source – Primary Field Survey]

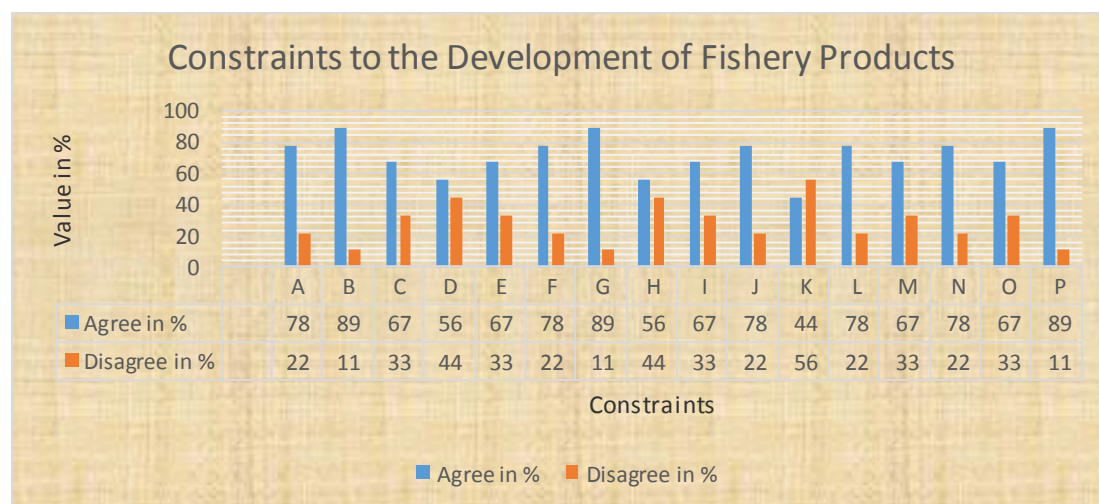


Fig. 4: Constraints faced by the stakeholders in the Fishery Sector

The above figure shows the opinion of the associations concerning the constraints that they face during the production and export of the fish and fishery products. As an example, 78% of the respondents have agreed that there are lack of training and research in the fishery sector of Bangladesh. In addition, 56% of respondents have agreed that there are lack of knowledge concerning fish cultivation and uses of proper medicine.

5.2. Challenges and Issues faced by the Entrepreneurs (Fishery Products)

CHALLENGES AND ISSUES FACED BY THE ENTREPRENEURS	CODE
Overall environment to enter into the business	A
Government Support has increased gradually	B
Technological assistance provided by the Government is gradually increasing	C
Credit facilities have increased in this sector	D
Local chambers and associations are coming forward to overcome the constraints	E
Organisations as well as development partners are contributing to ensure development as well as increase the export of Fishery products	F
Non-Tariff Barriers and cost of doing business have decreased	G

CHALLENGES AND ISSUES FACED BY THE ENTREPRENEURS	CODE
Government's support to participate in trade fair has increased	H
Training and capacity building facilities have increased	I
Access to information has increased to establish business network extension	J
Products are getting administrative and legal support to easy export	K
Friendly environment has been created at the public institutions	L

[Source – Primary Field Survey]

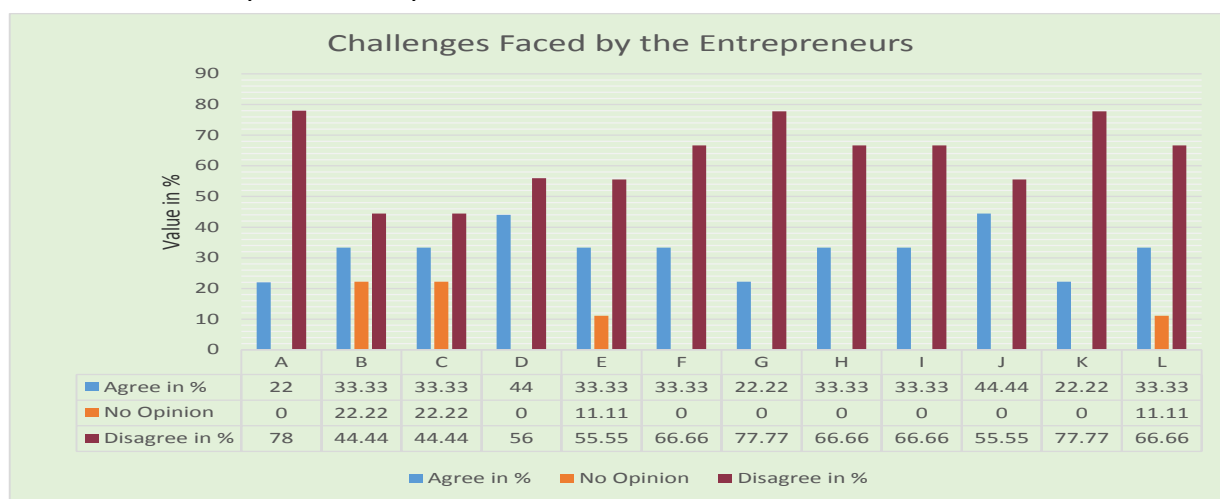


Fig. 5: Challenges faced by the entrepreneurs and exporters

The above figure shows the opinion of the associations concerning the business environment and issues related to the fishery sector. As an example, only 44% of the respondents have agreed that credit facilities have increased in the fishery sector of Bangladesh. And 22% of respondents have agreed that NTBs related to this sector have been decreased.

5.3. Suggestions provided by the Associations of Fish and Fishery Products: concerning Training/Workshop/Seminar

To improve adequate skilled workforce for the Fishery sector of Bangladesh, the following training programmes, workshops, seminars and round-table discussions are recommended by the Associations (Fishery Products).

Name of the Activity	Description of the Activity	Expected Result
(A) Trainings		
Production Process	Training on introducing new technology for fish processing.	Fish processing will be cost effective.
	Training programme on storage and packaging standard.	Probable wastage will be lower.
	Training on how to produce good quality of frozen fish.	Export of frozen fish will increase
	Training on potential production of pond fish culture.	Total fish production will increase.
Supply Chain	Training on effective management of domestic and international supply chain.	Fish Marketing channels will be effective.
	Training on operations and inventory management.	Effective inventory management.
Export- Import Procedure	Training on Rules, Regulation and Customs Duty of Export-Import.	Customs procedural knowledge will increase.
	Training on exploring new market opportunities.	Market Diversification.
Access to Finance	Training on Access to Finance for SMEs in Bangladesh of Fishery sector. Training on Loan Facility and procedure	Investment will increase in the sector that will result more production as well as export.
Compliance	Training on HACCP and traceability with respect to shrimp export.	Shrimp export will increase
	Training programme on SPS (Sanitary Phyto-Sanitary) and TBT (Technical Barriers to Trade).	Non-Tariff Barriers will be lower
	Training on work environment and labor law practice in the Fishery sector.	Non-Tariff Barriers will be lower

Name of the Activity	Description of the Activity	Expected Result
(B) Workshops	Workshop for planning the market potential of non-traditional fishery items like swimming crab, fish skin, shell etc.	Export diversification
	Workshop on new VAT Act and its effect on Fishery sector.	Better Understanding of New VAT Act.
	Workshop on role of NGOs and Development Partners for the development of Fishery sector.	Development of Fishery sector
(C) Seminars/ Roundtable Discussions	Seminar on awareness building programme to stop illegal fishing.	Illegal fishing will reduce.
	Roundtable discussion on Non-Tariff Barriers	Export will increase.
	Seminar on how to release illegal occupation of Haors and Baors.	Illegal Haors and Baors will be available for fish cultivation.
	Seminar on how to adjust with climate change and environmental degradation Seminar on how to reduce water pollution to increase fish production	Awareness building to climate change and pollution.

5.4. Suggestions provided by the Associations of Fish and Fishery Products: Concerning Policy

- ✓ Participating in domestic and international trade fairs for product promotion;
- ✓ Shrimp exporters are unable to catch shrimp during Hilsha season. However, sea is open for all. India, Thailand and other countries continue to catch during this time. Therefore, exporters need specific, favourable time schedule;
- ✓ Government should monitor to regulate the number of vessels in the sea considering the production prospects of the time;
- ✓ G2G initiatives to establish hatchery in Bangladesh;
- ✓ Modern technology support for international quality management;
- ✓ Unused Haor, Baor and lakes should be identified properly; and
- ✓ G2G initiatives to reduce the tariff and non- tariff barriers.

6. Major causes of loss of biodiversity and the major problems of fisheries sub-sector are:

Aggradations of habitats due to siltation ; Habitat alteration and fragmentation ; Over and indiscriminate fishing ; Over exploitation of swamp forests ; Unplanned road, culvert and bridge construction ; Water pollution due to domestic and industrial wastes and effluent ; Unavailability of quality fish fries ; Increasing use of agricultural inputs.; Inadequacy in fisheries management; Lack of dredging rivers, canals, haors, baors and floodplains; Lack of financial support; Lack of technical and mechanical support; Maintaining and conserving fish sanctuaries; Competition in the international markets; High price of fish feed and other inputs; Exploitation of marine resources; Lack of appropriate policies and research for development and management of fisheries resources; Constraints in maintaining and conserving fish biodiversity.

Of the major long-term environmental concerns, global climate change is the most serious issue likely to affect Bangladesh over the coming decades. Both coastal and freshwater fisheries are likely to be adversely affected by changing temperature, siltation, inundation, and salinity regimes.

7. Recommendations for Augmenting Fishery Sector

- Development of hatchery and nursery to ensure availability of adequate quantity of quality fish fries all over the country.
- Adoption of best management practices (BMP) for enhancing aquaculture production.
- Establishment and strengthening of fish/shrimp disease diagnostic laboratories for required assistance to farmers
- Ensure alternative employment for fishermen to implement fishing ban during the breeding season.
- Regular assessment of stock and proper monitoring of catch for effective regulation of the artisanal and trawl fisheries for sustainable production.
- Development of market infrastructure to reduce post-harvest loss.

8. Fisheries in National Plans

Export policy (2015-18): Government is providing the following facilities for frozen fish exporters. Venture capital facilities for value added frozen food production; processing and export; Establishing international standards testing laboratory to ensure SPS (Sanitary and Phyto- sanitary) related measures; tax free import facilities; technical instruments related to quality management; introducing traceability system; Organising local and international fairs for market expansion; government will introduce shrimp and fish insurance policy to minimise the loss to the producers.

Cash incentive: As fisheries sector is a vibrant one, different national plans have given utmost importance for promoting fisheries production, so that fish demand of increased population is met. Bangladesh Bank (BB) announced the rate of the cash incentive ranged between 2.0 percent and 20.0 percent. Last year, a flat 10 percent incentive was given to frozen fish.

9. Conclusion

According to the state of World Fisheries and Aquaculture 2014, Bangladesh continues to be the fourth largest fish producer in the world for Inland water fish capture. FAO predicts Bangladesh to be the first of the four countries, followed by Thailand, India, and China, to experience the highest growth rate in terms of fish production by the year 2022 (The Daily Star, 18. 10. 15). The fishery sector is facing some major challenges and those are negatively affecting the production of fish. Over the last couple of decades, Bangladesh is losing its opportunity to grab a larger market share in the EU due to a lack of efforts to diversify its export basket. Bangladesh can create a larger frozen food market in Europe, America and Russia. In addition, it can create a new market in Asia and Africa. Such a geographical diversification of exports can be sustainable even during any world economic crisis.

According to the Bangladesh Frozen Foods Exporters' Association (BFFEA), the country's fish production is now lower than that of our export demands. The export quantity also declined due to lack of Government's cash incentives for the exporters of white fish. The country produces less shrimps than its capacity due to lack of modern cultivation process and use of traditional methods. According to BFFEA, Bangladesh currently produces around 85,000 tonnes of shrimps per year. Around 27, 6492 hectares of land are used to cultivate shrimps in Khulna and Chittagong divisions. The production is low against demands, which pushed up the prices of shrimps in the global market. The Government has included fisheries in the special development sector. If the available resources were used with proper technological assistance as well as need-based assessments, fishes produced from aquaculture would effectively meet the international production standards and would be able to compete in the global market more efficiently. The Government provide 10% cash incentives for the export of shrimps. Therefore, it is very essential for Government and non-government to support the sector in different such as wages, soft loan, training, good infrastructure, virusfree fry and quality feed supply to ensure good harvesting.

The main objective of Business Promotion Council is to promote the Fisheries sector to achieve competence in the local and global context to help the industry in building capacity, product diversification, quality & standards and acquiring suitable technology. To achieve the goals, a long-term vision and action plan has to be developed through a series of workshops and discussions with a range of stakeholders and staffs of the DoF, The Ministry of Fisheries and Livestock (MoFL), Bangladesh Fisheries Research Institute (BFRI), Bangladesh Fisheries Development Corporation (BFDC) and other national and international NGOs who work on fisheries. Collaborative and participatory researches are needed for introducing knowledge-based fundamental research and technology generation. The Ministry of Fisheries and Livestock may hold a multi-stakeholders' meeting regularly to discuss as to how to improve production of fishes and solving their financial crisis. The

meeting also could discuss as to how the semi-intensive shrimp culture can be spread among the farmers across the country as this project has seen success in Cox's Bazar area. In addition to identify and finding the lapse and lacuna of proper shrimp and fish cultivation practice, effective strategy and awareness development among the stakeholders as well as address national and inter criticism may keep this sector stable and sustainable developed.

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