



Head on Cooked Shrimp



Deep-Cut Easy Peel Shrimp



Value Added Products from fish, Cuttle fish & Crab

Contact: National Project Director
Strengthening of Fish Inspection and Quality Control Service in Bangladesh.

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Strengthening of Fish Inspection and Quality Control Service in Bangladesh

(Bangladesh Quality Support Programme- Fisheries Component)



**"Organic Aquaculture
 Friendly to Health & Nature"**



An EU Funded Programme

Implementing Organizations:

United Nations Industrial Development Organization

&

Department of Fisheries

Ministry of Fisheries & Livestock

Government of the People's Republic of Bangladesh



Background:

The export sectors of Bangladesh face a number of constraints. Building confidence with international buyer in existing and new markets by achieving internationally accepted quality standard will benefit the overall Bangladesh economy. The shrimp industry exports over US\$300 Million annually and employs 600,000 people. The seafood industry of Bangladesh has taken a key position in the economy. It has become the second largest export industry after garments and produces 2.5% of the global production of shrimps. But the industry suffers from serious inefficiencies and is exposed to critical social and environmental risks.

In July 1997, the European Commission (EC) imposed a ban on export of fishery product from Bangladesh due to inadequate infrastructure, sanitation, inspection and quality control laboratories. Exports to EU were resumed as a result of actions taken by GOB, but significant problems remain. It may be noted that the EU is the biggest market for Bangladesh shrimp exporters. At present, the processing plants and the competent authorities are trying their best to comply with most of the EU requirements but still it needs further assistance for the development of an integrated quality assurance process covering all stages of the food processing chain from harvesting to final product. The present system of inspection and quality control due to lack of required facilities and logistics support is mainly confined to end product testing system.

In order to meet international demand the concept of HACCP (Hazard Analysis and Critical Control Point) and Traceability system and its strict implementation by the processing plants in all stages of the seafood processing chain from harvesting to final product, Bangladesh Government has taken this project with the financial and technical assistance of European Union (EU).

Objectives:

- To renovate and modernize the existing 3 (Three) Fish inspection and Quality Control (FIQC) laboratories of DOF to a level of international accreditation standard.

- To comply and implement of HACCP and Traceability system in all processing steps from harvesting to export through up-gradation of in-plant- “own check” system.
- To improve the quality and safety of shrimp and fish products through assuring hygienic measure in all stages of handling, transportation, processing and storage.



AAS machine- Secretary, Ministry of Fisheries & Livestock Visiting Khulna FIQC Lab.



Mini API machine

- To strengthen human resource development in order to implement HACCP system in all stages of the processing through various in service training programmes.
- To develop local depot to a higher standard which will protect product from the contamination of the harvested raw materials during handling and transportation.
- To increase export earning through exporting more quality fish and fish products through quality assurance & value addition.
- To improve the socio-economic condition of poor destitute people especially of the women by creating employment opportunity.
- Hiring the service of expert.

Main Activities:

- Upgrade facilities and skills in FIQC laboratories to international accreditation standard.
- Development plans for laboratories to enhance efficiency
- Develop quality manual and implement quality assurance (QA) system.

- Product development & value addition.
- Development of in-plant quality control system.
- Human resource & management development.
- Capacity development of institutions.
- Research and Investigation.
- Establish reference library for international standards.



HPLC machine



Microbiology Lab

- Create links to international centers/focal points.
- Conduct awareness seminars on food safety issues.
- Create awareness of integrated quality management systems.
- Training on GMP, HACCP and Traceability at all stages.
- Train fishermen on post-harvest best practice.
- Promote model enterprises along the value chain for HACCP and Traceability
- Create an information network for quality managers along the shrimp's value chain, linked to international organizations.
- Assist enterprises willing and capable to apply new technologies in planning the investment and selecting the necessary equipment.

Expected Outputs:

The Existing three FIQC labs upgraded to a level of International accreditation standard.

- Local training workshops of government and private sector personnel on various microbiological techniques and verification of HACCP organized.
- Training workshop of 2000 depot owner/suppliers/Aratdars on post harvest handling, transportation and on good hygiene practice organized.

- Training materials prepared on designing and application of HACCP verification and validation of HACCP system to be implemented as per requirement.
- Assistance Provided to major shrimp/Fish processing factories for designing and producing various types of value added products.
- The existing HACCP implementation conditions reviewed and training provided to industry managers, QC managers and particular floor supervisors and workers on HACCP validation and verification.



Organic Aquaculture of Shrimp



Stocking of good quality fish fingerlings

- Training conducted on GLC/HPLC/LC-MS/MS spectrophotometer and other modern appliances for the GOB personnel.
- The existing regulation and government procedures for inspection and quality control of fishery products reviewed.
- At least 1000 Ice plant owners will be trained on role of Quality of ice and water to maintain the high quality of raw material.
- Group training conducted in major shrimp importing Countries specially EU to cope up with their standard.

Results & Related Activities

1. Strengthen the capacity of the department of fisheries to ensure appropriate testing and train private sector laboratory personnel

- Assist in the development of the necessary framework for appropriate testing

- Provide training in the proper use of standard analysis method
- Provide training on Good Laboratory Practice (GLP)
- Provide training on the proper use of newly supplied / purchased laboratory equipment
- Assists the FIQC Laboratories in meeting accreditation requirements
- Develop the skills for proper sampling
- Train inspectors in adequate inspection techniques
- Assist in the establishment of Standard Operating Procedures (SOPs).
- Provide technical assistance in establishing an up to date library
- Provide training on the use of Laboratory Information Service (LIS).
- FIQC capacity building in order to provide training seminars and workshops for the private sector
- Supporting linkage to other EU laboratories as references and support

2. Improve fish inspection and testing facilities of the FIQC

- Support DoF in design, technical specifications and planning of new laboratory facilities as well as construction schedule
- Assists tender documentation and tendering procedures
- Supply and install new laboratory equipment plus fittings and accessories
- Support installation of facilities

3. Setting up a reliable QAP based on HACCP and a Traceability system along the shrimp value chain

- Capacity building in QAP for FIQC and private sector
- TA to advice upon simple and cost-effective technologies to improve the QAP, increase yields and reduce post-harvest losses

- Strengthening stakeholder participation in project and post-project activities
- Train actors along the shrimps value chain on the importance of a reliable HACCP system
- Assist in implementing and upgrading of HACCP plans along the shrimp value chain



Women being consulted on community based fisheries management



Women in Shrimp processing factory

- Assist in the development and implementation of a traceability system from single pond to final market outlet
- Assist in the establishment of an intra/internet based information system for the stakeholders along the fish/shrimp value chain
- Support safety/quality assurance self-regulation inline international requirements within the sector as a whole

4. Social aspects are mitigated through awareness creation and lobbying

- Promoting the poor and small scale farmers through employment opportunities, Women in Development (WID) issues and Corporate Social Responsibility (CSR)
- Establishment of a webpage with sector related information and promoting those who are actively involved with CSR
- Deliver special WID related management training
- Conduct training on marketing and management of small-scale business which are relevant to the local context
- Conduct gender sensitive workshops on the roles of men and women in management, fisheries resource management and environmental management, promoting women in decision making and access to resources

- Provide awareness rising activities on the necessity of basic and higher education
- Co-operate with NGOs providing support in the same areas and co-ordinate with other related projects that provide WID related training

5. Tackling environmental aspects by awareness raising and supporting by-products utilization

- Recommending and implementation of environmental management and environmentally friendly technologies for the private sector
- Raise awareness on the positive economical impact of environmentally friendly shrimp rearing and processing methods as well as by-product utilization
- Conducting a feasibility study on the use of shrimp shells and heads for added value products
- Assessing the sources of nitrofurans and chloramphenicol as well as raising awareness on the negative impact of these substances and proposals of their replacement
- Training on environmental friendly pond water management avoiding eutrophication
- Linking activities with other projects carries out by the government and/or other agencies, institutions and NGOs



Spiral Freezer with Cooking Line

Planned training courses and workshop

1. Training Workshop for Shrimp Depot owner, Suppliers, Aratdars on post harvest handling, proper use of ice, transportation and good hygiene practice.
2. Training course for Ice plant owners and related operators on water quality, hygienic production & handling of ice.
3. Training on hygiene, sanitation and GMP for FIQC, BFFEA, MFA and other private personnel.

4. Conduct training on Fish Microbiology & Risk assessment
5. Conduct training on Good Laboratory Practices (GLP) and Standard operating procedures (SOP).
6. Provide training to FIQC personnel in post harvest, Quality assurance and adequate Inspection techniques.
7. Training on Product diversification and value addition of fishery product for FIQC, BFFEA, MFA and other private personnel.
8. Direct Assistance to major BFFEEA & MFA shrimp & Fish processing factories for designing and producing various types of value added products.
9. Conduct training on the proper use of Standard Analysis methods.
10. Conduct training on the proper use of newly supplied lab equipments.
11. Provide training to develop the skills for propersampling.
12. Conduct training on Lab Information Service (LIS).
13. Conduct training on HACCP system including auditing and verification.
14. Provide training to actors along the shrimp value chain on the importance of a reliable HACCP system and Traceability.
15. Demonstration through development and implantation of Traceability system from single pond to final market outlet.
16. Conduct special WID related management training.
17. Conduct training on marketing and management of small scale business.
18. Conduct gender sensitive workshop on the role of men & women in management, fisheries resource management and environmental management, promoting women in decision making and access to resources.
19. Conducting training on environmental friendly pond water management.
20. Conduct training on environmental friendly shrimp rearing and processing methods as well as by-products utilization.
21. Conduct training and feasibility study on the use of shrimp shells and heads for value added products.