



TCP/BGD/4555
Field Document 3

TECHNICAL COOPERATION PROGRAMME

PREPARATION OF A HACCP-BASED FISH QUALITY ASSURANCE PROGRAMME

BANGLADESH

IMPLEMENTATION OF HACCP PLANS IN MODEL PROCESSING PLANTS

BASED ON THE WORK OF
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TABLE OF CONTENTS

	<u>Page</u>
1. BACKGROUND	1
2. ACTIVITIES CARRIED OUT DURING THE PRESENT MISSION	2
3. MAIN FINDINGS	3
4. RECOMMENDATIONS	4
ANNEX I LIST OF COMPANIES CHOSEN FOR FOLLOW-UP PROJECT ACTIVITIES ON HACCP DURING THE MISSION AND THEIR STATUS	6
ANNEX II STUDY TOURS	8
ANNEX III STATUS OF PROJECT IMPLEMENTATION	9

1. BACKGROUND

The activities of the TCP/BGD/4555 started in August 1996, with the objective of assisting the Government of Bangladesh in the formulation and implementation of a national HACCP-based quality assurance programme for fishery products. During 1996, three missions were carried out. One by the fish quality assurance expert and project team leader, who provided training to the Inspection Service (DOF) and industry's personnel, as well as the necessary training material to allow further follow-up and dissemination activities. The fish inspection system expert, carried-out a preliminary appraisal mission followed by another one in November 1996. He made a proposal for reviewing national regulations and the official inspection and certification service structure to enable the introduction of a HACCP-based quality assurance programme.

Since it is not possible within the project framework to assist individually all fish processors in the design and adoption of HACCP plans for each processing plant in Bangladesh, the strategy adopted was focusing the work on some selected "model factories". This task went simultaneously with the training workshops. The trainees exercised on hazard analysis and HACCP plans design, working on case studies represented by eight selected processing plants. At the end of the training stage, the project instructed the plant personnel to design and implement a specific HACCP-plans for their own plant. At the same time it was recommended that DOF should assist the industry in that task and should carefully analyse the proposed revised national regulations, DOF functioning, and laboratories structure and capabilities. As a follow-up to the initial training provided by the project training consultants, DOF took the challenge of implementing training courses to further industry personnel aiming at strengthening the industry capacity to adopt the new quality assurance strategy.

Originally only one more mission was planned to strengthen the assistance given to the "model factories" until they completed their HACCP plan and made it operational. However, the plants were facing operational constraints in terms of: a) lack of high and medium level technicians in the areas of production and quality control management as well as of highly trained supervisors ; b) the necessary refurbishment of many processing plants; c) the need of a deep change of mentality and general style of management. This made it advisable to split the original one month follow-up mission into two shorter missions to be executed by the project team leader, respectively about six and twelve months later. The first of those two follow-up missions was carried out from 17 February to 08 March 1997. The consultant directly assisted seven companies showing a stronger commitment for improving their factory conditions and moving towards a preventive hazard analysis approach to reach the necessary compliance with international regulations being enforced. The expert could note that DOF successfully carried-out four training workshops on HACCP methodology and is reviewing the specific legislation based on the project recommendations.

2. ACTIVITIES CARRIED OUT DURING THE PRESENT MISSION

The project team-leader travelled to Bangladesh as per itinerary and Terms of Reference detailed in Annex II.

In consultation with DOF personnel and the Bangladesh Frozen Foods Exporters Association (BFFEA), the mission work plan was organized considering the necessary visits to Khulna, Chittagong and Cox's Bazar areas to coincide with the training activities being held at the same time by the DOF inspectors as part of project training follow-up programme executed and financed by DOF.

The mission work plan was oriented to maximize the time and effort devoted to technical assistance to "model factories" selected on the basis of their involvement, commitment, and action taken for the practical introduction of HACCP plans.

According to DOF, eighteen HACCP plans had been submitted to the DOF regional office in Chittagong (including one plant from Cox's Bazar), but none in Khulna. All companies preselected during the training stage were visited by the consultant accompanied by DOF officials. Considering the progress observed and management's commitment and interest manifested in each case, two plants were selected for the expert to work with in Khulna.

In the case of Chittagong the selection was more difficult due to the momentum generated by the expert's visit and the interest manifested by several companies not benefitting from previous project activities. A meeting was organized by the local BFFEA office with the participation of plant managers and technicians of these companies interested to be briefed on the procedures for compliance with international regulations. The meeting was held at the Association premises on the 28th of February, and was attended by representatives from twelve different companies. Later, on the base of a quick check of the HACCP documents submitted to DOF, the five best approaches were selected after a on-site verification of buildings refurbishment.

Consequently, only two out of five companies previously considered were selected for further assistance and three more were added to the list (two from Chittagong and one from Cox's Bazar). Thus a total of seven companies were assisted by the project at this stage. A list of companies or processing plants in which the follow-up work was done, and including some remarks on their particular status is as ANNEX I.

On average, one and a half to two working days were dedicated to review the factories layout, sanitary conditions and building work in progress and to discuss the hazard analysis done and documents produced as part of the future HACCP plans.

As mentioned before, a series of four follow-up refresher training workshops (on HACCP plans designing and implementation), were being carried-out by DOF technicians in local language. The workshops were implemented in Khulna, Chittagong, Cox's Bazar and Dhaka from mid February to mid March. DOF requested the consultant to attend one session of each course, to help them keep the momentum generated by the project and give the participants and trainers the opportunity to ask specific questions. The consultant was

very positively impressed by the job done and the hard work and enthusiastic attitude of DOF technicians in charge, as well as by the results obtained in clarifying ideas and gaining confidence and self-sufficiency.

The participants were coming from the industry (technical and management levels); most of those who had attended the courses previously held by the FAO consultant were there, plus an important number of beginners. Only in the Dhaka workshop, most participants were facing the matter for the first time and some had no technical background. Globally, the programme introduced about 150 people to the HACCP methodology in Bangladesh, and the strategy was very successful in developing the DOF technicians skills and self-confidence.

The project training activities will be completed with the implementation of the scheduled study tours.

The original idea was that two government officials and two industry representatives would visit the USA and the EU. It was then decided to send only one person to each destination and to include a visit to Thailand as a good example of how a national HACCP-based quality assurance programme works in practice. The objective was to widen the scope but to minimize expenses, since the allotted project funds cannot cover the travel of four people to USA and Europe. It was also decided to send two officers to the "TRAIN THE TRAINER" workshop on HACCP organized by Infish, in Kuala Lumpur, from the 11th to 14th of March. Two DOF officers among the technicians already involved in the training courses implemented by the project in 1996 were selected to improve their skills as trainers. The project maintains the intention of ending to Thailand at least one DOF technician, and officials with the responsibility of evaluating (auditing) the industry HACCP plans and functioning, to know how their colleagues in USA and Europe are dealing with the issue.

3. MAIN FINDINGS

Most remarks made by the project consultants in the previous reports remain valid as a description of the industry and inspection service conditions and capabilities in the country. Considering the objectives to be attained in the sector, it is necessary to highlight some important aspects to clarify the actual situation and needs:

1. New factories are still being built in places where environmental interferences are highly negative for both food safety and environmental impact.
2. The lack of companies specialized in civil engineering and refrigeration equipment, and able to provide services to the fish processing industry, makes it very difficult for the producers to comply with international standards in terms of finishing and fabric of their factories. Important refurbishment work is in course in most factories, but not always under required conditions.
3. The private sector is striving to reach harmonization. But the recommended and agreed national work plan, that was jointly developed by DOF and industry to clearly

establish the new rules, is not being adopted. No new regulations are yet being enforced. The industry is trying to improve the conditions on the basis of recommendations directly made by the project consultants, buyers requirements and eventually, opinions requested from the inspectors.

4. The local authorities should be introducing with no delay the needed legal and structural changes recommended.

5. In addition to the new improved collection centres introduced by the government (the first one is entering into operation now), some companies are getting more involved in the early steps of the chain. There is clearly scope for a much better control of involved risks in the near future.

6. The industry is expecting too much from the government in connection with training and technical advice. DOF will not be able to provide all the technical support needed and the companies should reinforce much more their own technical capabilities.

7. It was not possible to satisfy the expectation generated by the project in the private sector. The consultant had to refuse several requests for auditing extra plants and helping other companies to design their HACCP plans.

8. There is no changes in the capabilities of DOF laboratories, and the need for a reference laboratory has not yet an answer.

9. The DOF technicians demonstrated an impressive development of their self-confidence and capacity to train people from the industry on HACCP methodology and its practical application.

4. RECOMMENDATIONS

It is recommended to the government:

1. To give high priority and consider as very urgent the enforcement of the amended legislation establishing "the new rules of the game", in relation with: construction, specifications, and operational requirements for processing plants, fish transport requirements, HACCP (own-checks system) implementation, certification of compliance with international regulations, auditing and product certification.

2. To follow a work plan and time schedule based on project recommendations for the implementation of a National HACCP-based Quality Assurance Programme (point 9.2 of Project Field document No. 2, Dec.96), as well as on recommendations 11.1 , 11.3 , 11.5, 11.7, 11.8 and 11.9 made in the same report.

3. To establish clear procedures and guidelines for HACCP plan design, documentation and submission, based on the experience of training activities, international regulations and project recommendations.

It is recommended to the industry:

1. To continue reviewing the conditions of their premises in the light of the new rules established by the CODEX alimentarius recommendations as well as by main foreign markets and national regulations.
2. To reinforce their technical staff "to assure that the appropriate specific product knowledge and expertise is available for the development and operation of an effective HACCP plan" (CODEX 96'), by assembling a suitable multidisciplinary team, and whenever necessary to obtaining external advice.
3. To consider further training in fish technology, freezing and storing equipment management and various monitoring procedures , since the training provided by the project and DOF follow-up activities can not satisfy all training needs for the factories personnel.
4. To look for specialized companies when external services related to civil work , refrigeration and processing equipment are needed in order to avoid problems of compliance with sanitary regulations.
5. To employ only permanent or semi-permanent personnel for jobs in direct contact with fish and to implement a strict health control and identification system; to make it possible to instruct workers on handling, processing and product specification as well as on personal hygiene and proper utilization of sanitary facilities; and to make them aware of risks involved by their intervention.
6. To make available all necessary monitoring equipment for an effective control.
7. To complete their hazard analysis and HACCP plan. To submit the plan to DOF. Once the plan is approved and premises are in an acceptable condition, to put the plan in practice to assess their performance, in order to be ready for verification at the final stage of the project.

**LIST OF COMPANIES CHOSEN FOR FOLLOW-UP PROJECT ACTIVITIES ON
HACCP DURING THE MISSION AND THEIR STATUS**

Khulna area:

- Asian Sea Food Ltd. (Bangladesh Sea Food, raw shrimp processing plant)
Status:
 - a) Important building work in course , following recommendations done during previous visit.
 - b) Production managers assisted to training given by the consultant and follow-up by DOF.
 - c) Only some draft hazard analysis previously done (seriously reviewed).
 - d) Management showing clear intention to adopt the system.
- Sigma Sea Foods Ltd.
Status: a) , b) , c) , d) :same situation, with more work done in relation with HACCP plan docs.

Chittagong area: (much more interest and involvement , from private and official sector in general).

- Sar & Co. Ltd. (raw shrimp processing plant/line)
Status: a), b), d) : same situation ; Not yet a clear ideas on HACCP documents produced.
- Meenhar Sea Foods Ltd. (raw shrimp processing)
Status:
 - a) very important general refurbishment and construction of sanitary facilities in course, following project advice.
 - b) Q.C officer and production supervisor attended both courses;
 - c) Draft HACCP plan available, hazard analysis reviewed;
 - d) same situation.
- Coastal Seafoods Ltd. (raw shrimp & fish processing)
Status: Similar situation . Draft HACCP plan available. Hazard analysis reviewed in detail in collaboration with the consultant. The Managing Director interested in visiting FDA at his own cost when going to Boston Seafood.
- Mahi Fish Processing Ltd. (raw shrimp & fish processing)
Status:
 - a) Similar as Meenhar (new personnel, sanitary block, and equipment).

- b) Production manager attended both local training events and Kuala Lumpur training workshop financed by the company.
- c) Draft HACCP plan available, and under review.

Cox's Bazar area

- Meenhar Agencies Ltd. (Cox's Bazar raw shrimp processing plant)
Status: The only plant of the area producing a first draft HACCP plan.
 - a) Sanitary facilities for personnel and other to be reviewed.
 - b) Manager assisted both local training events, great interest, little technical background.

Note: the lack of medium-level technicians or production people with some technical background level and criteria is a serious constraint in most cases.

STUDY TOURS

Persons involved and recommendations for the future steps of the programme:

- Kuala Lumpur Trainers Training Workshop , 11-14 March 1997

The following technicians were chosen (in a joint decision DOF/FAO consultant) to attend the Kuala Lumpur training workshop:

- Mr. Md. Rafiqul Islam, Inspector - DOF / FIQC , Dhaka
- Mr. Md. Abdul Rashed , Inspector - DOF / FIQC , Chittagong

They were selected on the basis of their particular aptitude to conduct training activities as demonstrated during the follow-up training provided by DOF.

- Visit to Thailand

Subject to availability of funds two different DOF technicians to visit the Thai inspection service and industries in the Bangkok area; the consultant recommends the following persons:

- Mr. Md. Ashis Kumer Barua , Inspector , DOF / FIQC, Khulna
- Mr. Md. Kador Ahmed , Inspector , DOF / FIQC, Chittagong

- Visits to USA and Europe

The opportunity of visiting the official laboratories and inspection services in those countries should be given to DOF officials of highest technical level, responsible for reviewing the national regulations and auditing and certifying the processing plants and HACCP plans. Considering that the National Project Director and DOF Principal Scientific Officer is not in function due to retirement, and the DOF Khulna Dy. Dr. will be retiring soon, it would be appropriate to consider the candidatures of the two Dy. Directors based in Chittagong and Dhaka. The consultant recommends:

- Mr. Akter Ali , DOF Dy.Dr. FIQC, Chittagong, going to USA
- Mr. Md. Bazlar Rahman , DOF Dy. Dr. FIQC, Dhaka, going to Italy
- Mr. Rafiqul Islam could eventually be considered, should one of the above mentioned officers not be available.

STATUS OF PROJECT IMPLEMENTATION

The main objective of the project is to assist Bangladesh in the formulation and implementation of a national HACCP-based quality assurance programme for fishery products.

Four missions were already accomplished: two by the Fish Inspection Systems Consultant from August 12 to 28 1996' (initial survey) , and from November 13 to 25, 1996. The other two missions, under the responsibility of the Fish Quality Assurance Consultant/Team Leader, were carried out from August 5 to October 5 1996 and, from February 17 to March 8 1997.

The project is executed in collaboration with the Department of Fisheries of the Ministry of Fisheries and Livestock of Bangladesh, as National Counterpart Agency. The National Project Director, Principal Scientific Officer, who participated in the project execution during 1996, unfortunately retired at the beginning of 1997. The DOF Resource Personnel Officer was acting as NPD, during the present mission.

The following outputs planned in the TCP/BGD/4555 project document were attained through three missions carried out during 1996:

Specific Objective

1. To provide required information and training.

- Four training workshops on the designing and implementation of HACCP-based quality assurance programmes and fish technology upgrading were held in August / September 1996, (see Project Field Document No. 1). A total of 89 technicians from the inspection service and industry were trained.

- The project provided the following training material: I) 110 copies of a two - volumes 263 pages manual, covering HACCP concept and application, shrimp quality issues, international regulations and a review on basics of fish technology, fish quality and quality assurance. A condensed FDA HACCP training module was used for the first time with very good results, and it is now being used by DOF officers during follow-up training workshops. Sections of this module and other basics on HACCP methodology were translated and adapted to local needs by DOF personnel. ii) Four copies of eight video films on HACCP concept, shrimp processing, hygiene and sanitation of plants and personnel, pathogenic bacteria contamination, cross contamination and fish processing.

In addition, the development of DOF personnel skills as trainers is a significant contribution that has already proven its importance.

2. To assist the government and the industry in the development and application of the HACCP concept.

- The existing regulations and government structure for inspection and quality control were reviewed and recommendations were made to achieve the "equivalence" requested by major fish importing countries. A proposal for reviewing the national regulations was submitted to the government. A new organization and structure of the inspection service was proposed, as well as the necessary improvements of microbiology laboratories and specific training of laboratories personnel, and training materials.(See Project Field Document No. 2)

- Some direct assistance was provided to nine factories selected as "model plants" to do practical exercises during training workshops on HACCP design and implementation. Due to the important changes that needed to be introduced in most plants, and in order to allow a step by step "harmonization" process, some guidelines were given on introducing first changes to reach compliance with buildings prerequisites. Due to specific local constraints, a review of the project was requested to split into two the 2nd mission by the project team leader: one in February-March 97, and the last one around October-November 97, to give more specific assistance and time for implementing the changes to a number of selected companies.

- Inspection visits to assess performance of HACCP programme (mission described in present report)

3. To acquaint key government officials and industry representatives from Bangladesh with new sanitary and quality requirements and regulations, in particular in relation with HACCP principles.

- Study tours: due to: i) financial restrictions, ii) the different possibilities of DOF and industry to finance that kind of travel, and iii) new suitable training opportunities made available, some reformulation of this activity was agreed.

- Dialogue opened between fish inspection agencies from Bangladesh and those from main importing countries, (this topic is considered in present report under "study tours").

