

27996

SPC/2nd Pacific Community Fish. Mgmt. Workshop/BP 9
6 October 1998

ORIGINAL: ENGLISH

SECRETARIAT OF THE PACIFIC COMMUNITY

SECOND PACIFIC COMMUNITY
FISHERIES MANAGEMENT WORKSHOP
(Noumea, New Caledonia, 12-16 October 1998)

**IMPLEMENTATION OF HACCP FOR THE SEAFOOD INDUSTRY
IN THE PACIFIC REGION**

By Steve Roberts,
Post-harvest Fisheries Consultant,
Secretariat of the Pacific Community
Noumea

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Implementation of HACCP for the Seafood Industry in the Pacific Region

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Secretariat of the Pacific Community

Noumea, New Caledonia

Introduction

1. Food processors all over the world, particularly in the least developed countries, have endeavoured to come to terms with a different more rigorous and effective quality assurance system that is designed to ensure a higher level of food product safety. The US Food and Drug Administration (FDA), for instance, hopes to prevent 30,000 to 60,000 cases of illnesses attributed to the consumption of seafood by implementing the US Seafood HACCP Rule on the safe and sanitary handling and processing of all fish and fish products. The Rule came into effect on 18 December 1997. Other major seafood consumers and processors such as Canada and the European Union (EU) have similarly established seafood safety programmes. The scheme in Canada is called the "Quality Management Program" (QMP), while the EU system is called "Own-checks".
2. The three food safety programmes are based on the Hazard Analysis and Critical Control Point (HACCP) system of managing risk in a food processing plant. HACCP can best be described as a preventative system of control based on a series of steps taken to ensure the safety of food products. It is a systematic approach to minimize or prevent hazards that could endanger the health of consumers. HACCP is a seven-point system designed to assess and control all potential hazards associated with raw materials and processing procedures through close monitoring at identified critical control points (CCP) in the manufacturing process. If a problem occurs, immediate pre-determined steps can be taken to correct the problem (Corrective Action). The system requires detailed records to be kept of all procedures including the monitoring process at each CCP. It also requires verification of the integrity of the HACCP plan and allows for external auditing procedures.
3. HACCP focuses on prevention rather than relying on conventional testing of products after they come off the production line. Such end-product quality control system can be costly and wasteful because if a product fails to meet established standards at the final stage it must be re-processed or discarded.
4. Many countries have now embraced the HACCP concept – including some from the Pacific Region. Countries such as New Zealand, Australia and Thailand moved quickly to ensure that seafood exporters operate under HACCP principles. Following closely in their footsteps are the other ASEAN countries, Chile, Brazil, India, Oman, Poland, China, Japan, etc. For countries that export seafood products, particularly to North America and Europe the incentive is to not only maintain trade access to large, valuable markets, but also to become even more competitive and successful in the international arena.

5. Projects to help implement HACCP in the Pacific region were late in getting off the ground. In spite of that progress in helping the region's major exporting countries maintain their important fish trade with the US has been surprisingly good. This paper provides an overview of the assistance SPC and FAO have provided member states to help implement HACCP for the seafood industry in the South Pacific, and briefly discusses what further assistance is required.¹

Overview of HACCP assistance provided to the seafood industry in the Pacific

6. Many Pacific Island countries depend heavily on their fishery resources for food and income. The promising evolution of the export fish trade from the region was considered to be under threat as a result of regulatory changes that were being introduced by a number of major fish importing countries. The loss of these important markets, in particular the US, could potentially have led to closures of businesses reliant on exports and loss of employment opportunities.

7. SPC first highlighted the issue during a day-long session on Post-harvest Fisheries at the first Fisheries Management Workshop in June 1995. The issue was again raised at the 26th Regional Technical Meeting on Fisheries in August 1996 during a Technical Session given by SPC and FAO technical staff. It was at this meeting that member states decided it was time to act and firmly recommended that SPC take all necessary action to help implement HACCP in the region.

8. Following a successful petition for assistance to FAO, both SPC and FAO collaborated on a short nine-month Technical Cooperation Project (TCP) that began the process of meeting the requirements of overseas markets. The project, "Assistance to the South Pacific to Meet New Fish Importing Regulations" was approved by FAO in April 1997.

FAO/SPC TCP – Assistance to the South Pacific to Meet New Fish Importing Regulations

9. The first phase of the TCP was the collection of data from selected states and territories in the South Pacific on the current status and statistics of the seafood industry, quality assurance and export procedures, details of seafood exporters, and, prevailing legislation and regulations governing food control and fish exports. In May and June 1997 a consultant visited Tonga, Samoa, Fiji, the Federated States of Micronesia, Hawaii, New Caledonia, and the Solomon Islands. The report, "*Hazard Analysis and Critical Control Point (HACCP) for Seafood Exports: The Situation in Selected Pacific Island Countries*" by Robert Gillett (FAO Technical Cooperation Programme, TCP/RAS/6713, 1997) was recently published and is available from SPC.

10. The second phase of two person-months comprised two parts. Part 1 collected information on the legal requirements of HACCP and provided for the South Pacific countries draft model laws or legislative framework for food control and seafood exports. Part 2 drew up generic HACCP plans tailored to the requirements of South Pacific seafood exporters.

11. The legal report examined the U.S. Seafood HACCP Regulation and the EU Seafood Directive. The goal of this examination was to outline for the seafood exporters (countries, companies and individuals) of the South Pacific region the "legal" application of HACCP to seafood exports to the US and EU. The report also reviewed the laws and regulations of regional states and territories that relate to food safety, fish marketing and seafood exports. The report, "*Seafood Safety Standards (With Special Reference to HACCP): Review of the Import Regulations of the U.S. and E.U. and the Relevant Laws of the South Pacific Region*" by Ted McDorman (FAO Technical Cooperation Programme, TCP/RAS/6713, 1988) was recently published and is available from SPC.

¹ What is reported here is by no means the only work that has been done in the region to implement HACCP. For instance the New Zealand Government provided funding and expertise from Nelson Polytechnic for HACCP training in the Solomon Islands, and provided technical advice to exporters in Tonga. Papua New Guinea, New Caledonia and French Polynesia have largely made their own arrangements to implement HACCP.

12. The legal report was used as a prelude to identifying strategic regulatory options that the countries and territories of the South Pacific could consider as a consequence of the global embracing of HACCP concepts and HACCP regulations in the seafood trade. In this respect the consultant offered three options for the governments of seafood exporting countries. These were:

- (i) no action – a possible option under the US Seafood HACCP rule, but does not meet European requirements;
- (ii) equivalency – an option that requires equivalent regulations and a fish inspection service. This is the path to follow for countries wishing to enter a government to government agreement (MoU). This is a difficult option for small island states because of the costs involved in infrastructure and manpower needs;
- (iii) action short of equivalency designed to facilitate seafood exports. This is a compromise solution – not as costly, but still demonstrates the government's willingness to support the principles of protecting the health of consumers. The more active and responsible the government of an exporter is in assuring the safety of exported seafood the easier it will be for an exporter to meet import requirements of the US and EU.

13. The technical consultant reviewed operations of specific plants, and offered advice and assistance on the implementation of HACCP to processors and government fisheries officers in Fiji, Tonga and Solomon Islands. As an outcome of the review, generic HACCP plans were drawn up to assist processors with their own HACCP plan implementation. The report also detailed Sanitation Standard Operating Procedures (SSOP), discussed Good Manufacturing Procedures (GMP) and reviewed constraints to implementation by the South Pacific region.

14. The third and final phase of the project was a Regional Workshop on the Implementation of HACCP-based Quality Assurance for Seafood held in Pacific Harbour, Fiji from 30 September to 3 October 1997. The workshop provided valuable grounding in the legal and technical aspects of HACCP implementation by the USA (and to a lesser extent, the EU) and at identifying strategic options which governments could pursue in meeting the US requirements. Representatives from several exporting companies attended the workshop.

14. The following recommendations were agreed upon during the workshop:

- The organisation of training activities, a number of which were either under way or planned, and the provision of HACCP specialists to assist regulators and exporters, was considered an important and valuable area of support to the exporters and regulators alike and should be continued.
- An evaluation of the way the US FDA HACCP Regulation is being applied following implementation in December 1997, should be made in six months to assess whether new responses and activities need to be taken by the regional organisations, exporters and regulators.
- SPC should take the lead role in HACCP programming in the region and be responsible for keeping the countries and territories informed of changes and new development in US FDA's position on HACCP. In addition it was requested that HACCP assistance become a priority area for the SPC Post-harvest Section's work programme.
- Sample letters, drafted during the meeting, that could be used by regulatory authorities in the Pacific for the purpose of notifying importers and US FDA of actions taken to help meet US HACCP requirements, were considered to be sufficiently useful to have them included as an annex in the workshop report.

15. All recommendations were put into effect immediately. A range of training activities and advisory project were started within days of the workshop being completed. These activities and projects are described in the following sections.

Certified training in HACCP to meet the requirements of the US Seafood HACCP Rule

16. In response to recommendations made at the FAO/SPC Regional Workshop in Pacific Harbour FAO's Sub-Regional Office in Apia (FAO SAPA) and SPC's Coastal Fisheries Programme continued to collaborate by organising certified HACCP workshops that met the US HACCP training curriculum as drawn up by National Seafood HACCP Alliance for Training and Education.

17. The workshops were extremely important in ensuring that recognised HACCP trained individuals were available to exporters to undertake key activities described in the US HACCP Rule. Such activities include developing, reviewing and modifying as necessary written HACCP plans and procedures; monitoring, reviewing and maintaining written records; undertaking basic verification procedures; etc.

18. National HACCP workshops lasting five days each were conducted in Samoa, Fiji, and Tonga during October and November 1997. In all 60 participants were certified – 18 in Samoa, 24 in Fiji and 18 in Tonga. Most of those certified were staff belonging to export operations. A number of different Government departments were also represented.

Assistance to Seafood Processing Exporters to Help Meet the Requirements of Implementing the HACCP Seafood Hygiene System

19. To continue to build on the work conducted under the FAO/SPC TCP and the three National workshops that followed, SPC obtained UNDP's support for a project that provided direct technical assistance to commercial seafood exporters. The project, "Assistance to Seafood Processing Exporters to Help Meet the Requirements of Implementing the HACCP Seafood Hygiene System", was designed to ensure fish could continue to be exported without interruption when the US HACCP rule became effective in December 1997. Approval to proceed with the project was given in September 1997, some three months ahead of the implementation date.

20. Activities undertaken and completed by SPC's Coastal Fisheries Programme under the UNDP funded HACCP Project were:

Stage 1: Assistance to seafood exporter in Fiji. Five seafood exporters were successfully assisted. The HACCP consultant visited Fiji on three occasions in the period October-December 1997.

Stage 2: Assistance to seafood exporters in Samoa and Tonga. Eight seafood exporters were successfully assisted (five in Samoa and three in Tonga). The HACCP consultant visited Samoa and Tonga on two occasions in the period October-December 1997.

Stage 3: Evaluation of HACCP requirements in the Federated States of Micronesia and Marshall Islands (December 1997).

Stage 4: National HACCP workshop in the Federated States of Micronesia at which 18 participants obtained certificates. Direct assistance to seafood exporters – 20 entities assisted so far (June 1998).

Stage 5: Review of HACCP plans and procedures in Fiji, Samoa and Tonga undertaken eight months after the US HACCP rule came into force (August/September 1998).

21. To assist with these tasks SPC employed the services of an Australian HACCP consultant. The consultant provided assistance in the following ways:

- (i) Pre-requisite programmes: Evaluated processing establishment on whether they met the requirements of GMP (Good Manufacturing Practice) and the eight sanitation steps that must be monitored under SSOP (Sanitation Standard Operating Procedures). Advised on what improvements should be made to meet the requirements for a functional HACCP programme. Helped draft a written SSOP plan specifically tailored to each exporter's operation.

- (ii) HACCP Programme: Helped to conduct a hazard analysis for each product and drew up and develop a detailed written HACCP plan. The plans were essentially written with HACCP trained staff belonging to the company and were worked on and modified over a period of time. As well as visiting on more than one occasion the consultant maintained contact with each processor through e-mail or fax providing advice and assistance when asked. In time the HACCP plan became a document that had undergone a number of revisions.
- (iii) Advice and training materials was given on training for processing line staff in hygiene practices.
- (iv) A final review under the UNDP project of HACCP documents and procedures was undertaken when the HACCP consultant revisited the exporters of Fiji, Samoa and Tonga in August / September 1998.
- (v) At each country assignment the HACCP specialists met for discussions with officials from the local Fisheries Departments. Generic versions of HACCP plan documents were provided and sometimes the official accompanied the consultants on visits to the seafood exporters.

22. During the final review the consultant concluded that all companies that received assistance in 1997 had implemented HACCP at least to a basic but satisfactory level of compliance and that there was genuine commitments to improved processing. One or two companies had made genuine attempts to meet all requirements. He added that almost every company had significantly improved their premises during 1998.

23. He also found that exporters expressed the view that there were clear benefits in having a HACCP system, additional to the imperative for market access. These benefits included:

- ability to gain new business by assuring potential exporters that all HACCP requirements were accommodated within the packing contract.
- improved landed quality of tuna and bottom fish.
- better management of factory.
- lower rejection rate by the cannery.
- a more professional relationship with importers.
- less likelihood to make claims because the buyers knew the company inserted temperature data loggers into shipping cartons.
- documentation from importers complimenting the company on the quality of its products.

24. There were of course areas where the consultant decided improvements were needed. He felt that many exporters had adopted a gradual approach to implementation based on commercial imperatives and had not taken on the full range of responsibilities as required under HACCP. This problem may in fact lay with the US importer who is charged under the US legislation with the task of undertaking the affirmative steps. Exporters will naturally respond to the demands of their customer, i.e. the importer. If no HACCP plan is asked for or a lesser version is acceptable, the exporter is likely to respond accordingly. Other deficient areas identified were improper monitoring of SSOP and less than adequate verification procedures (such as checking the calibration of instruments and maintaining records).

25. The consultant felt that the Controlling Authorities in each country visited had not yet taken on a serious regulatory role – even at the most basic level. Although there is no expectation under the US HACCP rule for an active Controlling Authority there are potential benefits to be gained for having one in place. For example: a local audit or compliance system would help compel companies to undertake all of their HACCP system. Furthermore, an active Controlling Authority would demonstrate to an importing country how serious it is in meeting its obligation to protect the health of overseas consumers.

Consequently it would be easier to protect and increase the reputation of the country as a supplier of safe products thus indirectly helping to ease import procedures. With growing interest shown by exporters to target the European seafood market the authorities of the EU may consider that a local Controlling Authority meets equivalency status with them thus making it possible for exporters to trade there.

26. In response to his findings the HACCP consultant made the following recommendations:

Recommendation 1: That seafood exporting companies be assisted to implement all of their HACCP system by helping the HACCP Officers with further training, and by providing simple, effective documentation and checklists. This could be in the form of a 3-day workshop in each country with each day divided into a morning session where documents are prepared and discussed in a group, coupled with an afternoon/evening session of individual attention at each factory.

Recommendation 2: That assistance be given to local Controlling Authorities to better establish their role in a national food safety regime, and to facilitate entry to Europe by enabling authorities to become Competent Authorities as defined by the EU. This could be done by setting up a small team including a regulator from Australia or New Zealand who has been part of the harmonisation process with Europe. The team could travel to each country and set up a protocol for the Controlling Authority. The team could also apprise the authority of their likely roles and responsibilities under an arrangement with the EU.

Recommendation 3: Of crucial importance will be adherence to legal aspects of harmonisation and attention is drawn to the report of Prof. Ted McDorman, "Seafood Safety Standards (With Special Reference to HACCP): Review of the Import Regulations of the U.S. and E.U. and the Relevant Laws of the South Pacific Region". It is further recommended that authorities revisit this report as a prelude to entering negotiations with the EU.

Where to next?

27. The UNDP funded HACCP project terminated at the end of September 1998. SPC will utilise funds from the Government of Taiwan to cover a number of commitments already made in the HACCP and fish processing areas. The HACCP programme for the FSM is incomplete. A further visit to seafood exporters is needed for early 1999 and a second national HACCP workshop is likely. A second national HACCP workshop will take place in Tonga at the end of October. FAO and SPC will again collaborate in helping to run this workshop.

28. Issues raised by the HACCP consultant in his last assignment need to be addressed. It appears that two new project themes need to be further developed and new funding sought. One project theme would be aimed at helping to establish effective national Controlling Authorities. As well as developing a protocol on how best to establish an effective Controlling Authority, training of inspectors and one or two auditors will be necessary.

29. The second project theme would focus on providing more in-depth training to exporters. In addition to providing top-up training to the senior HACCP staff, training for production line staff should also be considered. The New Zealand Competency Standards for Seafood HACCP Personnel could be a suitable model on which this could be based. This scheme has three competency levels: the HACCP operator (lowest level), HACCP Supervisor (intermediate level) and HACCP Coordinator (highest level).

Conclusion

30. It is unfortunate that the implementation of HACCP in the region has been conducted under siege conditions. Most of the activities described above took place within a six-month period prior to the implementation of the US HACCP rule. Despite the very tight deadline it appears that all exporting

companies were able to continue to trade with the US beyond December 1997. Not one company has gone out of business and no one has complained that jobs have been lost. Under the circumstances this is a very a good outcome.

31. It is clear that HACCP is here to stay. Some companies have experienced the real benefits of working under HACCP regimes and are keen to make further progress. It is time for national authorities to review their own positions and participate more actively in helping to develop and encourage greater use of HACCP. This would provide a mechanism for protecting their valuable fish exporting industry and could help open up new trade opportunities.

Publications and reports available from SPC

The following two FAO/SPC TCP reports were recently published by SPC:

- Roberts Gillett, 1997. "Hazard Analysis and Critical Control Point (HACCP) for Seafood Exports: The Situation in Selected Pacific Island Countries". FAO Technical Cooperation Programme (TCP/RAS/6713). SPC, Noumea.
- Ted McDorman, 1998. "Seafood Safety Standards (With Special Reference to HACCP): Review of the Import Regulations of the U.S. and E.U. and the Relevant Laws of the South Pacific Region". FAO Technical Cooperation Programme (TCP/RAS/6713). SPC, Noumea.

Other documents:

- French versions of the US Seafood HACCP Rule and US GMP regulation (21 CFR Part 110) were produced during the year to assist New Caledonia and French Polynesia with their HACCP implementation programmes. These are available from SPC on request.