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COMMITTEE ON FISHERIES

SUB-COMMITTEE ON FISH TRADE

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SAFETY AND QUALITY REQUIREMENTS IN INTERNATIONAL FISH TRADE

EXECUTIVE SUMMARY

This paper reports on recent developments in fish safety and quality, including fishmeal and bovine spongiform encephalopathy (BSE) and describes FAO activities in this field. Guidance is sought from the Sub-Committee on how to strengthen FAO's work in this area.

INTRODUCTION

1. At its 9th session, the COFI Sub-Committee on Fish Trade¹ (COFI:FT) renewed its support to FAO's work in the field of fish trade, and in particular its role in providing technical assistance and capacity building related to fish quality and safety, including risk analysis and traceability. Many delegates raised concern over safety issues that have or may affect international fish trade and consumer perception of fish safety. These issues included dioxins and polychlorinated biphenyls (PCBs) in salmon, fishmeal and BSE and residues of antibiotics in aquaculture products. FAO was requested to monitor developments, including scientific developments, in these areas and report back to its Member States. Harmonization and equivalency were also recognized as areas requesting FAO's attention, including capacity building. Many countries requested FAO to coordinate with Codex Alimentarius Committees regarding traceability.

¹ FAO. 2004. Report of the 9th Session of the COFI Sub-Committee on Fish Trade. Rome. Italy.

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2. The 26th Session of COFI² confirmed these priority areas and asked FAO to further pursue its work in this field. It also stressed the importance of working with the *Codex Alimentarius Commission* (CAC) and the Sub-Committee on Fish Trade on issues pertaining to food safety and quality as well as market developments.

3. The objectives of this paper are to i) report on recent developments in fish safety and quality, including fishmeal and Bovine Spongiform Encephalopathy (BSE), ii) describe FAO activities in this field and iii) seek the guidance of the Sub-Committee on how to strengthen FAO's work in this area.

RECENT DEVELOPMENTS IN FISH SAFETY AND QUALITY

4. During the 9th session of COFI:FT, the secretariat reported on developments in the field of fish safety and quality during the last decades. The highlight of these developments included the worldwide adoption of HACCP-based (Hazard Analysis and Critical Control Point) systems and of scientifically based risk assessment methods, the enactment of the SPS/TBT (sanitary and phytosanitary measures/ technical barriers to trade) agreements as the international regulatory framework for food safety and quality and the ensuing development and adoption of standards, guidelines and recommendations by the relevant committees of the *Codex Alimentarius Commission*. These safety and quality concepts are enshrined in the Code of Conduct for Responsible Fisheries, particularly Articles 6 and 11. These developments were the result of increased demand for fish, technological developments in food preservation and distribution, globalization, increased consumer awareness and major food safety scares.

5. In international fish trade, it is recognized that the worldwide adoption and widespread implementation of HACCP-based fish safety and quality systems has contributed significantly to improve the safety and quality of fish and fishery products offered on the international markets. It has also resulted in increased transparency and harmonization among trading partners and their safety and quality management systems. The emergence of additional safety and consumer protection issues has required a revision of these HACCP-based systems to develop an integrated, multidisciplinary approach to safety and quality, taking into account the entire fish food chain. The food chain approach recognizes that the responsibility for the supply of safe, healthy and nutritious food is shared along the entire food chain. This includes all involved with the production, processing, trade and consumption of food. Stakeholders include farmers, fishermen, food processors, transport operators, distributors, as well as governments who have the responsibility to protect public health and consumers. The implementation of the food chain approach requires an enabling policy and regulatory environment at national and international levels with clearly defined rules and standards, establishment of appropriate food control systems and programmes at the national and local levels, and provision of appropriate training and capacity building.

6. In fisheries there are five broadly defined criteria on which a strategy in support of a food chain approach to food safety should be based:

- Fish safety and quality from a food chain perspective should incorporate the three fundamental components of **risk analysis** - *assessment, management and communication*. Within this analysis process, there should be an **institutional separation** of science-based risk assessment from risk management. Risk management is the regulation and control of risk.
- **Tracing techniques** (*traceability*) must be improved from the primary producer (including animal feeds and therapeutants used in aquaculture), through post-harvest treatment, processing and distribution to the consumer.

² FAO. 2005. Report of the 6th Session of the Committee on Fisheries COFI. Rome. Italy

- **Harmonization of fish quality and safety standards**, implying increased development and wider use of internationally agreed scientifically-based standards.
- **Equivalence in food safety systems**, whereby similar levels of protection against fish-borne hazards and quality defects are achieved regardless of the means of control that are used. The equivalence concept must be further developed as no such agreements have, as yet, been negotiated between countries.
- Increased emphasis on **risk avoidance or prevention at source** within the whole food chain – from farm or sea to plate –, including development and dissemination of good aquaculture practices, good manufacturing practices and safety and quality assurance systems (i.e. HACCP). These are necessary to complement the traditional approach to fish safety and quality management based on regulation and control.

7. Efforts to integrate these developments into fish safety and quality policies have continued at national, regional (e.g., European Union EU), and international (e.g., Codex Alimentarius Commission) levels and within the fish industry. In the major world fish markets (i.e. the EU, USA and Japan which account for 75% of imports by value), the authorities responsible for food safety have implemented food safety reforms that incorporate these recent developments.

8. In the European Union, a new food and feed hygiene legislation^{3,4,5,6,7,8} entered into force on 1st January 2006. It is an integral part of the EU's "farm to fork" strategy for food safety. General measures are laid down for the production of all food, and specific rules for various food commodities, including fish and fishery products, and bivalve molluscs. The new food legislation aims to introduce/consolidate the following main provisions:

- Responsibility for ensuring that food hygiene standards are met lies first and foremost with the food operators involved in the production, manufacture, processing, distribution or retail of the food.
- Primary producers must protect, as far as possible, primary products against contamination.
- Establishments involved in food production must be registered and in some cases will need to be approved by the competent authority.
- The HACCP principles should be applied at every stage in the food chain except primary production.
- Guides of good practice should be drawn up by the food business sector at national level for operators to follow.
- Technical requirements on infrastructure and equipment, food handling, water quality, pest control, the maintenance of the cold chain etc must be respected.
- The new rules can be applied in a flexible way, in particular with regard to traditional methods of production, food establishments in regions subject to geographical constraints and small businesses.

³ Regulation 852/2004 on the hygiene of foodstuffs;

⁴ Regulation 853/2004 laying down specific hygiene rules for food of animal origin;

⁵ Regulation 854/2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption;

⁶ Regulation 882/04 laying down health rules governing the production, processing, distribution and importation of products of animal origin;

⁷ Directive 2004/41 repealing 17 existing Directives;

⁸ Regulation No 183/2005 laying down requirements for feed hygiene.

- Imported food has to meet the same requirements as EU products.

9. Rules for implementing the new food legislation and guidance documents^{9 10}, were also adopted by the EU Commission. The rules make provisions for food chain information, specific testing methods for biotoxins, lists of approved establishments, model health certificates and derogations for traditional foods and foods from establishments in regions subject to geographical constraints. Transitional arrangements until 31/12/2009 are also laid down for some hygiene provisions, to allow a gradual implementation.

10. A new EU regulation¹¹ was drawn to set microbiological criteria for certain food of animal origin in order to harmonize these criteria throughout the EU member states. The food safety microbiological criteria will apply to food products placed on the market, while process hygiene criteria will apply during manufacturing. The EU Alert System for Food and Feed, initiated in 1999, is operating fully and its reports are posted on the web weekly.

11. In the USA, implementation of the Federally Mandated Seafood Rule¹², along with the Good Manufacturing Practices (GMP) (21 US Code of Federal Regulations (CFR) part 110) and Sanitation Control Procedures (21 CFR part 123) were continued. Likewise, application of the *Fish and Fishery Products Hazards and Controls Guide* that was issued by the Food and Drug Administration (FDA) to assist the fisheries industry in implementing these measures, was further broadened. The Seafood HACCP Alliance¹³, a national education program designed to complement the Guide, was strengthened. Risk assessment work for specific pathogens of concern for seafood was continued and broadened. The 2003 FDA Regulation (21 CFR Parts 1 and 20) promulgated under the *Public Health Security and Bio-terrorism Preparedness and Response Act* has been in application since December 2003, with no noticeable disruption of fish trade flows from exporting countries into the USA. This regulation requires that domestic and foreign facilities that manufacture/process, pack or hold food for human or animal consumption in the USA, register with FDA and submit electronically prior notice to FDA before the shipment is due to arrive into the USA.

12. Regarding control of imported seafood, the FDA has implemented new strategies to augment port-of-entry examination. The first strategy is a requirement in the Seafood HACCP Regulation that U.S. importers take "affirmative steps" to help ensure that imported seafood products have been processed in accordance with the U.S. HACCP requirements. The FDA inspects importers at their places of business to determine whether they are meeting the "affirmative steps" obligation. The second strategy involves a significant increase in foreign inspections by FDA inspectors, although these inspections have been directed more towards developing countries that export seafood to the USA.

13. The FDA does not currently deem the establishment of equivalence agreements a priority as it considers that the time and resources required to develop such agreements may outweigh the benefits. However, the FDA is considering how best to incorporate the *Codex Alimentarius Commission's* (CAC) procedures and guidelines to conduct equivalence assessments into partnership agreements. The partnership agreements would aim at trade facilitation while retaining maximum consumer protection. The partnership agreements would be based on a compliance assessment through periodic audits of the exporting country's control authority by the FDA and regular co-management meetings between the two agencies.

⁹ Guidance on the implementation of specific articles of Regulation 178/2002 on general food law.

¹⁰ Guidance: key questions related to import requirements and the new rules on food hygiene and official food control.

¹¹ Regulation 2073/2005 on microbiological criteria for foodstuffs

¹² FDA, 1995. Procedures for the safe and sanitary processing and importing of fish and fishery products, Final Rule. Federal Register. Vol. 60, No. 242. 65096-65202.

¹³ Seafood HACCP Alliance, 2001. HACCP: Hazard Analysis Critical Control Point Training Curriculum, 4th ed. Florida Sea Grant Report No 120, Gainesville, FL: University of Florida.

14. In Japan, application of HACCP- based food control regulations is pursued, including sanitary and hygienic requirements for fish handling and processing establishments and conditions for storage and transport. Risk analysis principles have been incorporated, along with spot checks at the entry border and quality control schemes of the Japanese fish industry, which controls imports at the source. In addition, Japan food control authorities have developed a strategy to promote the “Control at source” by organizing bilateral consultations with some exporting countries to clarify the Japanese sanitary requirements and assist in their implementation at the early stages of the food chain. This approach will be strengthened and expanded to more seafood exporting countries.

15. At the international level, the CAC has continued its reform to strengthen its role as the internationally recognized body for deliberation regarding food safety, consumer health and fair trade. The ongoing CAC plan of action is being implemented, although resources remain a major issue. It encompasses six major elements:

- 1) Improved efficiency and speed of the Codex process and consensus building;
- 2) Further strengthened scientific support and science based decision making;
- 3) Increasing the participation of developing countries to the CAC deliberations;
- 4) Establishment of a Trust Fund by FAO and WHO;
- 5) Greater transparency and participation of Non Governmental Organizations;
- 6) Increased support from FAO and WHO.

16. In parallel to these regulatory and institutional developments in fish safety and quality, the recourse to private voluntary standard schemes has been increasing recently in the food industry, with probable policy implications for seafood safety in international trade. In particular, three main developments have emerged: i) a move to voluntary food safety and quality management systems and its expansion to process attributes; ii) emergence of global coalitions by leading food firms, such as the “Global Food Safety Initiative” for setting food standards and iii) increased use of global food business to business standards. These developments in the food sector are already impacting fish trade, particularly in aquaculture products.

17. Regarding fishmeal, there continues to be no epidemiological evidence of BSE being transmitted to ruminants or other animals by fishmeal and there continues to be no evidence for the transmission to humans of the Creutzfeld Jacob Disease (vCJD) caused by prions using fish or fish products as vectors¹⁴.

18. As reported at the 9th session of the Sub-Committee on Fish Trade, the feeding of fish meal to ruminants in the EU has been banned since December 2000, and remained in place in January 2006. The concern was about the possibility of the contamination of fish meal by mammalian meat and bone meals (MMBM) during the process of feed compounding and the lack of sufficient precision in methods of checking such adulteration. In 2004, a satisfactory analytical method was developed and approved and a by-products legislation was introduced. The EC was in favour of lifting the ban but wished to have the approval of the European Parliament, which referred the issue to the EU’s Fisheries, Agriculture and Environment Committees. The EU Fisheries committee has had meetings and prepared reports which present scientific justification to lift the ban, while the EU’s Environmental Committee is likely to recommend maintaining the ban as it considers that it would be ethically unacceptable to allow the feeding of fishmeal to herbivore animals.

¹⁴ Based on evidence available at the time this report was drafted (January 2006).

FAO ACTIVITIES

19. The FAO Fisheries Department (FI) has continued its support to the normative work of FAO, by supporting i) the work of the Codex Committee on Fish and Fishery Products (CCFFP) ii) the FAO/WHO initiatives on risk assessments relevant to fish trade and iii) by providing scientific advice to the CAC. More specifically, FI, in collaboration with the WHO, organized two expert consultations on biotoxins. The results of these consultations will be examined by a working group to prepare draft standards and code of practice to control biotoxins in bivalve molluscs. They will be examined at the next session of the CCFFP, which will be jointly organized by the EC and WHO, on Application of Risk Analysis for methyl mercury in fish. Likewise, FI, in collaboration with the United Nations Industrial Development Organization (UNIDO) and the International Association of Fish Inspectors (IAFI) organized the 6th World congress on Seafood Safety and Trade. Scientific advice and future seafood safety strategies were debated by participants from the major seafood nations, including many from developing countries. Along with National Marine Fisheries Service (USA) and fisheries departments from Canada, Norway and Iceland, FAO contributed to the organization of an international conference on Seafood and Health to discuss health benefits and risks of seafood consumption.

20. In capacity building, FI has continued its assistance to developing countries to broaden the application of good hygienic practices (GHP), good manufacturing practices (GMP), HACCP, traceability and for the implementation of the FAO/WHO fish standards, guidelines and Codes of practices. This assistance comprised training sessions for personnel from government authorities and the fish industry, provision of technical advice on legislation and organization of fish inspection and building national capacity in HACCP, fish quality and safety research.

21. Ongoing and planned FI activities encompass i) technical assistance and training on the application of SPS and TBT agreements, HACCP and risk analysis in the fish industry, ii) preparation of technical guidelines for good aquaculture practices and HACCP and organization of workshops for their practical application in aquaculture, iii) efforts to promote harmonization of fish standards in ASEAN, Latin America and Africa, iv) monitoring of the causes of detentions/rejections of fish and fishery products in international trade, including the economic consequences; v) support to CAC and FAO/WHO work on control of fish contaminants, especially mercury and antibiotic residues; vi) monitoring development in private fish safety and quality standards and its impact on international fish trade.

SUGGESTED ACTION BY THE SUB-COMMITTEE

22. The globalization of fish trade offers many opportunities of trade liberalization and development, but requires a harmonized and scientifically based approach to ensure consumer protection, fair trade practices and the elimination of unjustified technical barriers to trade. The Sub-Committee may wish to discuss the implications of safety and quality on fish trade, both domestically and internationally. The Sub-Committee is further invited to comment on the work of FI and recommend directions for GAP/GHP/HACCP/Traceability implementation, contribution to the work of the Codex, capacity building and institution strengthening.