

Current Situation of HACCP Application in Africa

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BACKGROUND

HACCP was developed in the early 1970s by the Pillsbury Company in the USA as a mean of providing assurance about safety of food that were to be used in the US Space Program.

Initially, HACCP was used to control microbial risks in food, and in this way it become the basis for the control of food safety. It has been used in the processing of Low-Acid Canned Food (LACF) for a number of years. It was not until the 1980s that a number of regulatory authorities developed an interest in HACCP as a tool for use in food safety. New and stricter legislation based on the HACCP approach was introduced in major fish markets, notably the USA and EU, to secure safer fish and fishery products. Furthermore, the Codex Alimentarius Commission (CAC) gave it international importance through the development of guidelines for HACCP application.

The guidelines were adopted by CAC in 1993 and during the following years several Expert Consultations focused on HACCP and its application. In 1997, CAC adopted basic texts on food hygiene, including a revised text on the HACCP system and guidelines for its application.

As these changes happened in the main importing countries, producers in Africa become increasingly aware of their significance. The traditional methods of preservation and the simple systems for marketing and distribution of fish in Africa pose a big challenge for applying effective quality assurance programmes for fish and fishery products

This paper focuses on the efforts made by African countries to adapt to the new, stricter safety and hygiene regulations for fish and fishery products, particularly for compliance with EU Directives.

ECONOMIC CONTEXT

Africa contributes around 5.8 million metric tons annually to the world harvest of aquatic organisms. This volume is estimated at 100 million t. The world wild catch and aquaculture represent respectively 80 and 20 million tons. The main producing nations are China (20 million t); Peru

(8.5 million t); Chile (6 million t); Japan (8.1 million t); and USA (5.9 million t). Africa produces about the same as USA. Although this represents a mere five percent of world fish production, fishery is a vital activity for many African countries. It provides many jobs and contributes significantly to food supplies, providing 36 to 58 percent of the total animal protein intake; employing 1.6 million people; and producing foreign exchange earnings of US\$ 800 million. The value of world fish exports in 1995 was US\$ 50 000 million. Thailand is the leading exporting country in terms of value, at US\$ 4 500 million. This country is followed by Norway (US\$ 3 100 million); USA (US\$ 3 500 million); China (US\$ 2 800 million); Denmark (US\$ 2 400 million); and Canada (US\$2 300 million), with Africa's exports reaching US\$ 1 600 million in 1996.

In 1995, fish imports represented US\$ 18 000 million in Japan; US\$ 7 100 million in USA; US\$ 3 200 million in France; \$3 100 million in Spain; US\$ 2 400 million in Germany; US\$2 200 million in Italy; US\$ 1 900 million in the United Kingdom; US\$ 1 400 million in Denmark; US\$ 1 000 million in Belgium; while Portugal and Africa were about the same level, importing US\$ 700 million each. In addition, fish is a major source of protein in many of these countries, accounting for between 36 and 58 percent of the total animal protein intake in countries such as, Angola, Congo, Côte d'Ivoire and Senegal.

Furthermore, several African countries, such as Ghana, Kenya, Mauritania, Morocco, Senegal and Tunisia and are under Structural Adjustment Programmes recommended by the World Bank and the International Monetary Fund. These policies call for a gradual removal of Trade barriers and the implementation of a free-market economy. As a result, a variety of food products, including fishery products, imported from many countries are currently available on the African market.

Fish exports are increasing in volume and variety, representing a significant challenge for the African fish inspection and quality assurance authorities. The situation requires appropriate organization, resources, logistics and training to ensure that exported fish complies with international quality requirements.

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This can be achieved only if a preventive-measure approach to fish inspection and quality assurance is adopted and implemented, as recommended by various national food control authorities and international bodies such as UNIDO, FAO, WHO and the Codex Alimentarius Commission.

The important contribution of fish as food in many African countries' diets is also threatened by a lack of the Fair implementation of HACCP-based quality assurance systems. Furthermore, the new context of globalization, especially in terms of food marketing, ignores any difference between domestic and export products. It would have been useful to elaborate on this issue too, rather than focusing only on compliance with importing countries' requirements.

HACCP APPLICATION IN THE FISH INDUSTRY IN AFRICA

Issues

The African continent has high potential for better utilizing existing fishery resources, but this potential cannot be fully utilized due to several constraints in connection with the application of the new regulations. Therefore, the future for fish exports from the region is being seriously threatened by new regulations, which are being progressively imposed by the major fish importing countries. As a result of consumer pressure for safer food supply, the authorities of the USA and EU introduced legislation that meant that, before the end of 1997, fish imports would only be permitted from countries or companies that complied with such legislation. The government authorities in the importing countries have to be satisfied that the fish products have been produced in establishments that operate quality assurance systems, based on the principles of the Hazard Analysis Critical Control Point (HACCP) concept that are at least equivalent to those of the importing country. In order to provide these assurances, there must be a government memorandum of understanding or agreement and certification by the government that the conditions are being met. In special cases, the agreement can be made between a company and the importing authorities.

The current lack of appropriate inspection and quality assurance arrangements potentially puts at risk the lucrative seafood Trade, both the fresh fish industry, which is developing rapidly, and traditional cured products, which are often a vital mainstay to the economies of some countries in the region. An associated impact is that it discourages development of promising export opportunities without clear Trade channels being established.

The following are some major constraints for the implementation of HACCP in Africa:

- 70 to 80 percent of fish derives from the artisanal sector;
- the sector is composed of illiterate persons;
- Countries' lack competent authorities, sanitary legislation based on HACCP, and transparent law enforcement.
- inspection services lack equipment (vehicles, thermometers, insulated containers, sampling material, literature and documents);
- countries lack quality control laboratories; and
- there are poor staff incentives (wages).

The new arrangements for inspection and quality assurance place the responsibility for consumer safety on the producer, therefore transferring the inspection function from the point of import to the point of production. While this should be a long-term benefit to all, the changeover period will be difficult. The fish industry will have to invest in quality management but will need guidance from the public sector, such as in the development of hygienic sites and also in policing the fishing. In addition, governments will have to ensure that the necessary legislation and regulations are in place as part of a national or regional food control scheme. They will also need the capacity to audit the quality assurance plans being operated by industry. However, this national capacity does not exist in most of the countries and the legislation and regulation – when they exist – are inadequately formulated and implemented in most of the countries. With decentralization in many countries, the transfer of competence from central government to local authorities (districts), though having some advantages, also poses a big challenge in the application of effective measures to control safer fish production. This has been demonstrated vividly eastern Africa, as reflected in the recent incidence of fish poisoning.

Therefore, technical assistance from international organizations or donors is needed to assist governments in preparing for these new responsibilities, building up self-reliance in the government sector and ensuring that the industry is equipped to meet the challenge.

Implementation of HACCP in African countries

Facing a new challenge, and at the same time wishing to secure and maintain markets, protect and preserve the quality image of its exported products, the African fish producing countries requested assistance from international organizations. These are e.g. FAO, UNIDO and INFOPECHE, to meet the quality requirements through training programmes and co-operation projects. The EU has also provided assistance, for instance, in Madagascar and Uganda. FAO and INFOPECHE training programmes in Africa on fish inspection and quality assurance started in 1989. The main fish exporting

countries were covered and both fish inspectors from governments and quality control supervisors from the industry were trained.

Steps in the implementation of HACCP

a. Needs Assessment

- Training in fish inspection and quality assurance (FIQA).
- Drafting of sanitary legislation, only by-laws were used.
- Designing a national FIQA programme.
- Setting up a FIQA service.
- Financial and technical assistance from international organization, including FAO,

UNIDO, EU and the Common Fund for Commodities.

b. Situation before the introduction of HACCP in 1986

The technical assistance received was directed toward

- Training in fish handling and processing.
- Improvement of artisanal technologies (smoking, salting, drying and fermenting).
- Use of ice.

c. Implementation of HACCP after 1986

More than 700 fish inspectors and quality control supervisors were trained. The table below shows training activities carried out by FAO in Africa and in the other regions. The number of African trainees represents 30.9 per cent of the total.

Table 1: Number of trainees in FAO HACCP-related training activities, 1989 to 1996

Region	Number of countries assisted	Number of national workshops	Number of regional workshops	Number of people trained
Africa	25	23	4	746
Latin America (2)	21	24	1	666
Asia and the Pacific	17	15	4	502
Eastern Europe	6	10	-	358
Caribbean (3)	11	4	3	140
TOTAL	80	75	12	2 412

Source: Lupin, 1997.

From 1986 to 1999, different regional and national workshops were organized for the French speaking, English speaking, Arab and Portuguese African countries. The national and regional workshops were held in 25 countries

FAO's Technical Co-operation Programme (TCP) provides assistance for a maximum of two years and provides training but also expertise, equipment, study tours, sponsorships to participate in meetings, and other support. The expertise provided in these projects typically includes fish inspection, HACCP, legislation in fish handling, and processing technology. Also, bilaterally funded fisheries development projects executed by FAO have been given due attention to fish quality aspects.

As a result, many African fish producing countries have been authorized by EU to export to its market, which constitutes the main market for Africa. This authorization means that these countries prepare and market fish products in the same way as or better than in the EU itself. Therefore the exports are not controlled at arrival.

The countries have promulgated new sanitary regulations based on HACCP, set up their competent authorities and constructed quality control laboratories, in part through bilateral assistance from donor countries such as France and the UK, which are the main markets for African seafood products.

At the industry level, more than 50 percent of the plants were closed after the implementation of the National Fish Inspection programme. Investments to comply with requirements were very high. Different countries invested heavily and upgraded their plants in order to satisfy the EU requirements, including Morocco (US\$ 70.0 million); Namibia (US\$ 10.0 million); Senegal (US\$ 8.0 million); Mauritania (US\$ 5.0 million); Uganda (US\$ 1.6 million); and Ghana (US\$ 1.0 million).

Concerning third-country exports to the EU market, the EU Commission requires exporting countries to comply with its own sanitary regulations based on HACCP (see Directives 91/492/CE and 91/493/CE for both the production and the placing in markets of bivalves and fish

products). The Commission has established two lists of countries:

- List I is composed of countries fully harmonized, and there are 45 countries, of which 13 are African countries (see Table 2), and

- List II shows 3 756 countries called pre-listed countries of which 14 countries (see Table 3) are from the African region. These countries or territories meet the terms of Article 2(2) of Council Decision 95/408/EC.

Table 2: List I countries (countries and territories covered by a specific decision under Council Directive 91/493/EC (N=45 from Commission Decision 98/7II))

Albania	Falkland Islands	Mauritania	Senegal
Argentina	Faeroe Islands	Mauritius	Thailand
Australia	Ghana	Mexico	Tunisia
Bangladesh	the Gambia	Malaysia	Taiwan
Brazil	Guatemala	Nigeria	Tanzania
Canada	Indonesia	Oman	Uruguay
Côte d'Ivoire	India	Panama	Yemen
Chile	Japan	Peru	South Africa
Colombia	the Republic of Korea	the Philippines	
Cuba	Morocco	the Russian Federation	
Ecuador	Madagascar	Seychelles	
Estonia	Maldives	Singapore	

Table 3. List II countries (countries and territories meeting the terms of Article 2(2) of Council Decision 95/408/EC

Algeria	Czech Republic	Latvia	Saint Pierre and Miquelon
Angola	Eritrea	Lithuania	Saint Vincent and the Grenadines
Antigua and Barbuda	Fiji	Malta	Slovenia
Azerbaijan	French Polynesia	Mozambique	Solomon Islands
Bahamas	Gabon	Myanmar	Sri Lanka
Belize	Greenland	Namibia	Suriname
Benin	Guinea	Netherlands Antilles	Switzerland
Bulgaria	Honduras	New Caledonia	Togo
Cameroon	Hong Kong	Nicaragua	Turkey
Cape Verde	Hungary	Pakistan	Uganda
China	Islamic Republic of Iran	Papua New Guinea	USA
Costa Rica	Israel	Poland	Venezuela
Croatia	Jamaica	Romania	Viet Nam
Cyprus	Kenya	Saint Helena	Zimbabwe

FUTURE WORK

The needs of African countries in the area of HACCP training are enormous, but meeting this new challenge will be difficult because of budget constraints at various levels. Co-operation between donor countries and international agencies is a must to ensure optimum use of

the available resources allocated to HACCP-related activities, especially training. Also, fish demand and prices are increasing regularly, and therefore investing in this sector to meet quality requirements will generate profits. For this reason, financial institutions should consider the opportunities offered by the fish industry. At present, efforts are focused on HACCP application, but future work will be oriented toward verification, auditing

of HACCP systems in the fish industries and assessing the costs of quality. FAO, through the FAO/DANIDA training project, is pioneering activity through training of fish quality controllers, covering research risks assessment; international assistance for HACCP ISO 9000, Total Quality Management, training and implementation; production of manuals in both French and Portuguese; information access and training in the Agreements on Sanitary and Phytosanitary Measures, and on Tariff Barriers to Trade. As this project is coming to an end, it is hoped that other international organizations will take over.

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