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Assuring fish safety and quality in international fish trade

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Abstract

International trade in fishery commodities reached US$ 58.2 billion in 2002, a 5% improvement relative to 2000 and a 45% increase over 1992 levels. Within this global trade, developing countries registered a net trade surplus of US$ 17.4 billion in 2002 and accounted for almost 50% by value and 55% of fish exports by volume.

This globalization of fish trade, coupled with technological developments in food production, handling, processing and distribution, and the increasing awareness and demand of consumers for safe and high quality food have put food safety and quality assurance high in public awareness and a priority for many governments. Consequently, many countries have tightened food safety controls, imposing additional costs and requirements on imports. As early as 1980, there was an international drive towards adopting preventative HACCP-based safety and quality systems. More recently, there has been a growing awareness of the importance of an integrated, multidisciplinary approach to food safety and quality throughout the entire food chain. Implementation of this 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 national and local levels, and provision of appropriate training and capacity building.

This paper discusses the international framework for fish safety and quality, with particular emphasis on the United Nation's Food and Agricultural Organization's (FAO) strategy to promote international harmonization and capacity building.

Keywords: Safety; Quality; Fish; International trade; Seafood; FAO

1. Introduction

Global fish production is very significant for global food trade and food security, providing more than 15% of total animal protein supplies. It averaged 128.7 million metric tons (MMT) during the period 1998–2003, with a record high of 133.0 MMT in 2002 (Table 1). About 38% of world fish production enters international trade and around 50% (in value terms) of this trade originates in developing countries. The USA, the European Union and Japan import some 80% (in value) of the fish traded internationally. With increasing international fish trade and further globalization, there is a greater risk of cross-border transmission of infectious agents, which can lead to increased risk to human health and significant implications for international trade. This requires a more fully harmonized global approach to assure fish safety and quality while avoiding unfair trade practices and disguised technical barriers to trade.

2. Fish production, utilization and trade[1]

The global production from capture fisheries and aquaculture averaged 128.7 million metric tons (MMT) during the period 1998–2003, with a record high of 133.0 MMT in 2002 (Table 1). China remains by far the largest producer, with reported fishery production of 44.3 MMT in 2002 (16.6 MMT from capture fisheries and 27.7 MMT

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[1] All data for this section is drawn from the FAO State of World Fisheries and Aquaculture (SOFIA) reports from 2002 to 2004 (http://www.fao.org/sof/sofia/index_en.htm).

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Table 1
World fisheries production and utilization

Production	1998	1999	2000	2001	2002	2003
	Million tonnes					
Inland						
Capture	8.1	8.5	8.7	8.7	8.7	9.0
Aquaculture	18.5	20.2	21.3	22.5	23.9	25.2
Total inland	**26.6**	**28.7**	**30.0**	**31.2**	**32.6**	**34.2**
Marine						
Capture	79.6	85.2	86.8	84.2	84.5	81.3
Aquaculture	12.0	13.3	14.2	15.2	15.9	16.7
Total marine	**91.6**	**98.5**	**101.0**	**99.4**	**100.4**	**98.0**
Total capture	87.7	93.8	95.5	92.9	93.2	90.3
Total aquaculture	30.6	33.4	35.5	37.8	39.8	41.9
Total world fisheries	**118.2**	**127.2**	**131.0**	**130.7**	**133.0**	**132.2**
Utilization						
Human consumption	93.6	95.4	96.8	99.5	100.7	103.0
Non-food uses	24.6	31.8	34.2	31.1	32.2	29.2
Population (billions)	5.9	6.0	6.1	6.1	6.2	6.3
Per capita food fish supply (kg)	15.8	15.9	15.9	16.2	16.2	16.3

from aquaculture[2]). Unlike capture fisheries, aquaculture production has continued to increase markedly. Its contribution to global supplies of fish increased from 3.9% of total production by weight in 1970 to 29.9% in 2002. Indeed, aquaculture is growing more rapidly than any other animal food producing sectors. Worldwide, the sector has increased at an average compounded rate of 8.9% per year since 1970, compared with only 1.2% for capture fisheries and 2.8% for terrestrial farmed meat production systems.

2.1. Utilization

Of the estimated 88.7 MMT of fish produced in 2002 in the world, excluding China, nearly 74% (65.5 MMT) was used for direct human consumption and about 26.1% were utilized for various non-food products, mostly for reduction to meal and oil (Table 1). Corresponding figures for China, which were based on reported capture fishery, aquaculture and fish meal production and FAO estimates of other non-food uses, were nearly 44 MMT in total production and nearly 35 MMT (79%) for direct human consumption. The remainder was used for the manufacture of fish meal and other non-food uses, including direct feed to aquaculture. As a highly perishable commodity, fish has a significant requirement for processing. In 2002, nearly 70% (62 MMT) of total world fisheries production (excluding China) underwent some form of processing. The most important fish products destined for direct human consumption were fresh fish (40%), frozen fish (32%), canned fish (16%) and cured fish (12%).

[2] However, there are increasing indications that, since the early 1990s, production statistics from China have been overestimated, as suggested by several academic studies (FAO, 2002).

2.2. Consumption

The total food fish supply for the world, excluding China, has been growing at a rate of about 2.4% per annum since 1961, while the population has been expanding at 1.8% per annum. Since the late 1980s, however, population growth outside China has occasionally outpaced the growth of total food fish supply, resulting in a decrease in per capita fish supply from 14.6 kg in 1987 to 13.1 kg in 2000 with an upward change to reach 16.2 kg in 2002. For China, the corresponding annual increases were 6.4% for food fish supply since 1961 and 1.7% for the population. Annual growth was steady until the mid-1980s (at 3.8% from 1961 to 1985) and then suddenly trebled over the following 15 years (10.8% from 1985 to 2000).

The share of the animal protein intake of the whole human population derived from fish increased from 13.7% in 1961 to 16.1% in 1996 and then showed a slight decline to 15.8% in 1999.

2.3. Trade

In addition to their role as a source of food and livelihoods, fisheries in many countries are also an important source of foreign exchange. In a few cases (e.g., Iceland, Seychelles, Thailand, Senegal, Mauritania), fishery exports are essential to the economy. Products derived from aquaculture production contribute an increasing share of total international trade in fishery commodities.

About 40% of the fish produced globally enters international trade and the share of fishery products entering international trade is more or less stable.

Total world trade of fish and fishery products has undergone a tremendous development during the last three decades, increasing from a mere US$ 8 billion in 1976 to an export value of US$ 58.2 billion in 2002 (measured in con-