

Food safety standards and regulations: Implications for Asian fish exporters

RECOMMENDATIONS

1. Developing countries should implement food safety standards as quickly as possible, covering all points along the supply chain, and view this as a competitive strategy
2. Appropriate institutions must be devised to help small fish producers achieve compliance with HACCP processes and food safety standards
3. International donors should provide technical assistance to build capacity, strengthen regulatory frameworks and upgrade testing facilities to international standards
4. Policy research should find ways to share the burden of extra costs between poorer producers and processors in developing countries and richer consumers in developed countries
5. Maintaining the competitiveness of small-scale fish producers and processors requires government policies and support designed to minimize the cost of compliance with international standards
6. Cooperation among donor countries, international agencies, national institutions and private entrepreneurs is required to ensure the optimal use of resources allocated to HACCP activities

INTRODUCTION

Fish is a highly traded commodity, with a third of global output by value traded across international borders. The growth of the global fish trade has been substantial in recent decades, providing a rare food-trade success story for developing countries. Receipts from traditional exports of tropical agricultural products are increasingly being replaced by fish.

Developing countries export almost half of their fish and seafood production to developed nations, the European Union, United States and Japan together taking 77% of global fish imports. Between 1980 and 2001, net exports from developing countries increased by 350%. In value terms, Thailand is the world's leading fish-exporting country, and China, Taiwan, Indonesia and South Korea are among the



Unloading the catch; small fish producers need assistance to achieve compliance with HACCP processes and food safety standards.

world's top 10 fish exporters. Bangladesh, India, Philippines and Vietnam also export significant volumes of fish.

The value of net fish exports from Asia (the value of fish exported less the value of fish imported) has increased substantially over the last few decades, stabilizing early in this decade at US\$9-10 billion. Fish are a significant source of foreign currency with benefits to national balances and household incomes alike.

World Trade Organization (WTO) agreements have steered the liberalization of international trade. The major fish importers have cut tariffs and reduced duties and taxes significantly. In addition to general tariff cuts, developed countries have granted certain developing countries preferential trade agreements that have average tariff rates of 4.1% in Japan, 10.7% in the EU and just 0.9% in the US. More than 80% of the international trade in fish and fish products is now covered under various preferential agreements. In general, though, developed countries maintain

Table 1. Tariff rates before and after WTO (Uruguay Round)				
Country	Pre WTO		Post WTO	
	Year	Tariff rate (%)	Year	Tariff rate (%)
China	1991	47.2	2001	12-23.3
Thailand	1995	60	1999	5-30
Philippines	1994	10-60	2000	3-5
India	1993-94	60	2002-03	35.2
Bangladesh	1991-92	59.33	2000-01	28.23
Malaysia	na	na	2010	≤ 5
na = not available Source: Various WTO and government documents, such as customs reports				

higher tariff rates on processed fish commodities than on chilled fresh fish, which inhibits exporters who aim to add value to fresh or frozen products through processing.

To comply with WTO objectives, developing countries have comprehensively liberalized their trade regimes. Table 1 shows that many Asian developing countries have made significant progress in reducing tariffs on fish products after joining WTO. Tariff reductions in Thailand have stimulated fisheries imports from Myanmar, Vietnam and Cambodia for processing and subsequent export to developed countries. Many developing countries have also taken initiatives to eliminate quotas and subsidies. Rapid rates of growth in South-South fisheries product trade over the past decade has probably resulted from both trade liberalization and quickly rising rates of consumption spurred by urbanization, population

growth and higher incomes. This trade will continue to grow in the coming decades.

The Food and Agriculture Organization and the World Health Organization jointly created in 1962 the Codex Alimentarius Commission to protect the health of consumers and ensure fair practice in the food trade. Over the years, the Codex system has developed various general and commodity-specific standards, guidelines, codes of practice and other recommendations to improve food safety.

Developing countries' future success in exporting fish depends on continued access to the markets of developed countries. One of the major challenges facing exports of fish and fish products is progressively stricter food safety requirements, particularly in the EU, US and Japan, where the last couple decades have seen a proliferation and

strengthening of sanitary and phytosanitary (SPS) standards. In 1996, Codex recommended adopting hazard and critical control point (HACCP) as a process for managing food safety.

POLICY RECOMMENDATION 1: Developing countries should implement food safety standards as quickly as possible, covering all points along the supply chain, and view this as a competitive strategy

The future of fish exports from developing countries to developed countries will depend mainly on compliance with new health safety standards and other technical measures that are being made progressively more stringent by the major fish-importing developed countries. In the public sector, food safety oversight and regulations increasingly extend from farm to table. In recent years, HACCP has been mandated for some part of the fish supply chain by government regulations in most industrialized countries.

The potential consequences of new regulatory measures for the export trade in fishery commodities are not well understood, causing concern among developing countries. Many believe that SPS standards and HACCP regulations may constrain exports of fish and other food products from developing countries. The concern is that developing countries lack the skilled manpower and other compliance resources needed to meet stiffening international standards and so will lose market share. On the other hand, some argue that these measures facilitate trade more than they raise barriers. Maintaining high-quality fish and seafood products should be viewed as a competitive strategy to stay ahead of competitors in the world market.

POLICY RECOMMENDATION 2: Appropriate institutions must be devised to help small fish producers achieve compliance with HACCP processes and food safety standards

The traditional methods of fish preservation and processing practiced in many developing countries are being challenged by the requirements of international standards for fish and fish products. Implementing health safety standards and HACCP processes requires both legal and institutional measures by the public sector and, largely from the private sector, investments for developing processes and management system improvements. Many developing countries have promulgated new sanitary regulations based on Codex recommendations and HACCP norms, and have set up authorities responsible for inspection and quality control.

Despite the requirement for heavy investment in compliance resources, developing countries have been making progress towards implementing the HACCP process. Most Asian fish exporters — including Bangladesh, China, India, Indonesia, Malaysia, Philippines, Sri Lanka, Thailand, and Vietnam — have the highest rating for exporting fish and fishery products to the EU.

Bangladesh, Indonesia, Philippines and Sri Lanka have strengthened legislative support to comply with the HACCP process. HACCP compliance is voluntary in Malaysia and Thailand but better there than in many other Asian countries where compliance is mandatory. China has yet to formulate a law to directly address the HACCP process but, as an immediate measure, focuses on controlling fish disease in aquaculture by improving the quality of water in ponds and tanks, and on developing vaccines.

Table 2. Cost of implementing HACCP plant in selected countries in Asia					
Cost categories	Thailand	India	Bangladesh	Philippines	Malaysia
Total investment of a plant (\$'000)	381-405	309	277	2,337	3,000
Maintenance cost of a plant (\$'000/year)	4 -71	41	35	85	na
Cost of fish processing (\$/kg)	0.010-0.014	0.21-0.28	0.033-0.090	na	na
HACCP = hazard analysis and critical control point, na = not available Sources: Cato JC, Santos ALD. 1998. European Union 1997 seafood safety bans: The economic impact on Bangladesh shrimp processing. <i>Marine Resource Economics</i> , 13, 215-227; field surveys					

Training and motivational work needs to be intensified for people involved in postharvest activities.

are necessary for smooth implementation of the health safety program.

POLICY RECOMMENDATION 3:
 International donors should provide technical assistance to build capacity, strengthen regulatory frameworks and upgrade testing facilities to international standards

Although progress has been made in HACCP implementation, problems remain in terms of inadequate capacity and lack of proper management of the inspection system. Problems are complicated where more than one ministry or department is involved in fish inspection and quality control. In Thailand, for example, two government agencies, one semi-public institute and a number of accredited private laboratories have the authority to enforce the HACCP process, such that administrative authorities overlap and can cause conflicts among implementing agencies. Coordination and linkages among the regulatory and enforcement institutions

POLICY RECOMMENDATION 4:
 Policy research should find ways to share the burden of extra costs between poorer producers and processors in developing countries and richer consumers in developed countries

Compliance with Codex recommendations and HACCP processes imposes costs on fish- and seafood-exporting countries and their fishery sectors. HACCP-compliant plants are required to install sanitation and health safety tools. This requires an investment for a relatively large plant of about \$2-3 million, as in Malaysia and the Philippines, and \$0.3-0.4 million for a smaller plant, as in Bangladesh, India and Thailand. An HACCP-compliant plant has additional recurring maintenance costs of \$35,000-85,000 per year (see Table 2).

Table 3. Cost of fish processing with and without HACCP compliance in India		
Plant capacity	Without HACCP compliance (\$/kg)	With HACCP compliance (\$/kg)
Small (<10 tons/day)	0.142	0.331
Medium (10-15 tons/day)	0.095	0.226
Large (>15 tons/day)	0.072	0.167
Average	0.093	0.216

HACCP = hazard analysis and critical control point
Source: Field survey 2002

Installing an HACCP-compliant plant in Bangladesh, for example, costs the equivalent of 2.3% of the export revenue from the fish processed, and annual maintenance 1.26%. Table 3 compares the average cost of fish processing with and without HACCP compliance in India. The average cost per kilogram of processed fish is more than double for firms with HACCP norms. Importantly, the burden on smaller plants is higher than on medium-sized and larger plants. This makes small plants' competitiveness even shakier than before, especially when their access to capital is restricted (see policy recommendation 5).

Although compliance with food safety and quality standards has significant costs, it delivers value to developing countries by way of higher prices in world markets and easier market access. Following better implementation and enforcement of HACCP procedures, Sri Lanka was able to boost fish exports to the EU by more than 600% in 3 years. Meanwhile,

noncompliance with HACCP processes and SPS standards can lead to bans or rejection by importing countries, causing massive losses.

Some market observers believe that consumers increasingly assume that all food supplies meet stringent safety standards. They therefore will not pay a premium for products that meet specific safety standards but will boycott those who do not. One indirect way for wealthy consumers to pay for improved health protection is for their governments to grant aid to developing country fish exporters to finance the installation of adequate processing infrastructure.

Seafood produced in HACCP-compliant factories is more expensive for domestic consumers as well, who of course also enjoy public health benefits. These costs and benefits provide additional reasons for developed countries to financially support HACCP compliance in developing countries.

POLICY RECOMMENDATION 5: Maintaining the competitiveness of small-scale fish producers and processors requires government policies and support designed to minimize the cost of compliance with international standards

While implementing health safety standards and HACCP processes offers enormous benefits, these benefits are not distributed equally to small producers in developing countries. Both aquaculture and capture fisheries are organized on a small scale in developing countries, and production units are typically scattered and remote. Fishery products often change hands several times before reaching the final export or processing points. The long supply chain complicates compliance and its documentation, and small fishers and fish farmers usually do not benefit from value additions using improved processing standards.

The difference in cost per unit of implementing HACCP processes and SPS standards works against smaller plants within a country, as well as against countries that are relatively poor among developing countries. Economies of scale in the implementation of HACCP processes and SPS standards could exclude small-scale operators in developing countries. The continued competitiveness of small plants would seem to require government policies and support designed to minimize the cost of compliance with international standards.

POLICY RECOMMENDATION 6: Cooperation among donor countries, international agencies, national institutions and private entrepreneurs is required to ensure the optimal use of resources allocated to HACCP activities

Consumers in both developed and developing countries have a legitimate claim when they demand safe food. International coordination among all HACCP-implementing countries should be established to provide a forum for meeting the associated challenges as effectively and efficiently as possible.

CONCLUSION

Developing countries in Asia continue to record impressive trade surpluses in fish products. However, heightened consumer concerns about a range of food safety matters, and increasingly stringent regulatory standards related to fish product supply, pose challenges to sustaining international market access for many suppliers in developing countries.

At the factory level, implementation of more stringent standards has significantly increased the cost of processing, and the added cost per unit of fish processed is higher for the smaller plants. Thus, economies of scale could exclude small operators in developing countries unless action is taken to help ensure their continued competitiveness.

WorldFish policy briefs present current issues on fisheries and aquaculture with a course for action outlined. These briefs serve as an impetus for action and update of WorldFish research.

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