Regulations for exporting marine products

The following article is a part of FIFP webinars conducted on 11th February 2021 on the topic 'Certifications and regulations in seafood industry' (Part 3).

Note from the Chief Editor:

The main theme of FIFP webinar conducted on 11th February 2021 was 'Certifications and regulations in seafood industry' (Part 3). Two presentations were made that covered 'Regulations for exporting marine products' and 'Issues faced in seafood importing countries'. Sri. Jayapalan provided information on the formation and role of Export Inspection Council (EIC) under government of India for the development of India's export trade including fish and fishery products. He elaborated the overarching standards and mandatory primary requirements of India's major importing countries such as EU, USA, Japan, Russia, China, South Africa, Korea, Australia, Saudi Arabia etc. He explained how the international framework for fish and seafood safety and quality is applied in international fish trade by the major importing countries. In this backdrop, information was provided about EU legislation regarding quality and safety of fishery products; FDA guidelines for chemical contaminants; microbiological contaminants and guidelines with recent amendment for certain animal drug residues in fishery products. He highlighted the need for the food business operators to comply with the export requirements depending on the country of export to minimize rejections of consignments.

Introduction

Globally, there was a drive towards shift from end-product sampling and inspection to the preventative Hazard Analysis Critical Control Point (HACCP)-based safety and quality systems (FAO) during early 1980s. There is a strong evidence that the implementation of HACCP-based systems has contributed to improvement in fish safety and quality in India. There has been an increasing awareness of the importance of an integrated, multidisciplinary approach to food safety and quality throughout the entire food chain.

India adopts the farm to fork approach that is based on the supply of safe, healthy and nutritious food from production, processing, trade and consumption. Policies and regulatory environment at the national level with clear rules and standards; and establishment of an appropriate food control system is required for implementation of such an approach. In fisheries, there are five broadly defined key elements such as a) Fish safety and quality b) Traceability c) Harmonized standards d) Equivalence in food safety system and e) Prevention at source.

India has an overarching food control system where Export Inspection Council (EIC), a statutory body under the Ministry of Commerce and Industry, Govt. of India formed under Export (Quality Control & Inspection) Act of parliament, 1963; is entrusted to ensure sound development of India's export trade through quality control and inspection for notified commodities which includes fish and fishery products. The Export Inspection Agencies (EIA) located at Kochi, Mumbai, Kolkata, Chennai and Delhi are its field offices that undertake activities of quality control and inspection.

Overarching standards

The principles of achieving harmonization of standards and equivalency in food control systems and the use of scientifically-based standards are embodied in two binding agreements of WTO: The Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade

(TBT) agreements. The SPS agreement confirms the right of WTO member countries to apply measures necessary to protect human, animal and plant life and health. The objective of the TBT Agreement is to prevent the use of national or regional technical requirements, or standards in general, as unjustified technical barriers to trade.

In Indian fishery sector, the marine production consists of capture fisheries based along India's 8,129 km coastline, which encompasses an Exclusive Economic Zone (EEZ) of 2.02 million km^2. As a relatively "high-risk" food, fish and fishery products are subject to a range of food safety requirements related to general hygiene and specific microbiological and chemical residues and contaminants. These requirements can be subject to change over time in response to emerging problems, advances in scientific knowledge, consumer concerns, dynamicity of standards/regulations and political pressures. Export supply chain for marine fish and fishery products in India including fin fish, crustaceans (shrimp), and cephalopods (squid, cuttlefish, and octopus) is shown in Figure.1.

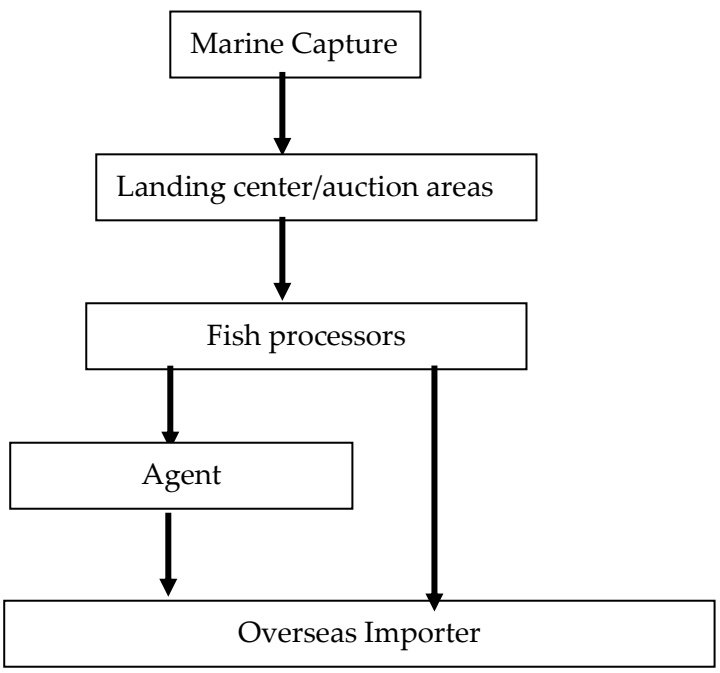

Figure 1. Export supply chain for marine fish and fishery products in India

This paper deals with the primary requirements of major importing countries such as EU, USA, Japan, Russia, China, South Africa, Korea, Australia, Saudi Arabia etc. The article deals with how the international framework for fish and seafood safety and quality is applied in international fish trade by the major importing countries/regions, with a particular focus on border controls.

Requirements of major importing countries

The European Union

The goal of European Union (EU) is to place only safe food in the market. The EU requires that fish processing facilities undertake "own checks." Key elements of these requirements include (1) identification of critical points in the processing establishment on the basis of the

manufacturing process ; (2) establishment and implementation of methods for monitoring and checking such critical points; (3) taking samples for analysis in an approved laboratory for the purposes of checking, cleaning, and disinfection methods and checking compliance with the standards established by EU (regulation, directive, decision); and (4) keeping a written record of these controls for at least two years. More specifically, "own checks" refers to all actions aimed at ensuring and demonstrating compliance with standards laid down by EU legislation in accordance with the general principles of Hazard Analysis and Critical Control Point (HACCP). Processing plants are inspected and approved on an individual basis by a specified "Competent Authority" in the country of origin, whether an EU Member State or a Third Country, to ensure that they comply with these requirements. The European Commission (EC) undertakes checks to ensure that the Competent Authority undertakes this task in a satisfactory manner and to ensure provisions of the Regulations/Directive/Decision are complied with. These legislations pertaining to fish and fishery products for implementation of quality and safety is represented in Figure 2.

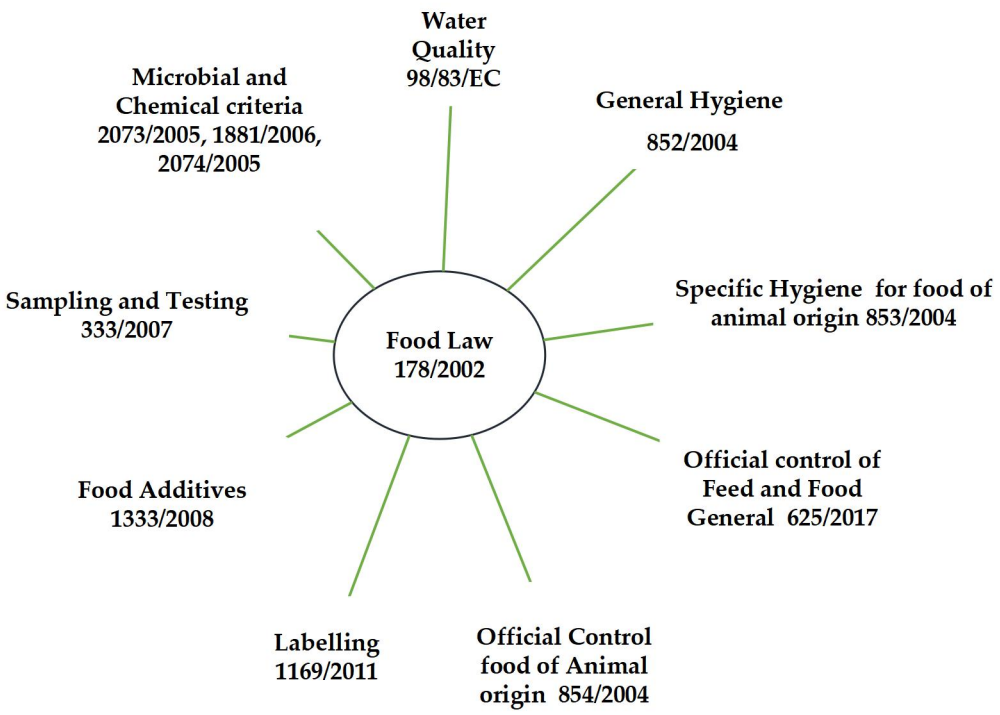

Figure 2. EU legislation regarding quality and safety of fishery products

United States

The majority of United States Federal regulatory authority and activity for seafood regulation is vested with the Food and Drug Administration (FDA) within the Department of Health and Human Service. The FDA's mission is to enforce laws enacted by the United States of America Congress and regulations promulgated by the Agency to protect the consumer's health, safety, and pocketbook. Among the main laws associated with seafood safety is the Federal Food, Drug and Cosmetic Act (the Act) of 1938, as amended from time to time. The guidelines for chemical contaminants and microbiological requirements as per FDA are given in Table 1 and 2 respectively. Besides, FDA guidelines with recent amendment for certain animal drug residues in fishery products are given in Table 3.

Table:1 FDA guidelines for certain chemical contaminants in fishery products

Substances	Levels	Fishery products	Reference
Aldrin/ Dieldrin	0.3 ppm	All fishes	Compliance Policy Guide (575.100)
Chlordane	0.3 ppm	All fishes	-do-
Chlordecone	0.3 ppm	All fishes	-do-
DDT, TDE, DDE 5.0 ppm	5.0 ppm	All fishes	-do-
Cadmium	3 ppm	Crustaceans	FDA Guidance Documents
Lead	1.5 ppm	Crustaceans	FDA Guidance Documents
Methyl Mercury	1 ppm	All fishes	Compliance Policy Guide (540.600)
Heptachlor	0.3 ppm	All fishes	Compliance Policy Guide (575.100)
Polychlorinated Biphenyls	2.0 ppm	All fishes	21 CFR 109.30

Table: 2 FDA guidelines for certain microbiological contaminants in fishery products

Parameters	Levels	Fishery products	Reference
Salmonella	Absence /25 g	All fishes	Compliance Policy Guide 555.300
Staphylococcus aureus	10^4/ 1g (MPN)	All fishes	Compliance Policy Guide 7303.842
Clostridium botulinum	Absence of viable spore & toxin	All fishes	Compliance Policy Guide 7303.842
Listeria moncytogenes	Absent	Ready to eat product	Compliance Policy Guide 7303.842
Vibrio cholerae	Absent	Ready to eat product	Compliance Policy Guide 7303.842

Table: 3 FDA guidelines for certain Animal drug residues in fishery products

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C. Target Testing Level (TTL)/ Regulatory Action Level (RAL)

The following values are the current Target Testing Levels (TTL) or tolerance level (TL) for each chemotherapeutic agent. These levels are also considered as Regulatory Action Levels (RAL). However, TTL is not and should not be interpreted as a safe concentration or a tolerance level and it does not imply that an approval exists for that drug [21CFR530.3(g)].

Animal Drug Residue	Target Testing Level or Tolerance Level (ppb)
Chloramphenicol[1]	0.15
Nitrofurans[1] AOZ metabolite of Furazolidone AMOZ metabolite of Furaltadone SC metabolite of Nitrofurazone AHD metabolite of Nitrofurantoin	 0.5 0.5 0.5 0.5

Requirements of other major importing countries

The food business operators have to comply with the export requirements depending on the country of export. Country-wise export compliance requirements are given in Table.4.

Table:4 Country-wise export compliance requirements

Sr no	Country	Compliance requirements
1	**China**	GAIN Report (Food and Agricultural Import Regulations and Standards) Number CH18025 (2018) lays out requirements of various tolerance limits. • Enlisting of the establishment through EIC in the Chinese site. • Requirements to be met as per GAIN report 2018.
2	**Russia**	• Separate approval and enlistment of the establishment in CU (Russia) site • Physical facility requirements as per Sanitary rules and Norms SanPiN No. 6 dated 11-03-1996 • Common Veterinary and sanitary requirements as per Decision by CU No. 317 dated 18-06-2010 • Technical regulation requirements as per Decision No. 880 Dated 09-12-2011.
3	**Japan**	• Should meet the requirements laid down in Japan Food Sanitation Law (JETRO)**.** • Consignment of aquaculture shrimps meant for export to Japan shall be sampled and tested by EIA for banned antibiotics including nitrofuran metabolites, Pendimethalin and Ethoxyquin.
4	**Vietnam**	• Food business operators need to register their establishments for exports through EIC with the National Agro-Forestry -Fisheries Quality Assurance Department (NAFFQAD), Vietnam.
5	**Saudi Arabia**	• All the consignments meant for export to Saudi Arabia shall be tested for *Vibrio cholera* by the EIA concerned at EIA lab. • In case of fresh chilled fishery products, five composite samples from each consignment shall be submitted by the establishment at EIA for testing *V.cholerae* on post facto basis. • Aquaculture shrimps should be tested for viruses namely, YHV & WSSV.
6	**Australia**	• All consignments originating from India shall be exported to Australia with Health certificate mentioning that *"the fish were inspected under the supervision of the Competent Authority"* as per requirement of Department of Agriculture, Fisheries and Forestry, Australia.

		• Aquaculture raw shrimps shall be tested for virus namely, YHV & WSSV and the sampling must be as per guidelines stipulated (13 samples per lot and each sample must be of 5 pcs and all the 13 samples must pass) by Australia.
7	**Korea**	• Compliance with the requirements as per KFDA. • Mandatory health certificate for export of chilled, frozen and live fish. • Aquaculture shrimps shall be sampled and tested by EIA for Nitrofuran metabolites and viruses namely, WSSV, YHV.
8	**Brazil**	• The establishments intending to export fishery products to Brazil shall provide registration form specified by Brazilian authorities for the registration of labels of the products to be exported in Portuguese or Spanish language.
9	**New Zealand**	• Sampling and testing should be in accordance with requirements of NZFSA. • Samples should be taken for each product type such as cooked or raw, pieces, packaging, size etc., 5 samples per lot for microbiological analysis and each lot sample must weigh at least 100g.
10	**Canada**	• Health Certificate is mandatory as per the CFIA requirements. • Declaration from the exporter stating that the product does not come in contact with the ink used for printing the labels.
11	**South Africa**	• Code wise sampling and testing by EIA for Vibrio spp. (four species)

Conclusion

Progressively stricter food safety requirements of major industrialized countries are one among the major challenges faced by exporters of fish and fishery products in developing countries. Importing countries specify their food safety requirements. This necessitates seafood exporters' alertness and awareness of the relevant seafood safety and quality standards, rules and regulations in force in the importing countries. This could ensure minimizing objections and rejections from the importing country and maintaining goodwill of both exporting and importing countries.

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Mr. Jayapalan. G has 10 years of experience in seafood processing including quality inspection for international buyers located in UK, Japan, USA, Hong Kong,

Thailand, Italy, Spain and France. He has 6 years of experience in the hygiene sanitation inspection of food processing establishments, 6 years as the lead auditor of food safety management system implementation by food processing establishments, and
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