

Analyzing aquaculture marketing systems

Fish marketing

Live fish trade

The live fish trade can refer to the live food fish trade (for human consumption) or to the ornamental fish trade (for aquariums). The fish can come from many places, but most comes from Southeast Asia. The live food fish trade is a global system that links fishing communities with markets, primarily in Hong Kong and mainland China. Many of the fish are captured on coral reefs in Southeast Asia or the Pacific Island nations.

Shrimp marketing

Shrimp are marketed and commercialised with several issues in mind. Most shrimp are sold frozen and marketed based on their categorisation of presentation, grading, colour, and uniformity.

Fish market

A fish market is a marketplace for selling fish and fish products. It can be dedicated to wholesale trade between fishermen and fish merchants, or to the sale of seafood to individual consumers, or to both. Retail fish markets, a type of wet market, often sell street food as well. The term *fish market* can also refer to the process of fish marketing in general, but this article is concerned with physical marketplaces.

Fish markets were known in antiquity. They served as a public space where large numbers of people could gather and discuss current events and local politics. Because seafood is quick to spoil, fish markets are historically most often found in seaside towns. Once ice or other simple cooling methods became available, some were also established in large inland cities that had good trade routes to the coast. Since refrigeration and rapid transport became available in the 19th and 20th century, fish markets can technically be established at any place. However, because modern trade logistics in general has shifted away from marketplaces and towards retail outlets, such as supermarkets, most seafood worldwide is now sold to consumers through these venues, like most other foodstuffs. Consequently, most major fish markets now mainly deal with wholesale trade, and the existing major fish retail

markets continue to operate as much for traditional reasons as for commercial ones. Both types of fish markets are often tourist attractions as well.

Fish products

Fish and **fish products** are consumed as food all over the world. With other seafoods, they provide the world's prime source of high-quality protein; 14–16 percent of the animal protein consumed worldwide. Over one billion people rely on fish as their primary source of animal protein. Fish and other aquatic organisms are also processed into various food and non-food products. Live, fresh or chilled is often the most preferred and highly priced form of fish and represents the largest share of fish for direct human consumption, 45 percent, followed by frozen (31 percent), prepared and preserved (12 percent) and cured (dried, salted, in brine, fermented smoked) (12 percent). Freezing represents the main method of processing fish for human consumption; it accounted for 56 percent of total processed fish for human consumption and 27 percent of total fish production in 2016. Major improvements in processing as well as in refrigeration, ice-making and transportation have allowed increasing commercialization and distribution of fish in a greater variety of product forms in the past few decades. However, developing countries still mainly use fish in live or fresh form (53 percent of the fish destined for human consumption in 2016), soon after landing or harvesting from aquaculture. Loss or wastage between landing and consumption decreased, but still accounts for an estimated 27 percent of landed fish.

Processed fish products

Let us look at examples of a few common fish products

- Surimi refers to a Japanese food product intended to mimic the meat of lobster, crab, and other shellfish. It is typically made from white-fleshed fish (such as pollock or hake) that has been pulverized to a paste and attains a rubbery texture when cooked.
- Fish glue is made by boiling the skin, bones and swim bladders of fish. Fish glue has long been valued for its use in all manner of products from illuminated manuscripts to the Mongolian war bow.
- Fish oil is recommended for a healthy diet because it contains the omega-3 fatty acids, eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA), precursors to eicosanoids that reduce inflammation throughout the body.

- Fish emulsion is a fertilizer emulsion that is produced from the fluid remains of fish processed for fish oil and fish meal industrially.
- Fish hydrolysate is ground up fish carcasses. After the usable portions are removed for human consumption, the remaining fish body – guts, bones, cartilage, scales, meat, etc. – are put into water and ground up.
- Fish meal is made from both whole fish and the bones and offal from processed fish. It is a brown powder or cake obtained by rendering pressing the whole fish or fish trimmings to remove the fish oil. It used as a high-protein supplement in aquaculture feed.
- Fish sauce is a condiment that is derived from fish that have been allowed to ferment. It is an essential ingredient in many curries and sauces.
- Isinglass is a substance obtained from the swim bladders of fish (especially sturgeon), it is used for the clarification of wine and beer.
- Tatami iwashi is a Japanese processed food product made from baby sardines laid out and dried while entwined in a single layer to form a large mat-like sheet.
- Sea horse, star fish, sea urchin and sea cucumber are used in traditional Chinese medicine.
- The Sea snails *Murex brandaris* and *Murex trunculus* are used to make the pigment Tyrian purple.
- Some sepia pigment is made from the inky secretions of cuttlefish.

By-products

- A shimmery substance found on fish scales, most usually obtained from herring and one of many by-products of commercial fish processing, can also be used for pearlescent effects, primarily in nail polish, but is now rarely used due to its high cost, bismuth oxychloride flakes being used as a substitute instead.

Live Fish & Pets

Fish may also be collected live for research, observation, or for the aquarium trade.

What determines the price of fish and other aquaculture products?

In a free market system, the prices of fish are not fixed and are determined by a complex of factors. These include:

- (a) transport cost,
- (b) production cost,
- (c) supply and demand,
- (d) competition,
- (e) processing technique,
- (f) variety of fish.

Traders will take into account their transport and marketing costs as well as prices of substitute foods when deciding what price to charge. Price fluctuations can be explained largely in terms of availability, quality, and purchasing power of the customer. Prices are generally lowest during fish harvest, and rise as supplies diminish. The purchasing power of rural consumers is greatest just after the agricultural harvest while it is greatest in urban centres at the beginning of the month after pay day.

Fisheries management

Fisheries management has some impact on the marketing of fish and its products.

Human factors

Managing fisheries is about managing people and businesses, and not about managing fish. Fish populations are managed by regulating the actions of people. If fisheries management is to be successful, then associated human factors, such as the reactions of fishermen, are of key importance, and need to be understood. Management regulations must also consider the implications for stakeholders. Commercial fishermen rely on catches to provide for their families just as farmers rely on crops and if marketed well, the income might be just as fulfilling. Commercial fishing can be a traditional trade passed down from generation to generation. Most commercial fishing is based in towns built around the fishing industry; regulation changes can impact an entire town's economy. Cuts in harvest quotas can have adverse effects on the ability of fishermen to compete with the tourism industry.

Effective management of fisheries includes involving all stakeholders in the fishery. To do this successfully, stakeholders need to feel empowered enough to make meaningful

contributions to the management process. Empowerment has a wide application but in this context, it refers to a tool that gives people within the fishing communities an opportunity to shape their own future in order to cope with the impacts from large-scale commercial fishing, competition of resources, and other threats that impact fishing communities. However, there are limits to empowerment in the fisheries management process. Empowerment maintains an involvement on the part of the state in fisheries management and no matter how empowered the other stakeholders are, the success of fisheries isn't possible without the legislative powers, financial resources, educational support, and research the government provides. Empowerment working as a function of co-management, carried out correctly, will not only enable but it will authorize individuals and communities to make meaningful contributions to fisheries management. It is a mechanism that works in a loop, where an individual gains empowerment and encouragement from being a part of the group and the collective action is only successful because of its empowered individuals. In order to effectively and successfully use empowerment as co-management, it is imperative that study programs, guidelines, reading materials, manuals, and checklists are developed and incorporated into all fisheries management.

Corruption

Fisheries mismanagement is due, in part, to corruption. Corruption and bribery influence the number of fishing licenses that are distributed and to whom, as well as the negotiation of fishing access agreements. In small-scale fisheries, inspectors who are charged with regulating catch are bribed to give advance notice of surprise inspections and to relax enforcement standards. Some standards are not enforced at all due to bribery, while other infractions may result in smaller fines than mandated. Fishing gear seized during an investigation can also be returned in exchange for a bribe. Corruption of small-scale fisheries has been documented in South Africa and Lake Victoria. This gives these areas a bad name and in the scramble for access to big markets, this can highly lower the bargaining power.

Importance of marketing in fisheries

- It locates areas of surplus production and relocates the produce to areas of shortages.
- Income from export trade provides foreign exchange for import of agricultural machines.

- Provides information to the farmer on what and how much of a produce he is to produce.
- Ensure the availability of seasonal produce at off season.
- Creates employment
- Attracts basic amenities to rural communities.
- Through it, consumers taste is known thus enabling research to revalue varieties and better forms of produce.
- Encourages or motivates farmers to produce more.
- Ensures growth of the fish industry and continuity.
- Increases efficiency in business operations, provides customers satisfaction and improves standard of living of people.

Marketing functions

Physical function: This is series of activities that involves transportation, storage, handling and processing.

Facilitating Function: This includes all non-physical activities that are involved in the smooth running of the fish market. These are: standardization, financing, market intelligence and risk bearing.

Exchange Function: This is the judgment of value, usually expressed as 'Price'. It comprises of negotiating for the title of the fish and fish products in a favourable term of exchange. This is buying and selling function.

Problems that one can encounter when practising fish marketing

- Lack of Funds/capitals
- Negative activities of middlemen
- Transportation and communication
- Inadequate storage and warehousing
- Poor market organization
- Lack of institutional support
- Poor road networks

Marketing management: This involves the co-ordination of people in order to achieve the objective of moving commodities from production into consumption. Important factors in marketing management include pricing, organizational structure, human behavior, public relations, advertising etc. Management is getting things done through others. Marketing management is therefore the planning, organization and control of people and activities to achieve the marketing objective. The marketing organization is another area of interest in the study. It is concerned with how middlemen and institutions are grouped together in carrying out the marketing functions. These arrangements make up what is known as marketing channel. A marketing channel is simply the path of a commodity from its raw form to the finished form or the path of a product as it moves from the producers to the final consumers. Marketing channel are input in evaluating marketing systems because they indicate how the various market participants are organized to accomplish the movement of a product from the producer to the final consumer.

Types of Marketing Channels.

(i) Centralized channel - This is one in which the farmer's products or commodities are brought together in larger central and terminal markets. There they are purchased by the processors or wholesalers from commission men and brokers who act as the farmer's selling agent.

(ii) Decentralized channel - This is one that does not use such established large market facilities rather, wholesalers and processors purchase directly from the farmers.

Decentralization means that farm products move from farms and into the hands of processors and wholesalers without utilizing the services of the older, established terminal facilities.

Marketing chain

The marketing chain described the succession of markets through which products pass until they reach the consumers. It is part of the marketing channel. The study of marketing chain is important in that it reveals the relative importance of various markets or exchange points in the marketing system. A long marketing chain implies that the commodity changes hands many times before reaching the final consumers. The longer the chains the higher the price that the consumers will have to pay. The length of the chain depends on the nature of the commodity and how far the consumers are from the producing areas.

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