Economics of Marketing of Fishery Products

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Economic evaluation of fishery products has two distinct but complementary aspects. The first is the identification of cost-price equations at three stages namely (i) at the stage of product development in the lab, (ii) at the stage of pilot plant experiments (iii) at the stage of commercial production.

The second aspect of economic evaluation relates to the market sustainability or the credit worthiness of a product, an aspect that can render a product unviable even if its cost price equation is favourable at all the three stages afore mentioned.

The first aspect of economic evaluation that is essentially an accounting aspect is more familiar and an invariable adjunct to technical and extension bulletins on any product. These evaluations are carried out assuming ideal production and marketing environments ignoring both internal and external economics of production. Consequently, these exercises are necessary but not sufficient inputs for decision making. Production and marketing decisions are more challenging managerial problems only as the second aspect of economic evaluation.

Economics of Product Choice :- It is the modern technology that makes the choice of product on supply side as well as on demand side a feasible proposition. Products ranging from pickles and wafers meant for direct consumption to chitin and chitosan meant for larger and versatile uses offer producers a wider spectrum of choice of product lines and the users plenty of options of utility goods.

Contrast this possibility with very limited options available under traditional fisheries. The choice almost begins and ends with two products: fresh fish and dried fish. There was little rational choice either in terms of varieties or in terms of quantities of fishery products. To fish is a way of life. Men were born into fishing without a choice and they lived fishing choicelessly.

Profitable or not, the fish supply reached the markets dictated by season rather than by reason. Depressing economic consequences of this supply behaviour is too well-known to recount.

Product choice facilitated by technology is considered to be the ultimate answer to this problem. Product choice enables market segmentation, product differentiation and value addition enhancing the value of returns to the supplier and of utility to the consumer. Yet the opportunity is impeded by a series of imponderables requiring detailed analysis, an outline of which is attempted below:

Principles of Product Choice

Not all that the technology provides can pass as products. Development Economics talks of the contrast between the French technology and the English technology of late 18th century Europe. While the former was oriented to fabricate curios to please the nobles for largesse in return, the latter was aimed at producing utility goods of mass consumption, for profit. One technology established unique and celebrated icons while the other led to the formation of replicatable production units, that came to be known as firms. One reinforced that static feudalism while the other heralded the dynamic industrial capitalism.

A product should have the economic potential to sustain a firm on a long run basis by meeting the felt needs of consumers. We talk of economics of production only in this context. Economic evaluation is most relevant in establishing firms specializing in the production of fish products, as long run suppliers.

A prospective producer, to make a choice of the product, examines a product from the following perspectives:

a. The potential appeal of the product to the sensory perception of the consumers
b. Income status of potential consumers to whom the product is likely to appeal
c. Accessibility to product market
d. Accessibility to input market
e. Degree of competition
f. Potential for product improvement in comparison to the substitutes

Production for market envisages a series of efficiency measures that will improve the economic viability of a firm. In practice most of these efficiency principles are ignored by fish product manufacturers for a variety of reasons. We shall examine these principles and also the hurdles that come in the way of following them.

It is possible to identify at least 7 measures that will improve the viability of a firm and its product in the market. These measures constitute what is called "the product" policies which the producers are to follow for enhancing their survival expectations. These are:

1. Product Planning and Development
2. Product Line
3. Product Mix
4. Product Branding
5. Product Style
6. Product Positioning
7. Product Packaging

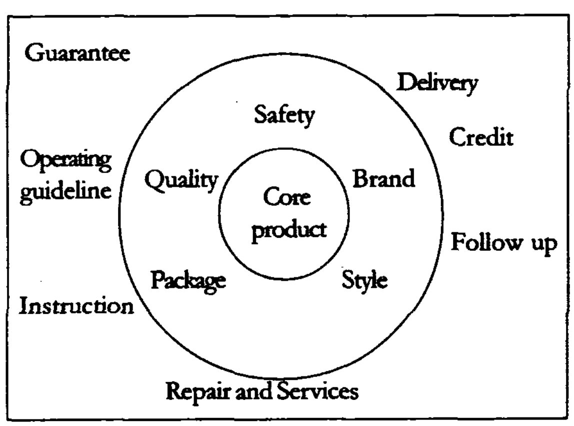
1. **Product Planning and Development**: Product planning and development is a management approach to choose and establish a product in line with the market needs. A prospective firm makes a search of various potential products for which technology is available, identifies the modifications required to meet the market conditions and sets up infrastructure to promote the product. From the point of view of these activities a product can be treated to have three layers. These are

a. **Core product:** It is the main physical output in the form of bulk fish pickles, wafers, cutlets or any fish based product that comes out of product unit.

b. **Related Product Features:** This layer of the product corresponds to the brand name, type of packaging etc. These features introduce product differentiation. One firm can claim distinct identity to its own product even when it is not materially different from the rest of its rivals.

c. **Related Product Services:** This layer takes into account the delivery system, guarantees etc.

It is essential to recognize that the short comings in any one layer can adversely affect the sale prospects of a product. The three layers of product in general (not necessarily fisheries products) are exemplified by the following diagram.



A product choice is determined by the consumer appeal on each of these characteristics of product

2. **Product Line:** A product line encompasses a group of products that are closely related by (a) end users (b) channels (c) price range or (d) substitutability. A broad group of products which are meant for essentially similar uses and passing reasonably similar physical features constitute a product line.

   In the context of fishery products, those items that are essentially for table purposes constitute a product line. Those which cater to medical line make a distinct product line. Yet another line of product is composed of those item that are for industrial uses.

   Identifying a product line appropriate to a proposed product is required to enhance the viability of a product.

   Consider, for example, the production of pickles and wafers. These products belong to the product line of table delicacies. A close look at them will also suggest that these are very close to vegetarian pickles and wafers. These are therefore members of the product line of vegetarian delicacies.

   A firm adopting the entire gamut of products in this line can make the following economies.

   a. Full use of the fixed cost facilities: Chief ingredients of pickles such as fish or vegetables like lemon, mango are seasonal products. Each harvest has a different season. Adopting a product line that include all these products will keep the firm running through out the year or at least extend the operational period. Fish pickle alone will not have this advantage. Long periods of closure for want of raw material will result in the early demise of the venture though the accounting of cost benefit equations continue to be favourable.

   b. One of the common features of fish product units is the fresh venture – fresh product pattern. That is, a firm or a co-operative production unit comes into being as a venture of individuals with no previous business experience. The firm is a fresh venture entity. This fresh venture entity takes up the production of a product, almost unknown to the market.

   This type of venture is combination of experiments of (a) learning business (b) commercially standardizing production process and (c) marketing trials. With no significant experience on any three of these experiments, mastering all the three at one go has a very high probability of collapse. A large percentage of failure of fish product units is traceable to this multi-focused experimentation.

3. **Product Mix:** Product mix refers to the combination of many product lines under a single roof. The basic rationale behind the product mix is to insure the life of the firm against the vagaries of input and output markets. Specialization in one product or product line ties the firm's future with the fortunes of a single product line. Product mix or diversification secures or quarantines the firms against the risks involved in the fortunes of product line.

   A recent example of this approach to the business is the introduction of prawn powder for food flavour by a leading firm producing ready to eat food products.

4. **Positioning of the Product:** Positioning of product means the most approximate identification of consumer taste attractive to the product. It is the image which the product

projects in relation to its rivals in meeting a well-recognized demand. This objective is attained by (a) product differentiation (b) market segmentation (c) market aggregation

5. **Product Style:** Product style essentially is the form of presentation of the product to the consumer. The same product can take different forms depending upon the way in which a consumer prefers to have it.

   Sophistication in demand is the basic motivation for improving or differentiating the product style. Though fishery products do not as yet recognize this aspect of manufacturing requirement, the inevitable trend towards the style formation is evident. Fresh fish is offered for sale as (a) live fish and (b) non-live fish. Dried fish is offered as (a) in non-standardized lots or (b) clean and standardized packets. Cod liver oil is dispensed as (a) liquid syrup or (b) capsules. Finally fish is marketed as (a) fresh fish and (b) dried fish.

   The change in style is aimed at creating form utility or time utility or both. It is the most important tool of value addition and market segmentation based on consumer taste, habitation and income group.

6. **Product Branding:** Brand is a process of securing a distinct identity to a product by the source of supply. The brand is usually a name, term, a symbol or a design that sets apart its identity from the rest of the products, both rival and others. Branding leads to ensuring:

   a. The feasibility of various sales promotion techniques
   b. Loyal clientage
   c. The quick attention of product
   d. Product differentiation
   e. Standard quality and answerable source for its maintenance.

Branding which is most common in industrial goods is almost totally absent in the case of primary agricultural goods especially fishery products. The reason behind this trend is to be found in the traditional nature of bulk of the fish products. Fresh fish constitutes the lions share of fish product in the market. It is highly perishable and of very short market life. Branding is of appeal only for displayable product having long shelf-life. Secondly the fresh fish product is highly seasonal. The branded fresh fish will not be available during off seasons. Every time a branded fresh fish has to begin afresh its place for a share of consumer market. This affects a brand's staying power and the economy of it operation.

7. **Product Packaging:** Packaging is concerned with protection, economy, convenience and promotional aspects. Packaging is often described as the fifth P along with four other Ps (i) Price (ii) Product (iii) Place and (iv) Promotion. It is an attempt to design and produce a container to the product.

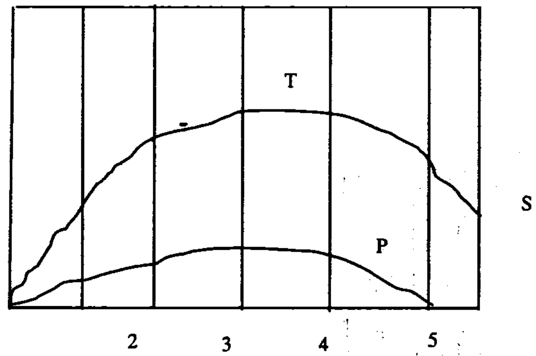
Packaging contributes to the value of a product in six different ways.

(a) Product protection, (b) product containment, (c) product attractiveness, (d) product identification, (e) product convenience (disposable containers etc.) and sales tool.

Product life cycle

Production as well as marketing strategies and the ultimate viability of production units benefit from an understanding of the product life cycle.

No product can take a permanent place in the market for granted. Products enter the market and fade therefrom much the same way living organism, are born and dead. A successful product is first introduced in to the market, it grows to acquire increasing market share, matures into lead player in the market and attains a peak sales and finally declines. This process is depicted in the following diagram



Stages: 1= introduction, 2: growth: 3: maturity: 4: saturation and 5:decline

Curves S=Sales volume, P=Profit margin.

Most products either industrial or consumer invariably pass through these five stages of their life cycle. A product gets introduced on account of its prospects of appealing to the users. Once this expectation is realized or proved true the product attracts more users and grows in sales as shown by the upward slope of the curve S in the first 3 stages. This growth is not uniform or even increasing. It has a declining trend as shown by the leftward incline of the S-curve. It peaks at point T at the stage of saturation. Then it declines loosing its hold on the market. The chief causes of growth in the initial stages is the attraction of the product with its modern technological innovations to meet fresh demands of consumers. The growth does not continue. Rival firms follow suit and introduce the same product, with more attractive features. When the competition become sever as more firms enter the market by the lure of high profit margins, the sales of firm decline. Profit margin as shown by the curve P follows the S-curve. Profit curve declines faster than the sales curve as the decline in sales affect the profit even before the growth of sales has completely stopped.

Production policies are to be devised to identify the exact location of the five stages of a product.

Most crucial for the survival of a firm in business is to locate the stage of saturation and make the following efforts to push the stage out of reach periodically

a) upgradation of technology
b) Finding new markets for the product through identifying new space and client.
c) Introducing credit cum service facilities on an increasing scale.

Pricing of a product

Pricing of a product is decided on the basis of objectives of operation and constraints thereon. Some of the objectives that influence pricing decisions are as follows:

1. Pricing for Target Return on investment:

   The basic economic motivation for production is profit or return on capital. If a producer is confident of setting his own price without any adverse impact on sales, he will tend to decide on price to secure a predetermined rate of return on investment. He sets the price of the product as equal to the average cost of production plus average return that will cover the pre-determined percentage return.

   Example: Let a firm invest Rs. 10,000 in a project with an annual turn over of 500 units. The life of the product is 10 year and the annual variable cost is Rs. 2000. If the firm has set a target of 15% return on capital what will the selling price of the product

i)	Annual fixed cost = 1000/10 (Cost/life span)	= Rs. 1000
ii)	Variable cost per year	= Rs. 2000
	Total cost of 500 unit of production/year	= Rs. 3000
iii)	Add annual profit @15% on investment	= Rs. 1500
iv)	Total financial incidence on 500 units	= Rs. 4500
v)	Price per Unit 4500/500	= Rs. 9

A prefixed Rate of Return as criterion of price fixation will work only where the sales volume will not suffer due to price-resistance.

1. Profit maximization: The objective is treated as the most rational objective of the producer by behavioural hypothesis of production economics. This objective is met by the equality of MR = MC.

Other industry and firm specific objective of price fixation are (a) securing a significant market share, (b) minimize competition (c) stability (d) consumer's ability to pay and (e) resource mobilization.

Price setting involves a series of factors and their complex interrelationship. Most common of these interrelationship is the one between cost and demand which could be analysed in terms what may be called the BREAK EVEN POINT ANALYSIS. This, process will answer many of the complex issues involved in Production and Marketing.

Marketing of fishery products

Marketing fishery products can be classified into primary product marketing and secondary product marketing.

Primary fish product marketing is characteristically different from secondary market. Primary fish product is essentially fresh fish marketing while the secondary product marketing is the marketing of fish based value added products.

Primary product from fisheries share most of the problems of agricultural marketing in general. These problems are (a) small scale production units scattered over a large geographical area (b) bulkiness of the product and its high storage cost even where feasible (c) Non-ilasticity of supply and demand (d) seasonality of production (e) huge transportation cost.

Fish marketing

Principles of Fish marketing: Fish marketing is a process by which the fish catch or fish product moves from the producers to the consumers. This process involves the work of marketing intermediaries who are sometimes called middlemen. Principles of marketing are evolved with a view to understand and resolve the conflicts of interest of these three groups. The following are the main principles of fish marketing.

1. Principle of distribution: A marketing system is concerned with various method of distribution of fish and fish products over different geographical and demographic segments of the market. It is a linkage system between the producer and consumer.

2. **Dissemination:** Marketing system is the chief mode of dissemination of knowledge about the availability, quality and price of various fish products for the consumers. It carries to the producers the feedback knowledge about the consumer taste, and preferences and the price differentials that can be expected for different species of fish.

3. **Promotion:** Marketing system provides the foremost thrust in promoting new products.

It creates new markets for newly formulated products.

4. **Efficiency Principle:** Efficiency in marketing involves the elimination of market imperfections.

5. **Stability:** Marketing system intervenes to stabilize prices. Extension of marketing through storage and transportation arrests the price fall in heavy landings seasons. Conversion of raw fish into fish products lead to availability of fish in lean seasons.

The marketing functions: There are three broad categories of marketing functions. These are:

A) Functions of Exchange: Market transactions are typical of an exchange economy where division of labour takes places between production and exchange. Producers exclusively engage in production and depend upon the market system for exchanging their produce into money which represents claim of the producer for other's goods.

B) Functions of Physical Supply: The chief function of the supply are (i) transportation and (ii) Storage. The size of the market for fish products depends upon the transportation, comprising of a large network of roads, canals and railways. Transport system provides what is known as place utility for the fish product.

Storage facility enhances the supply control mechanism. Larger the storage facility, larger raw catch can be absorbed at short notice. These could be released in a regulated manner to stabilize the prices and also to make available fish products for a greater length of time. Storage, thus, is a chief instrument of creating time utility for fish products.

C) Facilitating Functions: Facilitating functions are those market activities that contribute to the smooth working of the market system. The following three types of facilitating function:

i) Financing, ii) Risk taking and (iii) Standardization

i) Financing: *Modern marketing requires vast* resources and facilities in the form of machines, materials, land and men. Marketing thus requires the facility of funding.

ii) Risk taking: Risk can be price-risk or physical risk. When the market price falls below the expected price resulting in loss of earnings, we say that there is a price risk. When physical quantities of fish are affected due to spoilage, fire, flood or theft or transport accidents we say that there is a physical risk. Market system undertakes these risks and both producers and consumers are protected against these risks.

iii) Standardisation: Standardisation includes the establishment of standards of yardstick or quality, size and quantity. After setting the standards, the fish products are sorted and graded according to these standards, re-packed, broken-up the large quantities into smaller consumer size packets and grades. The standardisation is called a facilitating function because it assists in identifying the nature of goods transferred. It also helps in fixing different prices for different grades.

Market functionaries and channels

i) Wholesalers: Wholesalers are the major market functionaries in fish marketing in India. They make bulk purchases often through open auction at landing centres. They accumulate stock, arrange for storage and often engage in lifting the stock to distant markets. They advance money to the fishermen in times of need or otherwise make down payment for the bulk purchases they make.

ii) Commission agents: They receive supplies from wholesalers at the latter's risk and put up for auction in the local market. Traders bid and acquire the supplies paying the price. Commission agents pass on the money realized to the wholesalers after deducting their commission. Therefore, commission agents are only a service rendering agency without sharing risk or profit.

iii) Venders or retailers: These are the grass root level functionaries who take the fish to the hands of consumers. They buy fish from wholesalers, commission agents or traders either by auction by smaller quantities or at a fixed rate per quantity. Fish vendors take the supplies to households.

iv) Service agencies: These are agencies that supply ice, cartons, packing material. They usually serve the wholesalers on a fixed rate basis.

v) Transport agencies: Fish transportation is a specialised branch of transportation. Large wholesalers have their own refrigerated vans for transport of fish. There are also agencies specializing fish transportation. Railways also provide specialised transport facilities for fish. x

Marketing margins: Marketing margin is the share of the fish price appropriated by the marketing system. It is usually measured in terms of price spread. Price spread is the percentage difference between the price paid by the consumer and the price received by the producer. Price spread will be the lowest when number of intermediaries are lowest. Price spread will be zero when fishermen sell directly to the consumer.

Organised marketing

Organised marketing is a marketing facility that brings the product, buyers and sellers under one roof with arrangements for sorting, grading and standardisation for dissemination of information and for exchanging of commodities and settlement of payments.

Organised marketing has the following advantages

i) maintenance of a high degree of cleanliness, provision of storage facilities with lowest per capita overhead charges

ii) Protection against unfair trade practices and availability of physical security

iii) Banking and other infrastructural facilities.

iv) Better communication facilities

Organised fish marketing in India are of two types; i) Whole sale markets and ii) Retail markets.

Exclusive wholesale markets are operating only in Calcutta and Delhi. In other cities wholesale is being carried out side by side with retails.

Most wholesale markets in India continue to suffer from poor facilities: lack of truck parking space, loading and unloading space, poor facilities for over night storage, low capacities of ice plants, inadequate water supply are some of the problems.

Calcutta, Madras and Delhi have the largest number of organized retail markets. Most of these markets are small in size. About 80% of these markets can accommodate at most 50 retailers. With the result these markets are over crowded and trading moves out to unorganized areas. These markets are owned and administered by local bodies such as Municipalities and Corporations.

Market survey: Market surveys are the in-depth studies on the buyers side or demand side of the market with a view to identify the potential sources of demand for a product. Market surveys are also conducted to evaluate the supply side to identify potential sources in a market. For this purpose an interview method is usually followed under which individual consumers are asked about their tastes, income and the preference for the type of product. Through this method data on consumer preference is collected and tabulated to identify the following aspects of consumer side of the market.

a) Number of potential buyers and uses of a commodity.

b) Geographic concentration of the consumers

c) Income group of the consumers

d) Currently available substitutes that will compete with a commodity.

e) Scope for price or quality competition with the products

Based on the study, market is identified and segmented for special thrust at promoting the sale of the product through demonstration, display, advertisement and complementation benefits.

On the supply side information is collected on the availability of factors of production, their costs and their current uses. Effect of these factors will be felt in the viability of production of a commodity.

Price formation in fish markets: We have learned that the market price of fish is determined by the forces of demand and supply. In perfect market where there is no artificial restriction on demand and supply and the flow of information, the prices will be determined most efficiently for a given demand and supply. In practice no market is perfect. Various imperfections lead to manipulation of prices.

Fish market in India is characterized by 3 features.

i) Large number of fishermen who have no collective bargaining power to influence prices

ii) Large number of consumers who have to say at all in price formation of fish

iii) Relatively a small number of major market intermediaries like wholesalers and commission agents who have monopoly power at consumer market and monopoly power in wholesale producers market.

Those three features reflect in the price formation. Initial price formation takes place at landing sites through lidding. Fishermen who are in urgent need of cash are passive spectators while the price of their catch is determined by auction.

The catch procured by wholesalers are further auctioned to vendors and retailers. Here the wholesales demand a minimum price. If that prices not realized, they shift the catch to storage. Their facility of storage, finance and transport again guarantee a control over the price.

In the retail market, the consumers are mere price taker. They have no organized forum to demand a fair price.

Thus the price formation in fish market is greatly affected by market imperfections. As has been discussed earlier an efficient market should reduce the marketing margin to the bare cost of marketing including fair remuneration for market functionaries. An imperfect market increases the marketing margins by paying low price to producers and charging high price from consumer.

Various measures have been introduced to improve market efficiency. This is to ensure fair prices to fishmen and consumers. Cooperative marketing, cooperative consumer stores are among the organization set up for this purpose.