**DEBREMARKOS UNIVERSITY**

 **College of Agriculture and Natural Resources**

 **Department of Agricultural Economics**

 **Agricultural Marketing (AgEc 3103)**

 **A Teaching Material**

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**Chapter1: Agricultural Marketing and Economic Development**

**1.1 The agricultural marketing and the marketing system**

**1.1.1 Definition and concepts of agricultural marketing**

**Market:** The word market has been widely and variedly used to mean

(a) a place or a building where commodities are bought and sold, e.g., super market;

(b) potential buyers and sellers of a product, e.g., wheat market and cotton market;

Some other definitions of market are given as follows:

1. A market is the sphere within which price determining forces operate.

2. A market is area within which the forces of demand and supply converge to establish a single price.

3. Market is a place or contact between a seller and buyer, where goods and services are bought and sold. Nowadays a buyer and seller do not have to meet in order for goods and services to be bought and sold. e.g. goods are bought and sold over the Internet

4. Market means a social institution which performs activities and provides facilities for exchanging commodities between buyers and sellers.

5. Economically interpreted, the term market refers, not to a place but to a commodity or commodities and buyers and sellers who are in free intercourse with one another.

6. The American Marketing Association has defined a market as the aggregate demand of the potential buyers for a product/service.

7. Philip Kotler defined market as an area for potential exchanges.

**Components of a Market:**

For a market to exist, certain conditions must be satisfied. These conditions should be both necessary and sufficient. They may also be termed as the components of a market.

1. The existence of a good or commodity for transactions (physical existence is, however, not necessary)

2. The existence of buyers and sellers;

3. Business relationship or intercourse between buyers and sellers; and

4. Demarcation of area such as place, region, country or the whole world. The existence of perfect competition or a uniform price is not necessary.

**Seller**: It refers to a person or organization who is directly involved in the process of exchange of goods and services for money. This includes the wholesaler, retailer, etc.

**Buyer:** A buyer is one who is directly involved in the process of purchase of goods and services. He/she is one who selects the goods, makes payment and takes the delivery.

**Consumer:** One who actually uses the product or service. For example, you bought

a shirt and gifted it to your friend who uses it. Here your friend is the consumer and you are a buyer. However, a consumer can also be the buyer.

**Customer:** A customer usually refers to the person who takes the buying decision.

For example, in a family, father decides on the brand of the toothpaste to be used by his children. Here, the children are the consumers and the father is the customer. A customer can also be the consumer. Similarly, the buyer may be different from the customer or one can be the customer as well as the buyer.

**Virtual Market:** With advancement of technology, the buyer and sellers can, now-a days, interact with each other by using Internet. This is called virtual market.

**Agricultural Marketing:**

The term marketing has a variety of meanings by various stake holders. All the concepts reflect the different aspects of the marketing process. Some of the definitions are;

* Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.
* Marketing is the process of identifying and anticipating consumer needs and identifying products and services that can be produced to satisfy these needs at a profit.

The term **agricultural marketing** is composed of two words-agriculture and marketing. Agriculture, in general to mean growing and/or raising crops and livestock. Marketing connotes a series of activities involved in moving the goods from the point of production to the point of consumption. Think of marketing as a bridge from the producer to the consumer. It includes all the activities involved in the creation of time, place, form and possession utility. According to Thomsen, the study of agricultural marketing, comprises all the operations, and the agencies conducting them, involved in the movement of farm-produced foods, raw materials and their derivatives.

* The subject of agricultural marketing includes marketing functions, agencies, channels, efficiency and costs, price spread and market integration, producers surplus, government policy and research, training and statistics on agricultural marketing.

**Agricultural and food marketing systems** consist of four main sub-systems: production, distribution, consumption and regulatory (Figure 1).

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Source: Crawford (1997).

*Figure 1.The subsystems of a marketing system*

The key players in the chain of activities that connect food and agriculture are the farmer, (or other ‘producers’ such as fishermen), intermediaries, the food processors, and the consumer. In practice they each see the agricultural/food marketing system from a perspective of self-interest and these interests are sometimes in conflict. Illustrative examples of some of the conflicts which typically arise are given in Table 1.

Table 1: Conflict of interest in agricultural and food marketing systems

|  |  |
| --- | --- |
| Key players | Interests |
| Farmers | Maximum price, unlimited quantities |
| Manufacturers | Low purchase price, high quality |
| Traders and retailers | Low purchase price, high quality |
| Consumers | Low purchase price, high quality |

The farmer's interest is focused on getting the best return from his produce, which usually equates to maximum price for unlimited quantities. Manufacturers want least cost, best quality produce from the farmer so that he can sell it at competitive, but profitable prices. Traders and retailers want high quality and reliable supplies from the manufacturer or farmer, at the most competitive prices. Consumers are interested in obtaining high quality products at low prices. Clearly, there are conflicting interests here.

A study of the agricultural marketing system is necessary to an understanding of the complexities involved and the identification of bottlenecks with a view to providing efficient services in the transfer of farm products and inputs from producers to consumers.

## 1.1.2. Difference in Marketing of Agricultural and Manufactured Goods

The special characteristics which the agricultural sector possesses, and which are different from those of the manufactured sector, are:

**1. Perishability of the Product:**

Most farm products are perishable in nature; but the period of their perishability varies from a few hours to a few months.

**2. Seasonality of Production:**

Farm products are produced in a particular season; they cannot be produced throughout the year. In the harvest season, prices fall. But the supply of manufactured products can be adjusted or made uniform throughout the year. Their prices therefore remain almost the same throughout the year.

**3. Bulkiness of Products:**

The characteristic of bulkiness of most farm products makes their transportation and storage difficult and expensive. The price spread in bulky products is higher because of the higher costs of transportation and storage.

**4. Variation in Quality of Products:**

There is a large variation in the quality of agricultural products, which makes their grading and standardization somewhat difficult. There is no such problem in manufactured goods, for they are products of uniform quality.

**5. Irregular Supply of Agricultural Products:**

The supply of agricultural products is uncertain and irregular because of the dependence of agricultural production on natural conditions. With the varying supply, the demand remaining almost constant, the prices of agricultural products fluctuate substantially.

**6. Small Size of Holdings and Scattered Production:**

Farm products are produced throughout the length and breadth of the country and most of the producers are of small size. This makes the estimation of supply difficult and creates problems in marketing.

**7. Processing:**

Most of the farm products have to be processed before their consumption by the ultimate consumers. This processing function increases the price spread of agricultural commodities

## 1.2 Importance and growth of agricultural marketing

## 1.2.1 Importance of Agricultural Marketing

Agricultural marketing plays an important role not only in stimulating production and consumption, but in accelerating the pace of economic development. Its dynamic functions are of primary importance in promoting economic development.

1. **Optimization of Resource use and Output Management**

An efficient marketing system can contribute to an increase in the marketable surplus by scaling down the losses arising out of inefficient processing, storage and transportation. A well-designed system of marketing can effectively distribute the available stock of modern inputs, and thereby sustain a faster rate of growth in the agricultural sector.

1. **Increase in Farm Income**

An efficient marketing system ensures higher levels of income for the farmers by reducing the number of middlemen or by restricting the commission on marketing services and the malpractices adopted by them in the marketing of farm products. An efficient system guarantees the farmers better prices for farm products and induces them to invest their surpluses in the purchase of modern inputs so that productivity and production may increase.

1. **Widening of Markets**

A well-knit marketing system widens the market for the products by taking them to remote corners both within and outside the country, i.e., to areas far away from the production points.

1. **Growth of Agro-based Industries**

An improved and efficient system of agricultural marketing helps in the growth of agro-based industries and stimulates the overall development process of the economy.

1. **Marketing helps in Planning & decision making/Price signals/**

An efficient marketing system helps the farmers in planning their production in accordance with the needs of the economy. Every business organization has to take important decisions like what to produce, how to produce, where to produce, when to produce & how these goods & services are made available to the customers. Answer to all these questions are given by Marketing Department, So Marketing helps in planning & decision making.

1. **Adoption and Spread of New Technology**

The marketing system helps the farmers in the adoption of new scientific and technical knowledge. New technology requires higher investment and farmers would invest only if they are assured of market clearance.

1. **Employment**

The marketing system provides employment to millions of persons engaged in various activities, such as packaging, transportation, storage and processing, etc.

1. **Addition to National Income**

Marketing activities add value to the product thereby increasing the nation’s gross national product and net national product.

1. **Better Living**

The main objective of the marketing is to satisfy human wants.

1. **Creation of Utility**

Marketing adds cost to the product; but, at the same time, it adds utilities to the product. The following four types of utilities of the product are created by marketing:

**(a) Form Utility:** The processing function adds form utility to the product by changing the raw material into a finished form. With this change, the product becomes more useful than it is in the form in which it is produced by the farmer.

**(b) Place Utility:** The transportation function adds place utility to products by shifting them to a place of need from the place of plenty. Products command higher prices at the place of need than at the place of production because of the increased utility of the product.

**(c) Time Utility:** The storage function adds time utility to the products by making them available at the time when they are needed.

**(d) Possession Utility:** The marketing function of buying and selling helps in the transfer of ownership from one person to another. Products are transferred through marketing to persons having a higher utility from persons having a low utility.

## 1.2.2 Growth of agricultural Marketing

## Agricultural marketing in a broader sense is concerned with:

##  - The marketing of farm products produced by farmers

##  - The marketing of farm inputs required by farmers in the production of farm products

## Thus, the subject of agricultural marketing includes product marketing as well as input marketing.

The subject of output marketing is as old as civilization itself. The importance of output marketing has become more conspicuous in the recent past with the increased marketable surplus of the crops and other agricultural commodities following the technological breakthrough. On one hand surplus production in agriculture resulted in problem of distribution to consumption centers and on the other transformed agriculture into a commercial venture where market needs came to the lime lite.

Input marketing is a comparatively new subject. Farmers in the past used such farm sector inputs as local seeds and farmyard manure. These inputs were available with them; the purchase of inputs for production of crops from the market by the farmers was almost negligible. The importance of farm inputs – improved seeds, fertilizers, insecticides and pesticides, farm machinery, implements and credit – in the production of farm products has increased in recent decades. The new agricultural technology is input-responsive. Thus, the scope of agricultural marketing must include both product marketing and input marketing.

Efforts to develop agricultural marketing have, particularly in developing countries, tended to concentrate on a number of areas, specifically infrastructure development; information provision; training of farmers and traders in marketing and post-harvest issues; and support to the development of an appropriate policy environment. In the past, efforts were made to develop government-run marketing bodies but these have tended to become less prominent over the years.

 **Agricultural Market infrastructure**

Efficient marketing infrastructure such as wholesale, retail and assembly markets and storage facilities is essential for cost-effective marketing, to minimize post-harvest losses and to reduce health risks. Markets play an important role in rural development, income generation, food security, and developing rural-market linkages. Experience shows that planners need to be aware of how to design markets that meet a community's social and economic needs and how to choose a suitable site for a new market. In many cases sites are chosen that are inappropriate and result in under-use or even no use of the infrastructure constructed. It is also not sufficient just to build a market: attention needs to be paid to how that market will be managed, operated and maintained.

Rural assembly markets are located in production areas and primarily serve as places where farmers can meet with traders to sell their products. These may be occasional (perhaps weekly) markets or permanent. Terminal wholesale markets are located in major metropolitan areas, where produce is finally channelled to consumers through trade between wholesalers and retailers, caterers, etc. The characteristics of wholesale markets have changed considerably as retailing changes in response to urban growth, the increasing role of supermarkets and increased consumer spending capacity. These changes may require responses in the way in which traditional wholesale markets are organized and managed.

Retail marketing systems in western countries have broadly evolved from traditional street markets through to the modern hypermarket or out-of-town shopping center. In developing countries, there remains scope to improve agricultural marketing by constructing new retail markets, despite the growth of supermarkets, although municipalities often view markets primarily as sources of revenue rather than infrastructure requiring development. Effective regulation of markets is essential. Inside a market, both hygiene rules and revenue collection activities have to be enforced. Of equal importance, however, is the maintenance of order outside the market. Licensed traders in a market will not be willing to cooperate in raising standards if they face competition from unlicensed operators outside who do not pay any of the costs involved in providing a proper service.

**Market information**

Efficient market information can be shown to have positive benefits for farmers and traders. Up-to-date information on prices and other market factors enables farmers to negotiate with traders and also facilitates spatial distribution of products from rural areas to towns and between markets. Most governments in developing countries have tried to provide market information services to farmers, but these have tended to experience problems of sustainability. Moreover, even when they function, the service provided is often insufficient to allow commercial decisions to be made because of time lags between data collection and dissemination.

Modern communications technologies open up the possibility for market information services to improve information delivery through SMS on cell phones and the rapid growth of [FM](https://en.wikipedia.org/wiki/FM_broadcasting) radio stations in many developing countries offers the possibility of more localized information services. In the longer run, the internet may become an effective way of delivering information to farmers. However, problems associated with the cost and accuracy of data collection still remain to be addressed. Even when they have access to market information, farmers often require assistance in interpreting that information. For example, the market price quoted on the radio may refer to a wholesale selling price and farmers may have difficulty in translating this into a realistic price at their local assembly market.

Various attempts have been made in developing countries to introduce commercial market information services but these have largely been targeted at traders, commercial farmers or exporters. It is not easy to see how small, poor farmers can generate sufficient income for a commercial service to be profitable

**Marketing training**

Farmers frequently consider marketing as being their major problem. However, while they are able to identify such problems as poor prices, lack of transport and high post-harvest losses, they are often poorly equipped to identify potential solutions. Successful marketing requires learning new skills, new techniques and new ways of obtaining information. Extension officers working with ministries of agriculture or NGOs are often well-trained in agricultural production techniques but usually lack knowledge of marketing or post-harvest handling.

**Enabling environments**

Agricultural marketing needs to be conducted within a supportive policy, legal, institutional, macro-economic, infrastructural and bureaucratic environment. Traders and others are generally reluctant to make investments in an uncertain policy climate, such as those that restrict imports and exports or internal produce movement. Businesses have difficulty functioning when their trading activities are hampered by excessive bureaucracy. Inappropriate law can distort and reduce the efficiency of the market, increase the costs of doing business and retard the development of a competitive private sector. Poor support institutions, such as agricultural extension services, municipalities that operate markets inefficiently and inadequate export promotion bodies, can be particularly damaging. Poor roads increase the cost of doing business, reduce payments to farmers and increase prices to consumers. Finally, corruption can increase the transaction costs faced by those in the marketing chain.

**Recent developments**

New marketing linkages between agribusiness, large retailers and farmers are gradually being developed, e.g. through contract farming, group marketing and other forms of [collective action](https://en.wikipedia.org/wiki/Collective_action). Donors and NGOs are paying increasing attention to ways of promoting direct linkages between farmers and buyers within a value chain context.

**1.3 The marketing process and approaches to the marketing problem**

**The marketing concept**

In order to satisfy the organizational objectives, an organization should anticipate the needs and wants of consumers and satisfy these more effectively than competitors.

Given the centrality of customer needs and wants in marketing, a rich understanding of these concepts is essential:

**Needs**: Something necessary for people to live a healthy, stable and safe life. When needs remain unfulfilled, there is a clear adverse outcome: Example the need for food, water and shelter.

**Wants**: Something that is desired, wished for or aspired to. Wants are not essential for basic survival and are often shaped by culture or peer-groups.

**Demands***:* When needs and wants are backed [by the ability to](https://en.wikipedia.org/wiki/Purchasing_power) pay, they have the potential to become economic demands.

### Marketing process

The marketing process can be described in the following seven steps:

1. **Understand** the market wants/needs of interest
2. Based on relative size and needs of the market, **select** certain segments of the market that are of the most interest to you and your organization
3. Thoroughly **describe** these segments based on their individual needs
4. **Create** a product or service that will meet the specific needs identified
5. **Communicate** the concept of the product or service to the targeted customer in a way that makes sense to the customer
6. **Deliver** the product or service to the targeted customer in a way that will be convenient to the customer
7. **Solicit** feedback from the customer about how your product or service could be improved to meet the customers’ needs even better

**The Marketing Mix**

The Marketing mix, often referred to as the four Ps or the *marketing program*, represent the basic tools which marketers can use to bring their products or services to market. It is the set of marketing tools that the firm uses to pursue its marketing objectives in the target market. The marketing mix is about putting the right product or a combination thereof in the place, at the right time, and at the right price. The difficult part is doing this well, as you need to know every aspect of your business plan. The traditional marketing mix refers to four broad levels of marketing decision, namely: product, price, promotion, and place.

 **Product**

The product aspects of marketing deal with the specifications of the actual goods or services, and how it relates to the end user's needs and wants.

* + Product variety, quality, sizes and design and features
	+ Product brand name
	+ Product packaging
	+ Product services

 Product warranties, guarantees, and support

 **Pricing**

The price of the product is basically the amount that a customer pays for to enjoy it.Price is a very important component of the marketing mix.

Set price including discounts

* Allowances
* Payment periods
* Credit terms

**Place (or distribution)**

* where the product will be sold and how it will be distributed
* This refers to how the product gets to the customer; the distribution channels and intermediaries such as wholesalers and retailers who enable customers to access products or services in a convenient manner. Include elements like
	+ - Channels (online or retails)
		- Coverage/Locations
		- Market segmentation

**Promotion**

Promotion is concerned with telling the target market or others in the channel of distribution about the “right” product. Promotion decisions are concerned with which media should be used, when to advertise, how much money should be allocated for the promotional mix. This includes all aspects of marketing communications; advertising, sales promotion, public relations (publicity), personal selling, product placement. Sales and selling are part of promotion and can be either personal or mass selling. Personal selling is the traditional calling on clients or potential clients and having a conversation about the problems the product solves. Personal selling can also involve group presentations, and is not necessarily one-on-one. Mass sales are comprised mostly of advertising and publicity. Generally publicity and advertising accomplish the same goal, but publicity is not paid for whereas advertising is.

**Modern marketing**

The period the human society is going through is now reflected in various specialized works by names that express its traits (characteristics) in comparison with previous periods: it is named as the new economy or the knowledge economy. In the new economy or knowledge economy, each science redefines its object, method, and scientific tool. Marketing is no exception to this trend, its contents being continuously redefined and reflected in the framework of some concepts that reported in previous stages of marketing development are grouped in a new concept, called modern marketing.

Modern marketing traces its origin to the primitive forms of trade. As people began to adopt the techniques of work specialization, a need for individuals and organizations to facilitate the process of exchange emerged. Until about 1900, however, marketing was little more than physical distribution. We can trace the development of modern marketing through three stages the production era, the Product era and the era of the sales.

According to Philip Kotler (2001), marketing includes 5 competing concepts that the recent 2 concepts are the most modern competing concepts and modern marketing is integrated of them. These 5 concepts are:

**Production Era**

The production era**,** one of the oldest in business, holds that consumers prefer products that are widely available and inexpensive. Managers of production-oriented businesses concentrate on achieving high production efficiency, low costs, and mass distribution. This orientation makes sense in developing countries, where consumers are more interested in obtaining the product than in its features. It is also used when a company wants to expand the market. Texas Instruments is a leading exponent of this concept. It concentrates on building production volume and upgrading technology in order to bring costs down, leading to lower prices and expansion of the market. This orientation has also been a key strategy of many Japanese companies.

**Product Era**

Other businesses are guided by the product concept**,** which holds that consumers favor those products that offer the most quality, performance, or innovative features. Managers in these organizations focus on making superior products and improving them over time, assuming that buyers can appraise quality and performance.

 **Selling Era**

The selling era**,** another common business orientation, holds that consumers and businesses, if left alone, will ordinarily not buy enough of the organization’s products. The organization must, therefore, undertake an aggressive selling and promotion effort. This concept assumes that consumers must be coaxed into buying, so the company has a battery of selling and promotion tools to stimulate buying.

**Marketing Era**

The marketing era, based on central tenets crystallized in the mid-1950s, challenges thethree business orientations we just discussed. The marketing concept holds that the key toachieving organizational goals consists of the company being more effective than itscompetitors in creating, delivering, and communicating customer value to its chosen targetmarkets.

Theodore Levitt of Harvard drew a perceptive contrast between the selling and marketing era:

* “Selling focuses on the needs of the seller; marketing on the needs of the buyer.
* Selling is preoccupied with the seller’s need to convert his product into cash;
* Marketing with the idea of satisfying the needs of the customer by means of the product and the whole cluster of things associated with creating, delivering and finally consuming it.”
* The marketing era rests on four pillars: target market, customer needs, integrated marketing, and profitability.
* The selling era takes an **inside-out** perspective. It starts with the factory, focuses on existing products, and calls for heavy selling and promoting to produce profitable sales.
* The marketing era takes an **outside in** perspective. It starts with a well-defined market, focuses on customer needs, coordinates activities that affect customers, and produces profits by satisfying customers.

**Societal Marketing Era**

Some have questioned whether the marketing concept is an appropriate philosophy in an age of environmental deterioration, resource shortages, explosive population growth, world hunger and poverty, and neglected social services. Are companies that successfully satisfy consumer wants necessarily acting in the best, long-run interests of consumers and society?

The marketing concept sidesteps the potential conflicts among consumer wants, consumer interests, and long-run societal welfare. Yet some firms and industries are criticized for satisfying consumer wants at society’s expense. Such situations call for a new term that enlarges the marketing concept. We propose calling it the societal marketing concept**,** which holds that the organization’s task is to determine the needs, wants, and interests of target markets and to deliver the desired satisfactions more effectively and efficiently than competitors in a way that preserves or enhances the consumer’s and the society’s well-being.

## 1.4. Market Classification

Markets may be classified on the basis of each of the following dimensions.

**1. On the basis of Location:**

On the basis of the place of location or place of operation, markets are of the following types:

a) **Village Markets:** A market which is located in a small village, where major transactions take place among the buyers and sellers of a village.

b) **Primary Wholesale Markets:** These markets are located in big towns near the centers of production of agricultural commodities. In these markets, a major part of the produce is brought for sale by the producer-farmers themselves. Transactions in these markets usually take place between the farmers and primary traders.

c) **Secondary wholesale Markets:** These markets are located generally in important trade centers. The major transactions in commodities take place between the village traders and wholesalers. The bulk of the arrivals in these markets is from other markets.

d) **Terminal Markets:** A terminal market is one where the produce is either finally disposed of to the consumers or processors, or assembled for export. Merchants are well organized and use modern methods of marketing.

e) **Seaboard Markets:** Markets which are located near the seashore and are meant mainly for the import and/or export of goods.

**2. On the Basis of Area/Coverage:**

a) **Local or Village Markets:** A market in which the buying and selling activities are confined among the buyers and sellers drawn from the same village or nearby villages.

b) **Regional Markets:** A market in which buyers and sellers for a commodity are drawn from a larger area than the local markets.

c) **National Markets:** A market in which buyers and sellers are at the national level.

d) **World Market:** A market in which the buyers and sellers are drawn from the whole world. These are the biggest markets from the area point of view. These markets exist in the commodities which have a world-wide demand and/or supply.

**3. On the Basis of Time Span:**

a) **Short-period Markets:** The markets which are held only for a few hours are called short-period markets. The products dealt with in these markets are of highly perishable nature, such as fish, fresh vegetables, and liquid milk.

b) **Long-period Markets:** These markets are held for a long period than the short period markets. The commodities traded in these markets are less perishable and can be stored for some time; these are food grains and oilseeds.

c) **Secular Markets:** These are markets of permanent nature. The commodities traded in these markets are durable in nature and can be stored for many years. Examples are markets for machinery and manufactured goods.

**4. On the Basis of Volume of Transactions:**

a) **Wholesale Markets:** A wholesale market is one in which commodities are bought and sold in large lots or in bulk. Transactions in these markets take place mainly between traders.

b) **Retail Markets:** A retail market is one in which commodities are bought by and sold to the consumers as per their requirements. Transactions in these markets take place between retailers and consumers. The retailers purchase in wholesale market and sell in small lots to the consumers. These markets are very near to the consumers.

**5. On the Basis of Nature of Transactions:**

a) **Spot or Cash Markets:** A market in which goods are exchanged for money immediately after the sale is called the spot or cash market.

b) **Forward Markets:** A market in which the purchase and sale of a commodity takes place at time “t” but the exchange of the commodity takes place on some specified date in future. Sometimes even on the specified date in the future, there may not be any exchange of the commodity. Instead, the differences in the purchase and sale prices are paid or taken.

**6. On the Basis of Number of Commodities in which Transaction Takes place:**

a) **General Markets:** A market in which all types of commodities, such as food grains, oilseeds, fiber crops, etc. are bought and sold is known as general market. These markets deal in a large number of commodities.

b) **Specialized Markets:** A market in which transactions take place only in one or two commodities is known as a specialized market. For every group of commodities, separate markets exist. The examples are food grain markets, vegetable markets, wool market and cotton market.

**7. On the Basis of Degree of Competition:**

**Perfect Markets**: A perfect market is one in which the following conditions hold good:

a) There is a large number of buyers and sellers;

b) All the buyers and sellers in the market have perfect knowledge of demand, supply and prices;

c) Prices at any one time are uniform over a geographical area, plus or minus the cost of getting supplies from surplus to deficit areas;

d) The prices are uniform at any one place over periods of time, plus or minus the cost of storage from one period to another;

e) The prices of different forms of a product are uniform, plus or minus the cost of converting the product from one form to another.

**Imperfect Markets:** The markets in which the conditions of perfect competition are lacking are characterized as imperfect markets. The following situations, each based on the degree of imperfection, may be identified:

a) **Monopoly Market**

b) **Duopoly Market**

c) **Oligopoly Market**

d) **Monopolistic competition**

**8. On the Basis of Nature of Commodities:**

On the basis of the type of goods dealt in, markets may be classified into the following categories:

a) **Commodity Markets:** A market which deals in goods and raw materials, such as wheat, barley, cotton, fertilizer, seed, etc., are termed as commodity markets.

b) **Capital Markets:** The market in which bonds, shares and securities are bought and sold are called capital markets; for example, money markets and share markets.

**9. On the Basis of Stage of Marketing:**

a) **Producing Markets:** Those markets which mainly assemble the commodity for further distribution to other markets are termed as producing markets. Such markets are located in producing areas.

b) **Consuming Markets:** Markets which collect the produce for final disposal to the consuming population are called consumer markets. Such markets are generally located in areas where production is inadequate, or in thickly populated urban centres.

**10. On the Basis of Extent of Public Intervention:**

a) **Regulated Markets:** Markets in which business is done in accordance with the rules and regulations framed by the statutory market organization representing different sections involved in markets. The marketing costs in such markets are standardized and practices are regulated.

b) **Unregulated Markets:** These are the markets in which business is conducted without any set rules and regulations.

**11. On the Basis of Type of Population Served:**

a) **Urban Market:** A market which serves mainly the population residing in an urban area is called an urban market. The nature and quantum of demand for agricultural products arising from the urban population is characterized as urban market for farm products.

b) **Rural Market:** The word rural market usually refers to the demand originating from the rural population. There is considerable difference in the nature of embedded services required with a farm product between urban and rural demands.

**Chapter 2: Marketing Functions, Costs and Efficiency**

* 1. **Marketing Functions**

Any single activity performed in carrying a product from the point of its production to the ultimate consumer may be termed as a marketing function. The marketing functions can be classified into three broad groups. These are:

1. **Physical Functions**

Storage and Warehousing

Processing

Transportation

1. **Exchange Functions**

Buying

Selling

1. **Facilitative Functions**
2. Grading and Standardization
3. Packaging
4. Financing
5. Risk Taking/ bearing
6. Dissemination of Market Information
7. Promotion of the product
8. Market Research
9. Marketing Management

### 1. Physical Functions

* + **Storage and Warehousing**

Storage refers to holding and preserving goods from the time of their procurement or production till the time of their sale. In other words storage involves making suitable arrangements for preserving the goods till they are bought by the consumers and delivered to them. Warehousing is synonymous to storage but is normally used for large-scale storage facility for goods. You must have seen cold storage where vegetables like tomato, cabbage, potato etc. are stored to be consumed throughout the year. In marketing it is essential to store raw material and finished goods to be used later by the company for production or for resale. Agriculture is characterized by relatively large and irregular seasonal and year to year fluctuations in production. The consumption of most farm products, on the other hand, is relatively stable. These conflicting behaviours of demand and supply make it necessary that large quantities of farm produce should be held for a considerable period of time.

* + **Transportation**

In marketing, transport as an activity refers to physical movement of raw materials as well as finished goods from the place of production to place of consumption. Goods are transported through various means like railways, roadways, waterways and airways. For heavy and bulky goods, the railways and waterways are the best. For other goods, it depends upon the demand, cost involved, urgency, nature of the goods etc. to decide about a suitable means of transportation.

* + **Processing**

Processing is an important marketing function in the present-day marketing of agricultural commodities. A large proportion of farm products was sold in an unprocessed form. At present, consumers are dependent upon processing for most of their requirements.

The processing activity involves a change in the form of the commodity. Processing converts the raw material and brings the products nearer to human consumption. It is concerned with the addition of value to the product by changing its form.

### Exchange Functions

**Buying and Selling:**

Buying and selling is the most important activity in the marketing process. At every stage, buyers and sellers come together, goods are transferred from seller to buyer, and the possession utility is added to the commodities. The number of times the selling and buying activity is performed depends on the length of the marketing channel.

The **buying** activity involves the purchase of the right goods at the right place, at the right time, in the right quantities and at the right price. It involves the problems of what to buy, when to buy, from where to buy, how to buy and how to settle the prices and the terms of purchase.

The objective of **selling** is to dispose of the goods at a satisfactory price. The prices of products, particularly of agricultural commodities vary from place to place, from time to time, and with the quantity to be sold. **Selling**, therefore, involves the problems of when to sell, where to sell, through whom to sell, and whether to sell in one lot or in parts.

### Facilitating Functions

1. **Grading and standardization**

Standardization means the determination of the standards to be established for different commodities. Standards are established on the basis of certain characteristics-such as weight, size, colour, appearance, texture, moisture content, staple length, amount of foreign matter, ripeness, sweetness, taste, chemical content, etc. These characteristics, on the basis of which products are standardized, are termed grade standards. Thus, standardization means making the quality specifications of the grades uniform among buyers and sellers over space and over time. Grading means the sorting of the unlike lots of the produce into different lots according to the quality specifications laid down. Each lot has substantially the same characteristics in so far as quality is concerned. It is a method of dividing products into certain groups or lots in accordance with predetermined standards. Grading follows standardization. It is a sub-function of standardization.

1. **Packaging**

Packaging is the first function performed in the marketing of agricultural commodities. It is required for nearly all farm products at every stage of the marketing process. The type of the container used in the packing of commodities varies with the type of the commodity as well as with the stage of marketing. For example, gunny bags are used for cereals, pulses and oilseeds when they are taken from the farm to the market.

Packaging involves putting the goods in attractive packets according to the convenience of consumers. Important considerations to be kept in view in this connection are the size of the package and the type of packaging material used. Goods may be packaged in bottles (plastic or glass), boxes (made of tin, glass, paper, plastic), cans or bags.

Packaging is also used as a promotional tool as suitable and attractive packages influences the demand of the products.

1. **Financing**

The financing function of marketing involves the use of capital to meet the financial requirements of the agencies engaged in various marketing activities. No business is possible nowadays without the financial support of other agencies because the owned funds available with the producers and market middlemen (such as wholesalers, retailers and processors) are not sufficient.

#### Risk Bearing

Risks are inherent in the performance of any marking function they are involved at almost all stage in the marketing process, Risk bearing in marketing is the function of assuming or accepting the possibility of loss in marketing products. Economic risks can be classified into two broad classifications physical risks and market risks.

The **physical risks** are those that occur from destruction or deterioration of the product itself by fire, accident, wind, earthquakes, or other means.

**Market risks** are those that occur because of changes in value of a product as it is marketed. An unfavorable movement in prices might result in high inventory losses. A change in consumer taste might reduce the desirability and price of the product. A new marketing strategy of competitors might result in a loss of customers for other firms.

Successful marketers are those who take calculated risks. They try to

1. Eliminate the risk
2. Minimize the risk
3. Transfer the risk ( insurance companies would assure (take) the risk
4. If all 1-3 are not possible the marketer accepts the risk

**Protection against risk:**

1. The use of insurance companies in the case of physical risks or the utilization of futures exchanges in the case of price risks.
2. Improvement in infrastructure: adequate storage, transport, and processing.
3. Insurance: paying insurance premium will transfer source risks to insurance companies
4. Market information: improving the growing and dissemination of MI helps to reduce market risk by avoiding excessive price fluctuation
5. Forward or in advance selling (future trading): price agreement may be made two or three weeks/months before the purchase (no more worry about price fluctuation).
6. Government price support:-setting price floor or price ceiling
7. Vertical integration/coordination: e.g. to avoid risks made by market middlemen the process may use their own buying agents.
8. **Market information**

Market information is an important marketing function which ensures the smooth and efficient operation of the marketing system. Accurate, adequate and timely availability of market information facilitates decision about when and where to market products.

Market information:

* Creates a competitive market process and checks the growth of monopoly or profiteering by individuals.
* Is the lifeblood of a market.
* Includes all the facts, estimates, opinions and other information which affect the marketing of goods and services.
* Is useful for all sections of society which are concerned with marketing. i.e, farmers, market middlemen, general economy and government.

Market information is of two types

**a)Market Intelligence**: This includes information relating to such facts as the prices that prevailed in the past and market arrivals over time. These are essentially a record of what has happened in the past. Market intelligence is therefore, of historical nature.

**b) Market News**: This term refers to current information about prices, arrivals and changes in market conditions. This information helps the farmer in taking decisions about when and where to sell his produce. The availability of market news in time and with speed is of the utmost value.

1. **Promotion of the Product**

Promotional activities include personal selling, advertising, sales promotion and publicity. All promotional activities involve communication with the existing and prospective customers whereby they are made aware of the product, its distinctive features, price, availability etc. The objective of promotional activities is to motivate the customers to buy the product.

1. **Marketing Research**

Marketing research involves collection and analysis of facts relevant to various aspects of marketing. It is a process of collecting and analyzing information regarding customer needs and buying habits, the nature of competition in the market, prevailing prices, distribution network, effectiveness of advertising media, etc. Marketing research gathers, records and analyses facts for arriving at rational decisions and developing suitable marketing strategies.

1. **Marketing Management**

Marketing management is the art and science of choosing target markets and building profitable relationships with them. Creating, delivering and communicating superior customer value is key. Marketing management is the conscious effort to achieve desired exchange outcomes with target markets.

The marketer’s basic skill lies in influencing the level, timing, and composition of demand for a product, service, organization, place, person, idea, or some form of information. Marketing management is defined as the analysis, planning, implementation, and control of programs designed to create, build, and maintain beneficial exchanges with target buyers for the purpose of achieving organizational objectives.

## 2.2 Marketing Agents and Functions

Marketing agencies are the middlemen involved in carrying out the marketing functions. They could be individuals or agribusiness organizations that specialize in performing the various marketing functions involved in the purchase or sale of goods as they are moved from producers to consumers. The agencies and institution which perform various marketing functions are classified as follows:-

1. **Merchant middlemen**
* Retailers
* Wholesalers
1. **Agent middlemen**
* Brokers
* Commission men
1. **Speculative middlemen**
2. **Facilitative organizations**

These agencies vary widely in size and ownership. They get their reward in the form of marketing margins.

1. **Merchant middlemen**

These middlemen have properties in common in that they take title to, and therefore own, the products they handle. They buy and sell for their own gain.

1. **Retailers:** are those merchant middlemen that buy products for resale directly to the ultimate consumer of the goods. He/she is the producer's personal representative to the consumer. From the functional viewpoint, the retailer may perform all of the marketing functions. They are mostly large in number.
2. **Wholesalers:** are those merchant middlemen or manufacturers that sell to retailers, other wholesalers, and/or industrial users but do not sell a significant amount to ultimate consumers. Wholesalers make up a highly heterogeneous group of varying sizes and characteristics. One group of wholesalers are the local buyers or countryside assemblers who buy goods in the producing area directly from farmers and transport the products forward to the larger cities where they are sold to other wholesalers and processors. These wholesalers/assemblers/ can handle different agricultural products or can specialize in handling a limited number of products.
3. **Agent Middlemen**

Agent middlemen, as the name implies, act only as a representative of their clients. They do **not take title to** and therefore **do not own**, the products they handle, while merchant middlemen (wholesalers and retailers) secure their income from a margin between the buying and selling prices, agent middlemen receive their income in the form of fees and commissions. Agent middlemen in reality sell services to their principals, not physical goods to customers. In many instances, the power of agent middlemen is market knowledge and "know-how" which they use in bringing buyers and sellers together. Agent middlemen can be broken down into two major groups, commission-men and brokers.

1. **Commission-men** are usually granted broad powers by those who consign goods to them. He normally takes over the physical handling of the product, arranges for the terms of sale, collects, deducts his fee, and remits the balance to his principal.
2. **Brokers**: - usually does not have physical control of the product. He usually follows the directions of his principal closely and has less discretionary power in price negotiations than commission-men. He just acts in between the sellers and buyers. Brokers link sellers and buyers and assist in negotiation.
3. **Speculative middlemen**

Speculative middlemen are those who take title to products with the major purpose of profiting from price movements. Speculative middlemen seek out and specialize in taking risks and usually do a minimum of handling and merchandizing. They often attempt to earn their profits from the short-run fluctuations in prices. Purchases and sales are usually made at the same level in the marketing channel. For example, livestock speculators buy goats or sheep today and sell them back today or tomorrow in the same yards. Speculative middlemen often perform a very important job as a competitive force in the maintenance of an adequate pricing structure.

1. **Facilitative organizations**

Some middlemen do not buy and sell directly but assist in the marketing process. Marketing can take place even if they are not active. But the efficiency of the system increases when they engage in business. These middlemen receive their income in the form of fees or service charges from those who use their services. One group of these organizations furnishes the physical facilities for the handling of products or for the bringing of buyers and sellers together.

The main ones are as follows:

***Laborers***: They physically move the goods in marketplace. They do unloading from and the loading on to bullock carts or trucks. They perform cleaning, sieving, and refilling jobs and stitch/sew/ the bags. Without their active co-operation, the marketing system would not function smoothly.

***Weigh men:*** They facilitate the correct weighment of the produce. They get payment for their services through the commission agent.

***Graders:*** These middlemen sort out the product into different grades. They facilitate the process of prices settlement between the buyer and the seller.

***Transport Agency:*** This agency assists in the movement of the produce from one market to another.

***Communication Agency:*** It helps in the communication of the information about the prices prevailing, and quantity available, in the market.

***Advertising Agency:*** It enables prospective or potential buyers to know the quality of the product and decide about the purchase of commodities.

* Newspapers, the radio, cinema, slides, television and Internet are the main media for advertisements.

***Auctioners:*** They help in exchange function by putting the produce for auction /public sale/ and bidding by the buyers.

Another group of organizations falling in this general category is the trade associations. The primary purpose of a large majority of these organizations is to gather, evaluate, and disseminate information of value to a particular group of trade. They may carry on research of mutual interest.

**2.3 Marketing Channels**

There are different definitions for marketing channels based on the breadth and width of interest of analysis.

1. According to Moore *et al* “The chain of intermediaries through whom the various food grains pass from producers to consumers constitutes their marketing channels”.
2. Kohls and Uhl have defined marketing channels as alternative routes of product flows from producers to consumers.
3. It can also be defined as market channels are set of interdependent organizations (i.e., intermediaries) involved in the flow of products (goods and services) from producer to consumers and the flow of information on the other direction

**Factors affecting length of marketing channels in agricultural marketing**

Marketing channels for agricultural products vary from **product to product country to country, lot to lot and time to time.** For example, the marketing channels for fruits are different from those for food grains. Packagers play a crucial role in the marketing of fruits. The level of the development of a society or country determines the final form in which consumers demand the product. For example, consumers in developed countries demand more processed foods in a packed form. Wheat has to be supplied in the form of bread. Processors play a dominant role in such societies. In developing countries like Ethiopia, However, most food grains are purchased by consumers in the raw form and processing is done at the consumer's level. Again, the lots originating at small farms follow different route or channels from the one originating in large farms. For example, small farms usually sell their produce to village traders; it may or may not enter the main market. But large farms usually sell their produce in the main market, where it goes into the hands of wholesalers. The produce sold immediately after the harvest usually follows longer channel than the one sold in later months.

**Types of market channels**

There are two main routes through which agricultural commodities reach the consumers:

1. **Direct Market Channel:** Sometimes, agricultural commodities directly pass from producers to consumers. There is a complete absence of middlemen or intermediaries. Since there are no intermediaries, the producer must perform all channel functions. But it is only a very small proportion of the agricultural commodities which moves directly from producers to consumers.

producer - Consumer

1. **Indirect Market Channel:** Agricultural commodities generally move from producers to consumers through intermediaries or middlemen. The number of intermediaries may vary from one to many. Some examples of the indirect market channels are
2. The producer - retailer - consumer channel
3. The producer- wholesaler-retailer-consumer channel.
4. The producer - agent - wholesaler- retailer – consumer channel

**Functions of the Channels:**

1. Channels of distribution helps, the goods & services to move from the place of production to the place of consumption, hence they create place utility.
2. Goods are brought by the channels when they are needed. Hence they create time utility.
3. A channel reduces complexity in the distribution system
4. Inclusion of channel reduces the financial burden of the producers
5. They provide various services such as standardization, grading, etc.
6. They supply the market information to the producers
7. They help producers in promoting their sales.

**Elimination of Middlemen or are middlemen necessary in the channels:**

* **Arguments in Favor of Middlemen:**
1. If there were no Middlemen, it would have been difficult for the producers and consumers to meet personally to buy and sell. Hence inclusion of middlemen reduces the complexities of the distribution function.
2. Many producers do not have the resources to sell their products directly to the consumers.
3. They perform some of the important marketing functions like standardization, grading, transportation, warehousing, etc this makes producers concentrate on their production activities.
4. It is the Middlemen who help in stabilizing the prices
5. It brings down the cost of production of some of the functions of the producers as they are taken over by the middlemen.
6. As they purchase on large scale they also bring down the storage cost
7. They provide important marketing information to the producers.
8. They create place and time utilities.
* **Arguments Against Middlemen:**
1. They are considered as parasites who for one reason or another prevent the direct contact between producers and consumers. This mistakes producers ignorant of consumer’s grievances which result in customer dissatisfaction which may bring down the sale.
2. Middlemen also manipulate the economy. This misleads both the consumers and producers.
3. They unnecessarily increase the price of the product.
4. They often dictate the terms of marketing. In fact, the term ‘Black Market’ was the creation of middle men.
5. They are also referred to as fair weather Friends. In other words, they only sell those products which gives them maximum profits. They go on changing their Loyalties depending on the profitability.
6. In practice they do not perform any marketing function. They simply transfer ownership without shouldering any responsibility.

To conclude, it can be said that many manufacturers regard middlemen as Evils. But, all of them can’t eliminate middlemen. Hence they are considered as necessary Evil.

**2.4 Approaches to the study of Marketing**

## Approaches to the Study of Agricultural Marketing

There are different approaches to the study of agricultural marketing. These approaches explain clearly the mechanism and concept of marketing. The study of marketing has been approached in more than one way. The most commonly approaches used to study agricultural marketing are:

1. ***Product or commodity approach:***

This approach refers to the study of a product in detail. In other words, the study relates to the flow of a certain commodity and its movement from the original producer right up to the ultimate customer.

The marketing situation of each product chosen for study is examined from such viewpoints as sources and conditions of supply, nature and extent of demand, mode of transporting, storage, standardization, packing, producer marketing organizations, policies, different middlemen who take part in distributing the product. Thus, it is possible to get a full picture of the marketing from the original producer to the ultimate consumer.

By this approach, similar commodities are sometimes grouped together and described as grain marketing, fruit marketing, livestock marketing, vegetable marketing, etc, or even sometimes each grain crop can be described independently as; wheat marketing, maize marketing, barely marketing, etc, each fruit as; banana, orange, etc. each vegetable as; potato, tomato, etc marketing.

It is simple and gives good result over the marketing of each product. But at the same time this approach is time-consuming and repetitive process which is a drawback.

1. ***Functional Approach:***

The functional approach is the study of various functions performed in changing the product of the farmer into the product desired by the consumers. It involves the business activities performed by firms in the marketing system. The most common classification of the functions performed are exchange functions, physical and facilitating function. This approach allows easy identification of the utilities being created and serves to identify the activity being examined in the other approaches. By analyzing and studying every function in detail and problems confronted in the performance of each function, it is possible to understand marketing properly.

1. ***Institutional Approach:***

Deals with the “who” of marketing, i.e. who are involved in the market. It deals with merchant middlemen (retailers, wholesalers), agent middle men (broker and commission men), Speculative middle men (buy and sell on their own account but expect profit made from price movement), processors, manufacturers and facilitators. Institutional approach is emphasizing on who is doing the market function. The institutional approach identifies the business organization and managers that add utility to the product.

1. ***Behavioral Systems Approach (BSA)***

A more recent approach to emphasize the system of marketing, dwelling on the interaction of subsystems rather than on individual function or firms is the system approach. This behavioral system allows systems to be identified with the particular problem being addressed. The obvious disadvantage of this method is that it is abstract in nature and the reliance on intimate knowledge of individual’s firm characteristics and behavioral interactions. Such data and on intimate knowledge is seldom available. In this approach the firm is taken a system of behavior and emphasis is on:

* + Optimal input-output combination, which identifies motives and means of affecting the input–output ratio.
	+ Who has the market power (may be legal, sociological, political, etc.).

**2.5 Marketing costs**

It includes the expenses incurred on all functions or services from bringing of the produce from framer to reach the ultimate consumers. Marketing costs include labor, transport, packaging, containers, rent, utilities (water and energy), advertising, selling expenses, depreciation allowances and interest charges. Marketing costs vary from commodity to commodity and product to product. There are several factors that individually or collective ely account for these differences. These include:

* the more waste the greater the proportion of customers' expenditure which goes on marketing costs
* the more perishable the product the greater the marketing costs
* the more processing of the commodity the greater the marketing costs
* the greater the amount of produce handling and transportation the greater the marketing costs.

 **The major agricultural marketing costs and their calculations**

* 1. **Handling costs**
* Costs related to bulking, cleaning, drying, sorting/ grading, weighing, and loading/unloading.

Handling costs are easily overlooked. Each time a product is handled the cost per kilogram will be negligible. But a product can be handled many times before it reaches the consumer. The sum total of all these small handling costs can be considerable, particularly in countries with relatively high labor costs. In some cases it is possible to get an accurate idea of handling costs. For example, porters at wholesale markets usually charge a fixed rate per box or per cart. In other cases, however, there will not be a fixed charge. Costs per container will then need to be worked out approximately by dividing the wage of the employee by the number of packages handled.

1. **Packaging costs**

Most products and produce need packing.

Packaging serves three basic purposes:-

* It provides a convenient way of handling and transporting produce.
* It provides protection of the produce.
* Packaging can be used to divide the produce into convenient units for retail sale and to make the produce more attractive to the consumer, thus increasing the price at which it can be sold.
* The simplest packaging cost calculations are those where the packaging material is used only once. All that needs to be known is how much produce the package contains in order to work out the packaging cost per kilogram.
* With the use of more expensive packaging every effort is made to use the packages over and over again. In these circumstances there is need to make an estimate of how many times the container is used to arrive at a cost per journey. Allowance must also be made for transporting empty package back to the beginning of the marketing chain.

**Example**: Assume that oranges are packed 20 kg at a time in wooden boxes which, with occasional repairs, can be used for 10 trips. A box costs 10 birr, repairs and cleaning during its life costs 2 birr and each time the box is transported back empty to the producing area costs 1 birr.
Then the packaging cost per trip is:- [(original cost + repairs) / no. of trips] + transport when empty. That is:- (10 birr +2 birr) / 10 trips + 1 birr = 2.20 birr per 20 kg and 2.20 birr / 20 kg        = 0.11 birr per kg

1. **Transport costs**

Transport costs are incurred by farmers when they take their produce to the market and by traders as they move the produce down the marketing chain to the consumer. Sometimes transport costs are very obvious because they involve a direct payment by a farmer or trader to a truck owner on a per piece basis. In other cases transport costs are less direct, as when the trader, or even the farmer, owns and operates his own vehicle. In these case there is no financial outlay but there is still an opportunity cost.

Payment to truck drivers to carry produce to market on a ‘per piece’ basis makes for easy marketing cost calculations but is usually a more expensive way of transporting produce. When a truck is hired or the trader uses his own, the calculation is more difficult because the vehicle may be used for several different commodities each packed in a different sized container. For most trucks the factor limiting quantities carried is space available, not weight. This requires making a rough estimate of the volume of the containers used for each commodity.

**Example**: Assume that there are 40 m3 of space available in the truck to be used and that it costs birr 500 to hire the truck. A container of 0.2 m3 holds 8 kg of tomatoes and a container of 0.4 m3 holds10kg of green peppers. Then the transport cost for tomatoes per container and per kilogram is:-500birr/(40m3/0.2m3)=2.50birrpercontainer and 2.50birr/8kg=0.3125birr per kilogram
While the transport cost for green peppers per container and per kilogram is :-
500 birr/ (40 m3 / 0.4 m3) = 5.00birrper container and 5.00 birr / 10 kg = 0.50 birr per kg.

The calculation becomes more complicated when a trader owns his/her own vehicle and the traders have to estimate transport costs. In calculating transport costs, the costs included are:

* wages paid to the driver and, where relevant, his assistant
* cost of fuel, maintenance, repairs and the like
* cost of license and other necessary payments
* costs incurred en route such as tolls or bribes paid at official or unofficial road blocks and charges for entering a market
* the capital cost of the vehicle.

Having identified annual transport costs it is then necessary to consider the amount of work the truck will do in one year in order to work out a cost per ton per km.

1. **Storage costs**

Storage is carried out in order to extend the period of availability of a product to a consumer. Storage costs fall into four categories:

* Costs associated with the physical operation of the stores that is the actual cost per kilogram which must be paid to place the produce in the warehouse or cool store. Such costs are made up of factors such as depreciation on the building, security, electricity and other utility costs and maintenance
* Costs associated with the maintenance of the product quality while it is in store, for example, the cost of chemicals
* Costs associated with loss of quality and quantity while the produce is in store
* The financial cost to the owner or the produce while it is in store.

The biggest single factor affecting storage costs is capacity utilization. Where a store is used frequently full capacity costs per unit will be low. Where it is kept empty for much of the time costs will be high. Where commercial storage facilities are used it is relatively simple to work out physical storage costs incurred by the trader as he will be charged on a basis such as kilogram/days, box/weeks or ton/months. The cost per kilogram for the period the produce is in store can then be worked out. Where the trader hires an entire warehouse and moves produce in and out it is necessary to know the average number of containers/kilograms in store during the period for which the store is hired.

**Example**: Assume that a warehouse is hired for 120 days of the year at a total of birr 600 and that the weighted average contents are 250 bags of potatoes. Then the storage cost is:- birr 600 / 120 days = birr 5.00 per day birr 5 / 250 bags = birr 0.02 per bag/day

It is easy to ignore the fact that produce while in store incurs a financial cost for the trader. To do so, however, would give a totally inaccurate impression of marketing costs. An example of a realistic calculation of storage costs including additional costs such as bank interest is shown in below example.

Assume that there is no loss. However, a four-month period of storage will almost certainly lead to some losses and these need to be built into the calculations.

Assume that a trader buys potatoes at birr 10 per bag and keeps them in store for 4 months. To do this he has to borrow money at 12 percent per year.

Then the cost of bank interest is: birr 10 × 0.04 (12%, over 4 months) = birr 0.40 per bag. Thus a realistic calculation of storage costs per bag for the consignment of potatoes is:

Storage charge for 120 days at birr 0.02 per day = birr 2.40

Interest charge of birr 0.40 per bag = birr 0.40

Total cost per bag = birr 2.80

1. **Processing Costs**

The transformation of a produce from one form to another clearly involves costs associated with the operation of the processing facility. In calculating marketing costs, it is necessary to consider two other important aspects of processing costs. First with product losses one kilogram of product purchased from the farmer cannot be compared with one kilogram of processed product sold to the consumer. There is need to ask. How much will be sold to the consumer if one kilogram is bought from the farmer?' Secondly, there may be a by-product as a result of the processing and this by-product can often be sold. The value of the by-product must therefore be included in the calculations.

In calculating processing costs it is necessary to know:

* the conversion rate,
* the quantity and value of by-product and
* the costs of processing.
1. **Capital costs**

Capital costs are a major component of marketing costs. Such costs will vary from country to country depending on the level of interest rates. These include:

* the cost of money needed to buy produce and keep it in store
* the capital cost of a warehouse or a truck if the trader owns them
* the capital cost of other buildings or of equipment, such as office space, weighing scales, grain drying equipment and
* the depreciation (or loss of value) of the vehicle, warehouse or equipment owned by the trader, miller, or other party.

**Marketing margin**

Marketing margin may be defined as;

* the differences between consumer retail price and what farmers receive;
* The proportion of the consumer expenditure that goes to the food marketing firms.
* A marketing margin is the percentage of the final weighted average selling price taken by each stage of the marketing chain.
* The price of marketing services provided.

The margin must cover the costs involved in transferring produce from one stage to the next and provide a reasonable return to those doing the marketing.

* ***Gross marketing margin****:* The difference between the sale price and purchase price of a product at any stage in the marketing process.
* ***Total Gross marketing Margin:*** The difference between the consumer purchase price and the farm gate price.
* This amount can be interpreted as the cost of providing a mix of marketing services.
* **The *net marketing margin*** is the gross margin minus all costs paid to resource owners other than the marketing agent.
* **Producers share**: the proportion of consumer price received by the farmer. It should be emphasized that producers that act as middlemen also receive an additional marketing margin. The producer’s margin is calculated as a difference:

**Example**: the buying price from the farmer is birr 0.50 per kg, the weighted average wholesale selling price is birr 0.90 per kg and the weighted average retail price is birr 1.17 per kg.

Share to the producer (birr 0.50/birr 1.17 = 0.427 or 43%

Wholesale margin (birr 0.90 - birr 0.50)/birr 1.17 = 0.342 or 34%

Retail margin (birr 1.17 - birr 0.90)/birr 1.17 = 0.230 or 23%

Total margin = 0.572 or 57%

Looking at margins and changes in margins does not necessarily prove that there is a problem, but rather such examinations suggest that there may be a problem which requires further investigation by studying the marketing costs. Increases in marketing margins due to increases is marketing costs may not mean increase in profits made by those doing the marketing. Moreover, where farmers receive only a comparatively small share of the selling price this does not necessarily mean that they are being exploited. Total margins will depend on the length of the marketing chain and the extent to which the the marketing services performed. To know whether margins are reasonable it is necessary to understand the nature and composition of marketing costs.

**The reference product concept**

The calculation of marketing costs and margins is obviously a necessary prelude to determining whether these are reasonable in relation to the value added. This is true whether the perspective is that of a policy maker assessing the performance of the sector or an individual firm evaluating its own performance. There are two possible ways of proceeding.

* 1. Begin at the farm gate and follow the product through to the end consumer.
	2. Start with retail prices and calculate backwards to the farmer.

The important point is that there must be consistency in the approach adopted. For instance, because of processing and wastage, 1 kg of wheat sold by a farmer will result in, say, only 0.75 kg available for sale to the consumer. Under such circumstances one cannot compare the costs attached to 1 kg of wheat with those of 1 kg of bread because the analyst would not be comparing like with like and could not state that the difference between the two represent the costs of marketing. Similarly, it is important to know whether processing costs are measured as cost-per-unit of bread or cost-per-unit of wheat. Smith proposes that the starting point should always be 1 kg of product as sold to the consumer. This he calls the *reference product*.

**Product losses**

To calculate marketing costs and margins there are two phenomena that can confound the estimations: product losses, or shrinkage, and the value of by-products.

**Shrinkage:** During the marketing process some of the produce will be lost, stolen, spoilt or otherwise wasted so that more than 1 kg of produce is required at the beginning of a marketing stage to provide a consumer with 1 kg of the reference product. This is termed shrinkage. Sometimes the amount of shrinkage at each stage of the marketing process may seem trivial, or difficult to measure, but if it is ignored it could seriously distort the assessment of the efficiency of the marketing process.

The causes of losses/shrinkage are

* when there is a surplus, either because too much has been grown by the farmer or too much produce has been bought by the trader/retailer;
* poor harvesting techniques and bad handling on the farm (bruising, exposure to the sun); when truckers are paid on a ‘per piece’ basis, farmers and traders try to squeeze as much as possible into the package and this can be a false economy as the loss resulting from the damage caused can exceed the savings in transport costs.
* Produce can be damaged in transit, by the constant shaking on bumpy roads, by exposure to sun on top of a bus, by high temperatures inside a truck or other vehicle
* Delays and bad handling at the wholesale market can make things worse.

Smith has proposed a methodology for incorporating wastage or shrinkage rates in calculations of marketing costs and margins. The recommended procedure is to establish how much of the raw material it is necessary to purchase in order to supply the consumer with 1 kg of the reference product. The ratio between these two amounts of product is then used as a conversion factor to express all costs and margins in terms of 1 kg of the final product.

**Example:** A farmer sells tomatoes at 4 birr/kg. These are then sold by a retailer at 6 birr/kg but 10 per cent of the quantity purchased is lost in the marketing process. The only identified costs are wages which amount to 1 birr/kg of product purchased from the farmer. Since 10% (0.1 kg) of the purchased tomatoes is lost, 1 kg of them will produce only 0.9 kg of the reference product. It will thus require;



This is then used as the conversion factor for all costs, i.e. birr per kg of reference product

|  |  |
| --- | --- |
| Selling price | = birr 6.00 |
| Labour costs: 1.0 × 1.11 | = birr 1.11 |
| Total marketing costs | = birr 1.11 |
| Purchase price: 4.0 × 1.11 | = birr 4.44 |
| Gross margin (selling price - purchase price) | = birr 1.56 |
| Net margin (gross margin - all costs paid to outside resource owners) | = birr 0.45 |

**Example:** Assume that, at 10 percent loss levels, 1 kg of tomatoes purchased by the trader from the farmer results in 0.9 kg being available for sale to consumers. The trader buys tomatoes from the farmer at birr 5 per kilogram and marketing costs are birr 2 per kilogram for the tomatoes originally purchased. The selling price of tomatoes is birr 8 per kilogram. Then the costs are …

1 kg purchased at birr 5 per kg = birr 5.00

1 kg packed and transported at birr 2 per kg = birr 2.00

Total Costs = birr 7.00

Sales Revenue or birr 8 × 0.9 kg = birr 7.20

Thus the margin to the trader = birr 0.20

Below is an example of the more usual, but incorrect, method of calculation.

1 kg purchased at birr 5 per kg birr 5.00 = birr 5.00

1 kg packed and transported at birr 2 per kg = birr 2.00

10 percent losses i.e. birr 5 × 0.1= birr 0.50

Total costs = birr 7.50

Sales revenue birr 8 × 1 kg = birr 8.00

Thus the margin to the trader = birr 0.50

The second calculation is clearly wrong because the trader is seen to be obtaining revenue from produce which has already been ‘lost’.

In estimating the price the trader receives for produce he or she has probably purchased from the farmer at a fixed price per kilogram, therefore taking account of the fact that all of the consignment is unlikely to be sold at one price. Not only will there be price variations due to quality differences but prices will vary according to supply and demand in the market. To calculate the average price the trader receives there is need to calculate a weighted average price.

**Example: Calculating weighted average selling price**

|  |
| --- |
| Assume an example involving a consignment of 100 kg of tomatoes as follows:- |
| 50 kg sold at birr 2.00 | = | birr 100 |
| 20 kg sold at birr 1.40 | = | birr 28 |
| 20 kg sold at birr 1.00 | = | birr 20 |
| 5 kg sold at birr 0.40 | = | birr 2 |
| (5 kg which cannot be sold) | = | - |
| Total Revenue | = | birr 150 |
| Then the average selling price per kilogram is :- |
| birr 150/95 | = | birr 1.58 |

**Processing and by-products:** Products purchased by consumers are often very different in form from the original raw material purchased at the farm gate. Moreover, processing operations may create by-products that have a value of their own. These by-products are not, of course, part of the reference product and therefore have to be excluded from calculations of the marketing costs attached to the reference product. The value of the by-products is ‘netted out’ from the calculations, leaving only the costs and margins associated with the reference product.

**Example:** A miller purchased paddy at 25 birr per kg. The extraction rate is 70% (i.e. 1 kg paddy produces 700 g of edible rice and 300 g of by-products). The by-products sell at 5 birr per kg and the edible rice for 50 birr per kg. The total identified marketing costs (packaging, milling, storage, transport etc.) are 5 birr per kg of paddy. The reference product is 1 kg of edible rice. For each 1 kg of paddy milled, 0.3 kg of by-products is created, so to produce 1 kg of edible rice

This is the conversion factor for all costs per kg of reference product.

Selling price = 50.00 birr

Total marketing costs i.e. 5.0 × 1.429 = 7.15 birr

Purchase price of paddy, including by-products = 35.73 birr

Gross margin, net of by-products (sale price-purchase price of paddy - value of by-products) = 12.12 birr

Net margin, net of by-products (gross margin, net of by-products - total marketing costs) = 4.97 birr.

**2.6 Aspects of Marketing Efficiency**

Marketing efficiency requires the existence of a marketing system having a structure of stages and firms with in stages such that marketing costs are minimized by

* 1. The encouragement of physical innovations
	2. Competitive pricing, so that charges equal costs plus a normal rate of profit

There are seven criteria or aspects of marketing efficiency

**1. Technology:** technical efficiency has to do with the physical operations of marketing. The marketing system should utilize the best technical knowhow available and the force of competition should be allowed to work to ensure improvements.

**2. Organization**: It implies optimum combinations of marketing functions. This may entail vertical and horizontal integration to find optimum number of stages in the marketing system.

i.e the lowest cost combination

3. **Pricing:** It implies a sufficient number of firms at each stage to ensure that price reflects the true costs of marketing.

4**. Price discovery related to pricing**: the structure of the marketing system should be such that the price sufficient to clear the market supply and demand will be arrived at quickly.

5. **Product innovation**: entails developing and marketing products that will keep up with the changing needs of consumers and industry.

6. **Stable growth**: if the above are met there should be evidence of stable growth in the agricultural industry.

7. **Market coordination:** implies clear and distinct price signals transmitted by the marketing system among the stages and particularly to producers and buyers. This allows better coordination between the forces of supply and demand and intern better allocation of scarce resources within the agriculture economy.

The movement of goods from producers to consumers at the lowest possible cost consistent with the provision of the services desired by the consumer may be termed as efficient marketing. A reduction in the cost for the same level of satisfaction or increase in satisfaction at a given cost will result in efficiency.

**2.7. Evaluating Market performance and Efficiency**

The performance of a marketing system can be evaluated in terms of how well it performs in relation to what society and the market participants expect of it. The performance of a marketing strategy for the agricultural and food marketing system can be assessed through the following measures:

* The farmer’s share of the retail price paid by the end user or consumer
* The gross marketing margin or farm-retail price spread, and
* The proportion of a consumer’s income which must be spent on food.

Whatever the perspective from which a marketing system’s performance is evaluated, the terms most commonly used are efficiency and effectiveness.

Market effectiveness relates to the achievement of goals without consideration of the cost. However, markets can b

e effective but not efficient.

Marketing efficiency is the ratio of market output (satisfaction) to marketing input (cost of resources);

An increase in ratio represents improved efficiency and vice versa. Improved efficiency brought through;

* A reduction in marketing cost without reduction in consumer satisfaction
* An increment in consumer satisfaction without reduction in marketing cost
* A higher level of consumer satisfaction at higher marketing cost may mean increased efficiency if the additional satisfaction derived by consumer outweighs the additional cost incurred on the marketing process.

Increased efficiency is in the best interests of farmers, traders, processors, wholesalers, retailers, consumers and society as a whole. The efficiency of a marketing system is measured in terms of the level and/or costs to the system of the inputs, to achieve a given level and/or quality of output. Such inputs are generally in the form of land, finance, time, manpower and materials.

Typical outputs include the movement of a given amount of product to markets at specific distances, the supply of a particular level of service to target market segments and the supply of products at a target price. Hence resources are the costs and utilities are the benefits that comprise the marketing efficiency ratio. Efficient marketing optimizes the ratio between inputs and outputs.

Marketing efficiency is principally comprised of operational efficiency and pricing efficiency.

* Operational efficiency is increased when marketing costs are reduced whilst outputs are either maintained or expanded.
* Pricing efficiency is concerned with the efficient allocation of resources by a marketing system.

**Technical or Physical or Operational efficiency**:

It pertains to the cost of performing a function; Efficiency is increased when the cost of performing a function per unit of output is reduced. Improved operational efficiency is evident where marketing costs are reduced but outputs are either maintained or actually increase. Examples of operational efficiency gains would be the introduction of a less expensive method of storing grain or an innovative milk package that reduces energy costs when the product sits in retailers' refrigerators. Technological innovations are not the only avenue leading to higher levels of operational efficiency. An organization that improves its raw material procurement practices, by say centralizing purchases, buying in larger quantities or taking advantage of unit freight rates, is likely to increase operating efficiency.

In the same way, an organization that rearranges sales territories and distributes fewer but larger loads to each delivery point can improve its levels of operational efficiency. Physical losses as commodities produce or products move through the channels of distribution are another aspect of operational efficiency. The higher the losses, is the lower the level of operational efficiency.

In practice, changes in the cost of marketing influence consumers' satisfaction, and efforts to increase the customer's utility often affect marketing costs. A new marketing practice that reduces costs but also reduces consumers' satisfaction may actually reduce the efficiency ratio. Marketing firms, operating within a competitive environment, are especially well motivated in seeking to increase operational efficiency. Although their goal may be higher profits, often the benefits of improved operations accrue to customers in the form of lower prices. Competition acts as a brake on the extent to which profits increase and limits any tendency for customer service and satisfaction levels to fall.

**Pricing / Allocative efficiency:**

System is able to allocate farm products either over time, across the space or among the traders, processors and consumers at a point of time in such a way that no other allocation would make producers and consumers better off. This is achieved via pricing the product at different stages, places, and times among different users. Pricing efficiency refers to the structural characteristics of the marketing system, when the sellers are able to get the true value of their produce and the consumers receive true worth of their money.

Pricing efficiency is a second form of marketing efficiency and is based on the assumption that competitive markets are efficient. It is concerned with the ability of the marketing system to allocate resources and coordinate the entire agricultural/food production and marketing process in accordance with consumer directives. The evidence of pricing efficiency is efficient resource allocation and maximum economic output. If consumers are willing to pay three cents more per orange for orange juice than for fresh oranges, it can be inferred that the process of juicing adds three cents of form utility to fresh oranges. The pricing mechanism directly affects production, in this instance, by indicating that a certain amount of the available oranges should be processed rather than sold as fruit.

**Empirical Assessment of Marketing Efficiency**

Market efficiency can be measured in;

E =($\frac{O}{I}$)100

E = level of efficiency

O = value added to the marketing system.

I = real cost of marketing

**Chapter 3: Agricultural Product Prices**

**Price** refers to the amount of money charged for a product or service, or the sum of the values that consumers exchange for the benefits of having or using the product or service.

## Characteristics of Agricultural product prices

The characteristics of agricultural product prices are presented below to design appropriate price policy.

* Production and supply of agricultural products cannot be adjusted quickly to changes in prices or demand.
* Variability in cost of production from region to region creates prices of farm products to vary across space.
* Wide variation in quality of products and hence prices.
* The prices of farm products in general exhibit co-movement at least within a group.
* The prices of farm products in general remain low in the post-harvest period.
* There are multiple prices in the same market at a point of time.
* Agricultural prices cover prices of agricultural products (output prices) and prices of requisites for agricultural production (input prices) at various stages of marketing.

## **Demand and Supply Analysis of Farm Products**

Price theory holds that *ceteris paribus* (i.e. all other things being equal), as prices increase so demand falls and supplies increase.

**Demand**

The demand for products & services is a central issue in the study of economics. It is important to distinguish between nominal demand & effective demand. Nominal demand represents the desire to engage in a certain activity or to purchase a given good or service. Effective demand couples that concept with the ability to pay for such goods & services. E.g. we may all want a jaguar car, but not all of us can afford to pay for it.

**Factors affecting demand**

1. The price of the commodity X (Px) (**-**)
2. The income of the consumer (M)
3. For normal goods(+)
4. For inferior goods(-)
5. The price of other related goods
6. Price of substitute goods (Ps) (+)
7. Price of complement goods (Pc) (-)
8. Taste and preference of the consumer- buyer preference (T):- A change in tastes and preferences of the consumer that makes the good more popular/liked, enjoyed or supported will increase the demand for that good or service.
9. Number of population served in the market - number of buyers (Pop):- The demand for goods and services tends to increase in highly populated areas.
10. Future expectations of prices and income (E):- buyer expectation, in this case, demand will be positive if consumers expect that future price and income will rise and vice versa.

**Demand Elasticity**

Demand elasticity is a central concept in the analysis of market. The price elasticity of demand tells us the percentage change in quantity demanded resulting from a 1% change in price.

 Percentage change in quantity demanded

Price elasticity of demand = ---------------------------------------- = ∆Q x P1x100

 Percentage change in price ∆P Q1

Price elasticity is usually expressed in positive or absolute values.

**E.g**. the original price (P1) and Quantity demanded (Q1) of a given product were 5br/kg and 20 kg, respectively. As a result of the increment of the price from 5br/kg to 10 br/kg, the demand has declined to 15 kg. So the price elasticity of demand (Ed) for the above case is given as

∆Qx P1 =5x5 = 25 = 0.25

∆P Q 1 5x20 100

So according to our result, for every 1% change in price, there is a 25% change (decline) in quantity demanded.

* When the price elasticity of demand is greater than 1, demand is said to be elastic. That is, consumers respond a lot to a price change.
* When the price elasticity of demand is equal to 1, demand is unit elastic. That is, for every increment in the price, there is an equal and opposite change in quantity demanded.
* When the price elasticity of demand is less than 1, demand is inelastic and this shows that consumers do not respond much to a change in price.

**Determinants of Price Elasticity of Demand**

1. **Existence of substitutes**: the more substitutes available for a product, the more elastic is its demand because consumers easily switch from one good to another even if there is small change in price.
2. **Nature of the product**: the demand for luxuries is relatively elastic as compared with that of necessities. the greater necessity for a good ,the lower the elasticity
3. **Importance of the product in the consumer's total budget**: the greater the portion of the consumer's budget to a product, the more elastic is the demand for that product. The higher percentage of consumer income used to pay for a product , the higher the elasticity
4. **Time period:**  elasticity tends to be greater over the long run since consumers adjust their behavior. the elasticity is lower in short run since it is difficult for consumer to find substitute in response to price change

**Price elasticity of demand and Total Revenue**

Total revenue (TR) is equal to price times quantity sold.

* If demand is elastic, a large increase in price causes a relatively larger decline in quantity demanded and this will finally cause for a fall in TR. But the vice versa is true if there is a large decline in price for this demand elastic commodity.
* If demand is inelastic, a large rise in price causes a relatively small reduction in Quantity demanded and this makes total revenue to increase .The vice versa is true if there is a large decline in price for this demand inelastic products.

**Income elasticity of demand (Em)**

It measures the percentage change in the number of units of a good consumers demand, other things being equal, resulting from each 1% change in income. Income elasticity of demand for a commodity may be positive or negative. To sum up, when Em is negative, the commodity is inferior. If Em is positive, the commodity is normal (either luxury or necessity). A good is luxury if Em> 1 and usually a necessity if Em<1.

* The demand for normal goods increase as income rises.
* The demand for inferior goods decrease as income rises.

**Cross price elasticity of demand (Exy)**

Another useful price elasticity concept is the cross price elasticity of demand, which measures the sensitivity of purchases of one good to changes in the price of another good. To measure the cross price elasticity of demand b/n the demand for commodity X and price of some other good Y, we say:-

Exy= $\frac{\%∆ in Qx}{\%∆ in Py}$

Exy tells whether the two goods, are substitutes, complements, or independent (unrelated).

**Example**-**1** consider two farm produces X and Y, and assume that the price of Y rises from 8 birr to 11 birr, the quantity demanded of X decreases from 25 units to 20 units. Calculate the Exy and identify what type of commodities are X and Y?

**Supply**

Supply is the quantity of a commodity that producers are willing and able to offer for sale at a certain price. Both willingness and ability to supply are its essential features. The relationship between the price of the commodity and willingness of producers to sell the produce is a positive one.

**Factors affecting supply**

The factors on which supply of a commodity depends are:-

1. Price of the commodity itself (Px) (**+**); as the price of the products/commodities increase, the supply of that specific commodity will also increase.
2. Price of related goods;

a. Price of substitute goods (Ps) (-)

b. Price of complement goods (Pc) (+)

1. Price of factors of production (Fp) (-); as the price of inputs /cost of production increases, the supply of the product which requires this inputs will decline.
2. State of production technology (T) (-, +); as there are more technologies to improve the production/supply of a product, the supply of that product also increases.
3. Number of suppliers serving the market (N) (+);more sellers in the market increase the market supply
4. Tax and subsidies; tax reduce profit, increase in tax reduce supply. subsidy reduce the burden of production cost on supplier, thus increase the profit as well supply
5. Expectations about future prices (Ep) (- +);if producers expect future price to be higher ,they will try to hold on their inventories to capture the future higher price.

**Supply elasticity**

Measure shows how proportional changes in market price are met by changes in total output.

Elasticity of supply (Es)=.

Because quantity supplied is an increasing function of price, the supply elasticity is positive. High values for Es imply that small increases in market price lead to a relatively large supply response by firms. Alternatively, a low value for Es implies that it takes relatively large changes in price to induce firms to change their output levels.

**Systems of price discovery for farm products;**

## Price Discovery in Agricultural markets

* Price discovery is the process of buyers and sellers arriving at a transaction price for a given quality and quantity of a product at a given time and place.
* Prices of agricultural products are established through the process of price discovery. The process is based on interaction between the forces of market supply and demand.
* Price discovery is what gets specific sellers and specific buyers to move from establishing general price to agreeing on a specific price of goods and services based on attendant factors like place and cost of transaction, quality, size of lot, production cost etc.
* It is an act of determining the proper price of a commodity by studying market demand, supply and other factors associated with transaction.

Five systems of price discovery for farm products have been identified: 1. Individual, decentralized negotiation 2. Organized, central market trading 3.Formula pricing 4.Bargained Prices 5. Administered Prices

1. **Individual, decentralized negotiations**
Each farmer bargains separately with buyers of farm products until a price is established. Private treaty negotiations are quite common in agriculture. The resulting fairness of prices depends on the information, trading skills, and relative bargaining power of buyers and sellers. **Consequently, price discovered in this way tend to vary widely for different transactions.**
The time and energy costs of this form of price discovery are rather high compared with the alternatives.
2. **Organized, Central Markets**
The central markets shift the locus of price discovery from the farm gate to a central marketplace. All buyers and sellers and their supplies and demand are represented in the central market. These markets generate considerably more information than private treaty markets and probably also reduce some costs of price discovery. Examples: Terminal markets, auction markets
3. **Formula pricing Systems**Formula pricing system evolved in attempt to secure the benefits of central market price discovery without physically routing all produce through central markets. Egg producers for example, frequently are paid a formula price by the government. These prices are adjusted, again by formula, for transport costs and quality differences.

**Formula pricing can reduce transaction and bargaining costs.**
However, formulas can become obsolete, moreover, they require at least one “correct” price on which to base other prices.

1. **Bargained prices** Bargaining implies collective pricing on the part of farmers. The collective bargaining process used in labor is frequently cited as the model for farmers to follow in order to discover farm prices.
2. **Administered Pricing Systems** The government becomes a third party in the price discovery process. Price supports, price ceilings, and supply control programs are the techniques of administered pricing that have been used for a number of agricultural products.

**Pricing Decisions**

When making pricing decisions marketers have to take into account a range of factors.

* Internal
* marketing objectives,
* marketing mix strategy and
* the structure of costs.
* External
* the state of market development,
* the pattern of supply and demand,
* the nature and level of competition and
* a host of environmental considerations (e.g. legislation, political initiatives, social norms and trends within the economy)

**Pricing objectives**

Whilst pricing objectives vary from firm to firm, they can be classified into six major groups:

1. **Profitability objectives**

These profits may be measured in monetary values and/or as a percentage of sales and/or as a percentage of total capital employed.

**Target return on investment** (ROI) :profit as a percentage of either sales or assets. **Maximizing revenues:** When it is difficult to calculate cost functions (e.g. when costs are indirect and/or are shared by different products) marketing managers often seek to maximize revenues when setting prices.

1. **Volume objectives**

In these cases, organizations set a minimum acceptable profit level and then set out to maximize sales subject to this profit constraint.

**Maximizing market share:** Another volume-related pricing objective is the maximization of market share. There is frequently a positive relationship between high market share and profitability since the additional volumes help lower unit production costs.

1. **Competitive objectives**

Take into account the current behavior of competitors and seek to anticipate the future behavior of those competitors.

**Going-rate pricing:** Competing firms will sometimes set out to match the industry leader's prices. The net result is to take the emphasis away from price competition and refocus competition on to other elements of the marketing mix.

**Anti-competitive pricing:** On occasion, a firm will price its products with a view to discouraging competitors from entering the market or to force them out of the market. This is done by maintaining relatively low prices and profit margins.

1. **Prestige objectives**
* Are unrelated to profitability or volume objectives.
* These involve establishing relatively high prices to develop and maintain an image of quality and exclusiveness that appeals to status-conscious consumers.
1. **Strategic marketing objectives**

**Price stabilization:** The objective of stabilizing prices is met in the same way as that of removing price as the basis of competition. That is, the company will seek to maintain its own prices at or around those of competitors.

**Supporting other products:** Pricing decisions are often focused upon the aim of maximizing total profits rather than maximizing profits obtained from any single product within the portfolio.

**Maintaining cash flow:** It follows that the maintenance of a sound cash flow position is an important management objective.

**Target markets:** The sensitivity of buyers to prices can vary across different market segments. Some consumers will view products as commodities and therefore purchase mainly, or wholly, on price.

**Product positioning:** The category into which a product is placed by consumers, and its relative standing within that category. The same product can hold different positions depending upon which segments of its market are under consideration.

1. **Relationship marketing**

Commercial organizations have several important publics (consumers, members of the channel of distribution, suppliers, the general public, shareholders and government ) with which they must establish and maintain relations conductive to a positive operating environment.

**Pricing strategies**

Pricing strategies are of two generic types:

1. Market-oriented methods
* market-oriented approaches are reactive to market conditions and are shaped by the organization's marketing goals.
1. cost-plus methods
* Are proactive, in that prices are largely determined by the organization's financial performance objectives
	+ 1. **Cost-plus methods of price determination**

The cost-plus approach to pricing is possibly the most used method. This involves calculating all the costs associated with producing and marketing a product on a per unit basis and then adding a margin to provide a profit. The per unit profit can be expressed either as a percentage of the cost, in which case it is referred to as the ***mark-up***, or as a percentage of the selling price, when it is referred to as the ***mark-on*,** or margin.



The two most common cost-oriented pricing procedures are full-cost pricing and incremental-cost pricing.

**Breakeven analysis**

The breakeven point is where the number of units of the product sold, at a given price, is just sufficient to cover both the fixed and variable costs incurred. At sales volumes above the breakeven point the firm moves into profit and at sales volumes below the breakeven point the firm is making losses.

The formula that needs to be applied to obtain the breakeven point is:



Breakeven analysis is a tool which helps marketers evaluate the dynamic relationships between costs, volumes, revenues and profits with a view to making pricing decisions.

1. **Market-oriented pricing**

Market-oriented pricing begins from a consideration of factors external to the organization, i.e. the marketplace.

* 1. **Skimming and penetration;** Two broad alternatives are open to companies launching new products on to the market: skimming or penetrating.

**Skimming strategies**

* Involve setting high prices and heavily promoting the new product. The aim is to “skim the rich cream” off the top of the market.
* Profit objectives are achieved through a large margin per unit rather than by maximizing sales volumes.
* Can only really be employed where there is relatively inelastic demand. This is likely to be the case where the product has unique benefits and/or features which the consumer values.
* May have to be altered if competitors are able to produce a similar product.

**Penetration strategies**

* Aim to achieve entry into the mass market.
* The emphasis is upon volume sales.
* Unit prices tend to be low.
* This facilitates the rapid adoption and diffusion of the new product.
* Profit objectives are achieved through gaining a sizeable sales volume rather than a large margin per unit.
	1. **Discriminatory pricing**

Discriminatory pricing involves the company selling a product/service at two or more prices, where the differences in prices are not based on differences in costs. Discriminatory pricing takes one of several forms:

1. **Segmentation pricing**: That is, prices are set to achieve an organisation's objectives within each segment. Customers in different segments will pay different prices, for the same product.
2. **Product-form pricing**: Here different versions of the product are priced differentially, but often not in proportion to differences in their costs.
3. **Time pricing:** This involves varying prices seasonally. Typically this is done to encourage demand by reducing prices at times when sales are seasonally low and by raising prices to contain demand when it is strong and likely to outstrip supply.
	1. **Psychological pricing**

Pricing has psychological as well as economic dimensions and marketers should take this into account when making pricing decisions.

**Quality pricing:** When buyers cannot judge quality by examining the product for themselves or through previous experience with it, or because they lack expertise, price becomes an important quality signal. Consequently, if the product is priced at too low a level then its quality may be perceived to be low as well.

**Odd pricing:** Odd pricing can create the illusion that a product is less costly than it actually is, for the buyer. An odd numbered price, like birr 9.99, will be more appealing than birr 10, supposedly because the buyer focuses on the 9.

**Price Lining:** Since most organizations market a range of products, an effective pricing strategy must consider the relationship among all of these product lines instead of viewing each in isolation. Product line pricing is the practice of marketing merchandise at a limited number of prices. For instance, a wine company might have 3 lines of wine, one priced at 45 birr, a second at 70 birr and a third at 95 birr. These price points are important factors in achieving product line differentiation and enable the company to serve several market segments.

**Customary pricing:** In some markets and in the case of certain low cost products, such as, root vegetables and, in some instances, staple foodstuffs, there is widespread resistance to even modest price increases. Under such circumstances a common strategy is to maintain the unit price as far as is possible whilst reducing the size of the unit.

* 1. **Geographical pricing**

Geographic considerations sometimes figure in pricing decisions. The main options are:

**FOB pricing:** With FOB pricing all customers pay the same ex-factory price and the goods are placed free on board (FOB) a carrier, at which point the title and responsibility pass to the customer, who pays the freight from that point onward. Sales contracts will specify whether the terms are “FOB factory” or “FOB destination.” In the case of the former, purchasers pay all transportation costs beyond the factory gates whilst in the case of the latter the supplier meets all of the costs incurred up to the point where the goods are delivered to the customer.

FOB pricing is fair in so much that each customer picks up his own transport cost. The disadvantage is that for more distant customers a supplier operating the FOB factory pricing system will seem a high cost source of supply. The buyer's problem is overcome if the supplier applies FOB destination pricing, but the supplier's profit margin can be eroded to a substantial extent.

**Uniform delivered pricing:** Uniform delivered pricing is the opposite of FOB pricing. The company adopts pan-territorial pricing. The selling price incorporates a freight charge never explicitly identified as such to the buyer which is an average of total freight costs. This system has the advantage that it is easy to administer and the company can advertise its prices nationally. There is always the problem, however, that those customers situated in close proximity to the manufacturer will find cheaper supplies from other manufacturers in the locality offering FOB prices.

**Zone pricing:** Zone pricing falls between FOB origin pricing and uniform delivered pricing. The company sets up a series of geographical zones. All customers within a zone pay the same total price and this price is higher in the more distant zones. This system can work well enough except that the dividing line between zones has to be drawn somewhere. Customers falling just to the right and the left of the line will be asked to pay quite different prices even though they are close to one another.

**Freight absorption pricing:** The seller who is anxious to do business with a certain customer or geographical area might absorb all or part of the transport cost in order to get the business. This is termed freight absorption pricing. The seller might reason that gaining more business will result in lower average costs and that this will more than compensate for the extra freight cost. It is useful in achieving market penetration and also in holding on to increasingly competitive markets.

* 1. **Promotional pricing:** From time to time organizations might temporarily reduce prices to increase sales. This is promotional pricing and it takes several forms.
* ***Loss leaders*** pricing
* ***special event pricing***
* **offer *cash rebates***
	1. **Administered pricing**

Prices are imposed on the market by some external body, like by government in most developing countries.

**3.4 Measuring Changes in the General Level of Prices**

When tracking the path of income, wages, and prices of various goods and services through time, it is important to adjust for changes in the general level of prices. Economists use the term “inflation” when referring to increases in the general level of prices. Price indexes are used to track the general price level and measure inflation. The term “real” is used to indicate that income and other figures have been adjusted for the effects of inflation. Thus, when you see terms like “real income” or “real wages,” this simply means that the figures have been adjusted for changes in the general level of prices across time. When comparing data at different points in time, it is nearly always the real changes that are of most interest.

What precisely is a price index, and how can it be used to adjust income and other figures for the effects of inflation? ***A price index measures the cost of purchasing a market basket (or “bundle”) of goods and services at a point in time relative to the cost of purchasing the identical market basket during an earlier reference period***. A base year (or period) is chosen and assigned a value of 100. As prices increase and the cost of purchasing the reference bundle of goods and services rises relative to the base year, the price index increases proportionally. Thus, a price index of 110 in one year indicates that the general level of prices is 10 percent (110 – 100) higher than during the base period of 100. An index of 120 implies 20 percent higher prices than the base period, and so on.

The most commonly used price index is the Consumer Price Index, or CPI.

A bundle of 211 items that constitute the “typical bundle” purchased by urban consumers during the 1982–1984 base period provides the foundation for the CPI. The quantity of each good or service reflects the quantity actually purchased by the typical urban household during the base period.

Every month, the Bureau of Labor Statistics surveys approximately 26,400 stores representative of the urban United States to derive the average price for each of the food items, consumer goods and services, housing, and property taxes included in the index. The cost of purchasing this 211-item market basket at current prices is then compared to the cost of purchasing the same market basket at base-year prices. If the cost of purchasing the basket during a period is greater than during the 1982-1984 base period, the CPI will be proportionally greater than 100. This indicates how much higher the general level of prices in the specified period is relative to the base. Correspondingly, a CPI of less than 100 would indicate that the general level of prices was less than during the base period.

The result is a measure of current prices compared to 1982–1984 base-period prices. In November 2015 the value of the CPI was 237, compared to the 100 of the 1982–1984 base period. This indicates that the price level of the representative basket in November 2015 was 137 percent higher than the price level of the same goods and services during the 1982–1984 period.

**CPI:** is an indicator which measures average changes over time in prices of fixed basket of goods and services of constant quality and quantity that a reference population acquires, use or pay for consumption.

**- Average measure**

**- Change over time**

**- Goods and services for personal consumption, not for purpose of investment.**

**Consumption:** all goods and services that are acquired, used or paid for by households but not for business purposes and not for the acquisition of wealth.

**Limitations of CPI:** does not match current individual consumption

 Wide individual variations around “average”

 Does not reflect budget reallocations

 Reflects price changes, not absolute levels

 Not “cost of living”

Measures time-to -time, not place- to- place changes

 It is not complete measure of all price changes in an economy

**The Calculation of the Inflation Rate**

The annual inflation rate is simply the percentage change from one year to the next in the general level of prices. The CPI is commonly used to calculate the rate of inflation. The inflation rate is equal to:

𝐼𝑛𝑓𝑙𝑎𝑡𝑖𝑜𝑛 𝑅𝑎𝑡𝑒 (%)= 𝐶𝑃𝐼 𝑖𝑛 𝑃𝑒𝑟𝑖𝑜𝑑 2−𝐶𝑃𝐼 𝑖𝑛 𝑃𝑒𝑟𝑖𝑜𝑑 1 × 100

 𝐶𝑃𝐼 𝑖𝑛 𝑃𝑒𝑟𝑖𝑜𝑑 1

If the price index this year was 210, compared to 200 last year, for example, the inflation rate would equal 5 percent (210 minus 200 divided by 200; this ratio is then multiplied by 100 in order to present it in percent form.)

**3.5 Measuring impacts of price changes**

***The* consumer price index *is designed to measure the impact of price changes on the cost of the typical bundle of goods and services purchased by households.***

# Chapter Four: Market structure-conduct-performance analysis

The Structure-Conduct-Performance model (SCP) defined as the relationship between market structure, firm conduct and firm performance.

The term ***market structure***, in the framework of SCP model, refers to the number of firms serving in the entire industry. Market structure responds to the internal variables, such as competition and regulation, as well as to external variables, such as technological changes, economic and population situations.

The term ***market conduct*** refers to the patterns of behavior that firms follow in adapting or adjusting to the markets in which they sell or buy. This includes pricing, marketing and innovative behaviors of the business.

The term **market *performance*** refers to the quantity and quality of products and services provided by the firm in the industry.

## Market Structure

Market Structure – those characteristics of the market that significantly affect the behavior and interaction of buyers and sellers. Market structure is defined as characteristics of the organization of a market which seem to influence strategically the nature of competition and pricing behavior within the market.

Structural characteristics may be used as a basis for classifying markets. Markets may be perfectly competitive; monopolistic; or oligopolistic. There are other market organizations in between the two extreme cases of monopoly and perfect competition.

**Table 1: Characteristics of market structures**



The main criteria by which one can distinguish between different market structures are the salient aspects or elements of market structure discussed below. The first three are the most important aspects of market structure.

* + 1. Degree of seller and buyer concentration or competition, which refers to the number and size distribution of these firms in relation to the size of the market.
		2. Degree of product differentiation or standardization,
		3. Conditions of entry (Barriers of entry or freedom to entry into and the exit from the market),
		4. Flow of market information or market transparency,
		5. Degree of vertical integration,
		6. Industry maturity or institutions,
		7. Governmental participation, and
		8. The degree of control the firm has over price.

These elements measure the extent of deviations from the perfectly competitive norm. The larger the deviation, the more imperfectly competitive is the market, *i.e.,* the extreme case would be monopoly. Generally, the structure of a market can be determined by these structural elements:

***Market concentration*** or the concentration of market power is an important element determining the nature of competition and consequently of market conduct and performance. This is measured by the *number* and *size* of firms existing in the market. The extent of concentration represents the control of an individual firm or group of firms over the buying and selling of the produce. A high degree of market concentration restricts the movement of goods between buyers and sellers at fair and competitive prices, and creates an oligopoly or oligopsony situation in the market.

**Degree of *product differentiation*** is related to the extent of product differences or heterogeneity as a result of various product attributes attached to each type of the product. Whether or not the products are homogeneous affects the market structure. If products are homogeneous, the price variation in the market will not be wide. When products are heterogeneous, firms have the tendency to charge different prices for their products. Everyone tries to prove that his product is superior to the products of others.

Another dimension of the market structure is the prevalence of ***entry barriers***. It is the restriction, if any, on the entry of firms in the market. Sometimes, a few big firms do not allow new firms to enter the market or make their entry difficult by dominance in the market using their high cost of entry and scale economies. There may also be some government restrictions on the entry of firms.

**Flow of *market information*** may be the fourth element and can be barrier to entry. A well-organized market intelligence information system helps all the buyers and sellers freely interact with one another in arriving at prices. The symmetry of market information is also important factor.

**Degree of *vertical integration*** is a basic feature of competitive market structure. The behavior of an integrated market will be different from that of a market where there is no or less integration either among the firms or of their activities. Other factors include industry maturity and governmental participation.

**Measuring market and industrial concentration**

The greater the degree of concentration, the greater the possibility of non-competitive behavior (such as collusion) existing in the market. There is usually a positive association between seller concentration and profitability. This is because market concentration is a function of the number of firms and their respective shares of the total production or volume of supply mobilized in a market. The size and the total capacity of the firm have something to do with concentration. Alternatively, market concentration can also be termed as industry concentration or seller concentration.

As an economic tool market concentration is useful because it reflects the degree of competition in the market. The original concern with market concentration may be based on the relationship between high concentration and collusion. There are theoretical models of market interaction that predict that an increase in market concentration will result in higher prices and lower consumer welfare even in the absence of explicit collusion.

The common methods of measuring market concentration are **market concentration ratio, Herfindall- Hirschman Index and gini coefficient.**

1. **Market concentration ratio**

The concentration ratio of an industry is used as an indicator of the relative size of firms in relation to the industry as a whole. It is calculated as the sum of the percent market share of the top *n* firms. This may also assist in determining the market structure of the industry. One commonly used concentration ratios the *four-firm concentration ratio* (C4) and only few studies used the first eight largest firms (k = 8). C4consists of the market share of the four largest firms as a percentage of the total volume of goods or services mobilized in the total industry. The higher the concentration ratio, the greater the market power of the leading firms.

Market concentration ratio is, therefore, traditionally measured as

 

where *Ck=* Concentration ratio for the first k largest firms,

 *Si =* The percentage market share of ith firm, and n is the number of firms for which the ratio is computed.

Market share is the percentage of the total market serviced by a firm. Share can be by sales, employment or any other relevant indicator (e.g. quantity of product handled by each unit, *i.e.* wholesaler/buyer, as a percentage of total volume handled in a market). Market share calculated as follows.



Where,

*Qi =*Amount of product Q handled by firm i, and

$\sum\_{}^{}Q$ *=* Total amount of product Q handled.

Firms of market structure can be classified by their concentration ratio as indicated in Table 2.

**Table 2: classification of markets based on concentration ratio**



**Table 3: market concentration within and comparison across industries**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Firms  | Industry X | Firms  | Industry y |  |
| Volume (Qt) | Market share (%) | Volume (Qt) | Market share (%) |
| Firm A | 16000 | 20 | Firm 1 | 1200 | 3 |
| Firm B | 12000 | 15 | Firm 2 | 800 | 2 |
| Firm C | 8800 | 11 | Firm 3 | 1600 | 4 |
| Firm D | 4000 | 5 | Firm 4 | 400 | 1 |
| Firm E | 20000 | 25 | Firm 5 | 1200 | 3 |
| Firm F | 7200 | 9 | Firm 6 | 2000 | 5 |
| All other | 12000 | 15 | All other | 32800 | 82 |
| Total  | 80,000 | 100 | Total  | 40000 | 100 |

Based on the example, the four-firm concentration ratio (C4), in Industry X is:

C4= 25 +20+ 15+ 11 =71%

These concentration ratios in Industry X indicate a high degree of concentration. In the market four firms control 71% of the total commodity or service sold in the market. The opposite situation can be captured by computing the concentration ratios in Industry Y. The first four-firm ratios are:

C4= 5 +4+ 3+ 3 =15%

The four- firm concentration ratios for Industry Y indicate a low degree of concentration and thus more competition than the first industry.

**Herfindahl index**

The Herfindahl index (H), also known as Herfindahl-Hirschman Index (after names of the

economistsOrris C. Herfindahl and Albert O. Hirschman) is a measure of the size of firms in relation to the industry or business line and an indicator of the amount of competition among them. It is defined as the sum of the squares of the market shares of the 50 largest firms (or summed over all the firms if there are fewer than 50) within the industry. The market shares are expressed as fractions. The result is proportional to the average market share, weighted by market share. Increases in the Herfindahl index generally indicate a decrease in competition and an increase of market power, whereas decreases indicate the opposite. The major benefit of the Herfindahl index as compared to the concentration ratio is that it gives more weight to larger firms.

The Herfindahl index is computed as



If we consider a market with two firms that each have 60% and 40% market share, the

Herfindahl index equals



The Herfindahl index ranges from 1 / N to one, where N is the number of firms in the market.

Equivalently, the index can range up to 10,000, if percents are used as whole numbers, as in 60 instead of 0.60. The maximum in this case is 1002 = 10,000. The interpretation and implications of the various sizes of the index are indicated in Table 4.

**Table 4: Interpretation of the Herfindahl Index**



A small index indicates a competitive industry with no dominant players

## Market Conduct

Market conduct refers to the patterns of behavior that firms follow in adapting or adjusting to the markets in which they sell or buy. Thus, in the absence of a theoretical framework for market analysis, there is a tendency to treat conduct variables in a descriptive manner.

Market conduct refers to the patterns of behavior that traders follow and how they adjust to changing market conditions. **The features or elements of market conduct include pricing strategies, collusive behavior, mergers**, etc. For example, in an environment where there are many buyers and sellers, the market tends to determine the price. If one trader tries to increase his or her price, he or she sells nothing. This means that households buy food commodities and agricultural inputs at prices that equal to the costs of producing the last unit of the commodities (marginal cost). In contrast, if there are only a few sellers of food commodities in a market, these few traders can conspire and charge consumers higher prices.

**1. Pricing strategies**

The behaviour of firms in setting their prices also plays a vital role in the S-C-P paradigm.

Here the following questions are important. Who sets the price? How are prices determined?

Price strategies like price discrimination, predatory pricing, and price fixing are only a few examples. Price discrimination refers to a situation where firms are selling the same product at different prices to different customers. Price fixing on the other hand refers to a situation where market structure does not allow sellers to sell products at prices below listed prices.

The predatory pricing on the other hand allow products to be sold at prices below production costs. The main purpose of these strategies is to acquire market share, thus monopolistic profits.

**2. Mergers**

Market conduct can also be viewed as a way in which the firms behave in order to increase market share. Three different types of mergers can be identified namely, horizontal mergers, vertical mergers and conglomerate mergers.

Horizontal mergers occur when firms in the same industry combine. Vertical mergers occur when firms combine at different stages of the production process. Conglomerate mergers on the other hand combine unrelated firms.

**3. Collusive behavior**

Imperfect competition in the market does not always depend on the size of firms, but also on the behavior of firms. In a market with few competitors firms can decide whether to be non-co- operative or cooperative. In order to minimize competition amongst them; firms tend to co-operate engaging in collusion. This creates a situation where firms jointly set prices and outputs as well as sharing the market amongst them. Cartelization is another form of collusive behavior. It comprises of a set of independent firms that produces similar products working together to raise prices and restricts output.

There are no agreed upon procedures for analyzing the elements of market conduct. Rather, previous studies point out some guidelines in the form of questions. The questions provide a systematic way to detect indications of unfair price-setting practices and the conditions under which such practices are likely to prevail. More specifically they cover the following topics:

* The existence of formal and informal marketing groups that perpetuate such practice;
* Formal and informal producer groups that affect bargaining power;
* The availability of price information and its impact on prevailing prices;
* The distance from the major market and its impact on prices; and
* The feasibility of utilizing alternative market outlets.

## Market Performance

Performance of the market is reflection of the impact of structure and conduct on product price, costs and the volume and quality of output (Cramers and Jensen, 1982). If the market structure in an industry resembles monopoly rather than pure competition, then one expects poor market performance.

Market performance may be defined as the composition of end results in the dimensions of price, output, production cost, selling cost, product design and so forth which enterprises arrive at in any market as the consequences of pursuing whatever lines of conduct they espouse(adopt). It refers to the extent to which markets result in outcomes that are deemed good or preferred by society.

Price levels and stability (long-run, short-run and through space), profits, margins and costs volumes, product quality and variety and distributions within the market are some indicators of market performance.

**1. Price levels and stability**

***i. In the long run***

If consumer prices for goods are higher than normal during the same period of time in previous years, then market dependant households with fixed amount of money have reduced access to goods from the market. However, if prices are stable and affordable, households that depend on the market for food, become more food secure.

***ii. Over space***

The difference between consumer prices in two nearby locations differs by more than transport, marketing and transaction costs. This spatial difference can indicate that areas with high prices are more affected compared to those where prices of staple food crops are lower.

Factors that cause this include poor infrastructure, civil unrest and climatic conditions.

***iii. In the short run***

Consumer prices of food crops and products change very frequently over a short period of time in some areas. This subjects poor households to uncertainty and possibly reoccurring price shocks because food becomes very expensive to buy and planning or budgeting for basic food expenditures becomes very difficult.

**2. Profits (net returns)**

If traders receive excessive profits or net returns from sales of food commodities, this implies that traders are overcharging food commodities, compared to costs they incur, thus reducing the amount of food that poor households can access relative to fixed incomes.

**3. Margins and costs**

There are large differences between prices paid by consumers and prices received by farmers compared to marketing, processing and transaction costs for a given commodity. This indicates that produce buyers or processors are underpaying households that produce agricultural commodities and/or overcharging households that buy food commodities for consumption. These two phenomena reduce incomes of agricultural households and food access for households that depend on the market as a source of food, exposing them to food insecurity.

**4. Volumes (quantity)**

If there is a regular supply (volume) of staple food crops and livestock products entering the market, then there will not be shortages of food crops in the markets. This is good for food availability. If, however, the quantity of food entering the market falls below the usual average, then prices can increase, reducing the amount of food that households can access.

**5. Product quality and variety**

If the quality of food in the market is poor or below acceptable standards, which could have nutritional implications for households and particular members of households, then households are not able to consume the right amount of food with the required composition of nutrients for productive health. If food varieties are limited or different from the types that

are preferred or typically consumed in some parts of a country, then households that do not access the food they prefer or a variety of nutritious foods will be affected.

**6. Distribution within market**

If there are regular supplies to different markets in the country, then access to food to all areas including those with vulnerable populations increases welfare.

 Market performance requires having some benchmark measurements from which comparisons can be made in order to judge deviations from what society considers normal. Thus, determining market performance is subjective. For example, when would a price be fair? And fair to whom? For example, a trader who charges a higher price than the cost for a given quantity of a commodity can say that the market is performing excellently yet the consumer who pays the higher price can say the market is performing poorly.

# Chapter 5: Price integration Application of market classification

## Temporal Price Variation

* **Price variation also called Price instability/ volatility/ variability.**
* Price volatility: high variability in prices, both on the high side and on the low side
* Most serious when the changes are not fully predictable
* Impacts:
	+ - On consumers, specially the poor
		- On farmers
		- On political stability
		- On peace and pattern of economic growth

**Temporal price variation** it is volatility in price of a commodity over time. It is a function of time.

### Sources and measures of price variation

* **Source of price variation**

Products with unstable condition of supply and demand experiences price fluctuation. for many products there are seasonal variation in demand which cause price to raise sharply at the peak time and then fall back in the off peak period.

Agricultural product price tends to be volatile because,

* Supply change because of weather condition which affect the size of the harvest
* When supply falls short of planned output for a given demand , price wll rise i.e lower food stock
* When actual output in excess of planned output for a given level of demand, market price will fall
* Long period separates planting decision from harvest, thus there is no knowledge of future price
* Agricultural products are perishable and cannot be stored for a long period to maintain demand over time.
* Urbanization: increase urbanization leads to increase in demand for agricultural commodity, which rise price.
* Energy shocks (Oil prices and biofuel production)
* Exchange rate fluctuations
* Financial speculation
* Low agricultural Productivity
* Trade barrier (export and import): trade policy causes price of a product either to fall or raise. Government actions have make worse the global price volatility through their trade policies
	+ - **When prices are high**: tax/restrict exports and subsidize imports.
		- **When price are low**: subsidize exports and tax/restrict imports
* These opposite actions
	+ - Make international prices more volatile by moving supply and demand in opposite directions and reducing the volume in international markets
		- Reduce incentives to farmers to produce more when prices are high
		- Reduce government revenues in periods of high prices that could finance agricultural expansion.

**Impacts of price volatility:**

* Farmers struggle to plan their economic activities, as price volatility makes it difficult to obtain a reasonable price every year.
* The instability means that prices often do not serve as signals for farmers to make decisions on what to plant and when.
* Thus, the impact of price volatility on actors in the agricultural industry is mostly negative.
* However, some actors benefit from the increased intra-annual food prices to recoup costs of their operations. This is the case for market intermediaries, but also producers who can store produce and market it as a group (collective marketing).
* **Measure of temporal price variation**
* If Pt is the price of food commodity in time period t, then price variation (V) defined as

$$V=\frac{Pt-P\_{t-1}}{P\_{t-1}}$$

When the absolute value of V is larger, there is high variation and volatile price.

 When the absolute value of V is small, we can say there is low variation and more stable price

Example price of corn per kg is given as

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year  | 2010 | 2011 | 2012 | 2013 |
| Price  | 10 | 8 | 12 | 6 |

What is the price variation of corn between 2010-2012, 2012-2013 and 2010-2013

**Coefficient of Variation**

The coefficient of variation is a *relative measure* of variation. It is always expressed as a percentage rather than in terms of the units of the data. The CV measures the scatter in the data relative to the mean $CV=\left(\frac{s}{\overbar{x}}\right)\*100\%$

From our example S= 156.2, X = 280.4, so CV = 156.2/280.4\*100 = 55.7

### This statistic is most useful when making comparisons across different types of data that might use different scales or different units of measurement. It makes it easier to compare apples to oranges.

### Protection against price risk

Responses to price volatility can be grouped into **those stabilizing prices and those reducing the effects of price instability**. For each type of response, two possible interventions are available: **market-based and government-based ones**. The combination of these two dimensions (responses and interventions) gives rise to four different options to deal with price instability. Each option is more suited for different stages of development.

The four different options are:

* *Category A*: market-based approaches to stabilize prices;
* *Category B*: market-based approaches to reduce the effects of price instability;
* *Category C*: public approaches to stabilize prices; and
* *Category D*: public approaches to reduce the effects of price instability.

**Actions to reduce and manage volatility**

* **Reduce volatility**
	+ Reducing barriers to trade > strengthen WTO disciplines on export restrictions
	+ More flexible biofuels mandates
	+ Better information on production and stocks
	+ More “weather proofing ‘’of production
	+ Regulatory oversight on speculation
	+ Stocks

N.B. Read about **warehouse receipt systems (WRS)** which are a relatively modern risk management tool, instrumental in reducing price volatility.

* **Managing volatility**
	+ Weather based insurance
	+ Financial reserves and lending facilities
	+ More target, market compatible social safety nets rather than using trade policy as a social safety net

## Spatial price variation

**Spatial price variation** is the variation across the landscape that is normally associated with population, factors causing geographical difference that affect soil type, weather pattern across the land scape.

* Differences in prices between the various geographic regions within the country.

### Price difference and transfer cost

The general price level of an agricultural commodity, at different geographical location is influenced by a variety of market forces that can alter the current or expected balance between supply and demand.

Many of these forces emanate from domestic food, feed, and industrial-use markets and include:

* consumer preferences and the changing needs of end users;
* factors affecting the production processes (e.g., weather, input costs, pests, diseases, etc.);
* relative prices of crops that can substitute in either production or consumption;
* government policies;
* factors affecting storage and transportation; and
* International market conditions are also important depending on the “openness” of a country’s domestic market to international competition, and the degree to which a country engages in international trade.

**Transfer Costs:**

Total opportunity cost of moving an item from one place to another, including transport costs, loading and unloading costs and administrative costs.

In competitive markets, transfer costs — loading or handling and transportation charges — are usually the most important factors in determining spatial (i.e., location-based) price differentials. In the international marketplace, transfer costs include barriers to trade such as tariffs and quotas. The more it costs to transport a commodity to a buyer, the less the producer will receive and vice versa. Price differentials between regions cannot exceed transfer costs for very long as marketers will quickly move commodities from the low-priced markets (raising prices there) and ship them to the higher-priced markets (lowering prices there).

In doing spatial price analysis, time series of prices are typically the best a field analyst can access on short notice. So the first step is to acquire and examine the price time series one can obtain.

The first task is to make sure that data are comparable. Find out how, where and when the data are collected. In particular, make sure the commodity measured is really the same across markets and/or over time. Common errors include:

* Comparing retail series in one market against wholesale series in another.
* Comparing raw commodity prices (e.g., paddy, granular maize) with processed products made from those commodities (e.g., polished rice, maize meal).
* Failing to convert prices to a common currency and to a common physical unit of account (e.g., Qt) so that the prices are expressed identically (e.g., Birr/ kg).
* Having different frequency data – e.g., monthly from one place, weekly from another – and not matching up periods correctly.
* Being unclear as to whether the price series are day-specific observations (i.e., a price recorded on a particular day or a price that is the average of multiple observations during a single day) or a period average (i.e., the mean of daily observations over a period). The latter naturally smoothens out much price variation.

Once comparable data have been compiled, a range of available tools – with various levels of complexity –can be used to analyze the series.

### 5.2.2. Factors and Measures of Spatial Market Integration

#### 5.2.2.1. Factors of spatial market integration

*Spatial integration* is defined as the extent to which, within *one vertical market level*, a price change in *one product* market is reflected in a price change in a geographically *different market* for the *same* product. **Spatial integration** is the ability of the market to eliminate spatial price differences in excess of **transfer costs**.

Spatial price analysis may be used for the following purposes:

* To identify the presence of price relationships between markets;
* To measure the extent or degree of price integration between markets for price stabilization measures;
* To estimate the speed of price transmission between markets;
* To quantify the magnitude of market integration in the process of price dynamics, and
* To estimates spatial equilibrium models.

Market integration, however measured, is the result of the **action of traders**, as well as the **operating environment** determined by the *infrastructure available for trading and policies* affecting the price transmission. All the measures of integration have in common the feature of being computed using only price information available in a specified period of time. Each market link is summarized by just one number. However, markets are complex institutions and their performance as well as their integration is the result of numerous factors.

The relationship of structural factors with market integration measures identifies why markets are weakly or strongly integrated. Market integration analysis without identification of the factors of the integration is incomplete analysis for further intervention measures. Structural deficiencies are expected to be associated with weak market integration. Analysis of market integration is not sufficient to recommend on requirements of market improvement strategies.

Theoretically, the most commonly identified factors affecting market integration include the following ones:

1. ***Marketing infrastructure and facilities***:

This includes transportation (road distance, road density, and railway density), communication (telephone density, post office density, market information system, and credit (banking and other financial services). These variables are expected to influence market integration positively.

2. ***Production (or market volume)****:*

Production affects market integration through the degree of dissimilarity in self-sufficiency of various markets. If market i is a surplus market and market j is a deficit market in the commodity under consideration, then the likelihood that i and j are linked by trade is higher than if both markets were surplus or deficit areas. The degree of dissimilarity is usually measured by the absolute value of the percentage difference in production per capita.

*Dissimilarity in production* can affect market integration positively. The more dissimilar in production the markets are, the more integrated they will be.

3. ***Number of production shocks****:*

This variable is related to production. Supply shocks caused by various factors like drought, floods, pest attacks, diseases, etc, can affect the level of market integration, However, their effect on market integration is not clear a priori. When the production shocks are of tremendous magnitude, one would expect market integration to be disrupted (negative effect). In the case of normal production shocks, they may even positively affect market integration, as they add incentives to trade between affected areas and other areas.

4. ***Market structure****:*

Market concentration ratio can affect the level of market integration. Market integration depends on whether or not the markets are competitive, monopolistic, or oligopolistic. The more competitive the markets are, the more integrated they will be.

*5.* ***Market type****:*

The type of the market (urban, semi-urban, or rural) affects the level of market integration.

Urban markets are more likely to be integrated than are rural markets.

*6.* ***Price stabilization policy***:

Government policy can affect the level of market integration in a complex manner by affecting the nature of commodity prices. On one hand, by smoothing seasonal and inter-year fluctuations it enhances the co-movement of prices across markets. On the other hand, this very stabilizing process may hinder the transmission of price signals across markets in a way that long-term multipliers should be able to capture. In order to test the impact of a policy intervention, it is necessary to get an index of the degree of price stabilization policy undertaken by government in various affected areas.

#### 5.2.2.2. Measures of spatial market integration

A marketing system is spatially integrated when prices in each individual market respond not only to their own supply and demand, but to the supply and demand of the set of all markets. The structure of each individual market (in the sense of the number of buyers and sellers) is less important in an integrated system than the structure of the system as a whole. Using prices as the only variables of interest, the inter-market price relationship is the basis of analysis. Even if it is possible to analyze spatial market integration using spatial equilibrium models, commodity flows are not part of the market integration analysis.

Some of the measures of spatial market integration are:

* spatial margins,
* correlation coefficients,

**Descriptive Measures of Market Integration**

**Spatial price spread**

Commodity prices in rural areas, where most of the product is produced, would be expected to be lower than in urban areas, where consumption exceeds available supply. Spatial price spread

(SPS) measured by the difference between prices of the destination and origin markets. Spatial price differential as a percentage of the price in the origin market indicates the level of integration of the two markets.

The SPS can be computed as



Where *SPS* = Spatial price spread (percentage),

*P0=* Price of the commodity in the origin market,

*P1=* Price of the commodity in the destination market, and

*P1- Po=* Spatial price differential (spatial margin).

Under normal conditions, SPS between two markets are expected to encourage spatial arbitrage to the movement of products from a low price market to a high price market. Which, in turn, may reduce price gaps between some markets while raising them between others. Relatively lower SPS is expected to indicate higher spatial market integration. The level of mean SPS indicates the level of costs of spatial arbitrage between two markets.

**Correlation coefficients**

The simplest model indicating the presence of relationships between two markets is the correlation between the prices in the two markets. The extent to which commodity prices at different markets are correlated is important in the design of appropriate market development, stabilization, and food security strategies.

Price information flow creates commodity flows directly or indirectly to influence commodity prices across markets. Calculation of simple correlation coefficients between prices in pairs of markets is the most frequently used quantitative approximation to measure markets’ spatial integration. The value of the coefficient (*rij*) is expected to be between zero and one; because negative price relationship has no a priori meaning. The correlation coefficient is a measure of the covariance between two variables.

Therefore, the correlation coefficient between market i and j may be computed as



Price correlation coefficients,

* Above 0.8 may indicate strong market integration, and
* Coefficients between 0.6 and 0.8 may indicate moderate market integration.
* Below 0.6 may indicate weak market integration.

Correlation coefficients can be computed by using various variables of prices. For instance, they may be computed at nominal and real prices, wholesale and retail prices, at price changes, or percentage price changes. These price variables may be used to avoid various problems of correlation coefficients. By using nominal prices, two different types of upward biases are introduced in the correlation coefficients. Two totally segmented markets can seem integrated because of the common macroeconomic factors like inflation affecting both markets.

If the seasonality of the commodity under consideration is similar for each isolated market, the correlation coefficients would also be positive. By calculating the correlation coefficients with deflated prices, one eliminates the first bias, but keeps the second. By calculating the correlation coefficients based on changes in nominal prices, all bias is removed. To use this methodology, nominal prices can be deflated by the appropriate price index. If nominal or retail prices are expected to be nonstationary, the correlation coefficients can be estimated by using the price changes computed.

However, correlation coefficients as measures of market integration have many limitations including the following:

* They cannot identify the seasonal pattern of market integration.
* They are unable to distinguish between short run and long run integration.
* They do not indicate the speed and direction of integration.
* It is not possible to know why markets are integrated or segmented.
* Pricing conduct of markets cannot be analyzed and tested for market efficiency using these coefficients.
* They are sensitive to trends.