UNIT-6

LIVESTOCK ECONOMICS AND MARKETING

Introduction to Economics and Livestock Economics: definition and scope (production, consumption, exchange and distribution). Basic concepts- wants, goods, wealth, utility, price, value, assets, capital, money, income etc. Important features of land, labour, capital and organization. Theories of demand, supply and cost. Theories of production (law of diminishing return, increasing return, constant return and return to scale). Concept of market: market, market structure and classification of markets. Market price and normal price, price determination under perfect competition in short and long run. Marketing functions: meaning and their classification (packaging, transportation, grading, standardization,storage and warehousing, processing and value addition, buying and selling, market information, financing, risk bearing, minimization of risks (speculation and hedging). Marketing agencies, institutions and channels for livestock and livestock products.Government interventions and role in marketing of livestock and livestock products.External trade in livestock products, recent policies on trade and international trade agreements and their implications in livestock sector.

What is Economics?

If we see our day-to-day activities, most of which are related to earning one's own living and to the manner of satisfying one's own wants. These human activities, which are generally called economic, are mainly related to production, distribution, consumption and exchange of goods and services. **The scientific study of various problems arising out of these economic activities is called economics**.

Basic Economic Problem

The basic economic problem is **Human wants are many; but means to satisfy these wants are limited.** These limited means are capable of alternative uses and hence there is a need of satisfying maximum wants with limited resources. In reality most resources are scarce. Similarly individuals and nations have unlimited wants. There are only a limited number of resources such as workers, machines, factories, raw materials etc. Yet there are a number of different ways in which they could be used. Similarly people only have a limited amount of money. Yet they have lots of **wants** to satisfy.

NATURE AND SCOPE OF ECONOMICS

1. **Economics is a social science**

Economics deals with human wants and human behavior and human welfare. Therefore it is considered as a social science.

2. **Economics is the science of scarcity**

In the real world, the means which satisfy our wants are limited, that is, there is scarcity of the means which satisfy our wants. Time and money are limited. And land, labour and capital which are used in production are limited. We study economics because there is scarcity of many goods we want. That is why we say Economics is the science of scarcity. And scarcity is the basic fact of life.

3. **Economics is the science of choice**

Our wants are unlimited but means are limited. This leads to choice making. It is true that we have many wants. But all wants are not of equal importance. So we choose the more important and the more urgent wants. So choice is the essence of economic activity. We may also say that Economics is the science of choice.

4.Economics studies about the role of money in the affairs of mankind.

Modern economy is a monetary economy. Prices are paid in money. Money is used for buying and selling of goods, for payment of rent, wages, interest and so on. In economics, we study about the role of money in the affairs of mankind.

5. Economics as a study of the relationship between wealth and welfare.

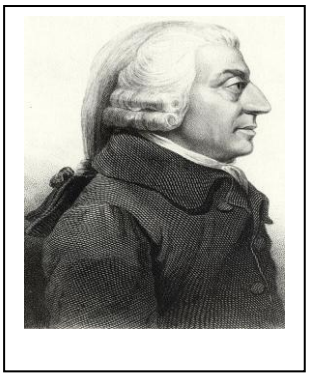
All the scarce goods which satisfy our wants are known as **wealth**. So, in economics, we study about the production of wealth, exchange of wealth, distribution of wealth and consumption of wealth. As wealth is produced to promote **human welfare**, we study the relationship between wealth and welfare.

DEFINITIONS AND CONCEPTS

The word economics has been derived from the Greek word "*OIKONOMICAS*" with "*OIKOS*" meaning a household and "*NOMOS*" meaning management. It is understood that the beginning was made by the Greek Philosopher, Aristotle who in his book "*Economica*" focused that the field of economics deals with household management.

The economists in defining the term, economics, followed several approaches and concepts. The concepts on which various definitions of economics given are:
1. Wealth, 2. Welfare, 3. Scarcity and 4. Growth.

"Wealth" Definition by Adam Smith



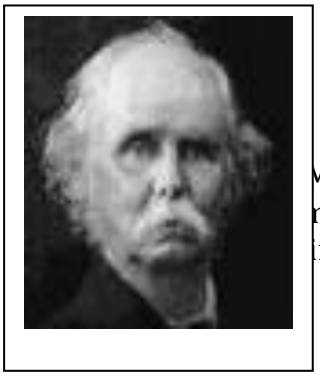
Adam Smith (1723-90) in his book entitled "*Wealth of Nations*"(1776) defined economics as ***"An enquiry into the nature and causes of the of wealth of nations"***. He is known as the "***Father of Economics***" because he was the first person who put all the economic ideas in a systematic way. It is only after Adam Smith, we study economics as a systematic science.

The term "wealth" has a special meaning in Economics. In the ordinary language, by "wealth", we mean money, but in economics, wealth refers to those goods which satisfy human wants. We consider only those goods which are relatively scarce and have money value as wealth.

In this definition, attention was exclusively paid to wealth as if wealth was everything. Little attention was paid to man for whom wealth is really meant. This definition was, therefore, rejected.

A great demerit of Adam Smith's definition is that there is overemphasis on wealth. There is no doubt that we have to study about wealth in economics. But it can be only a part of the study. There is the other side. In fact, it is a more important side and that is the study of man. Economics is a social science. Hence the proper study of mankind should be man and not wealth alone. Man is primary and wealth occupies only a secondary place. Emphasis was, therefore, shifted from the study of wealth to that of human welfare.

"Welfare" Definition by Alfred Marshall



Alfred Marshall (1842-1924) wrote a book *Principles of Economics* in 1890. According to him ***"Economics is a study of man's actions in the ordinary business of life; it inquires how he gets his income and how he uses it".***

Marshall, "Economics is on the one side a study of wealth, and on
nportant side, a part of the study of man. Man is the centre of his
m, the study of man is more important than the study of wealth.
for promoting human welfare. Hence wealth is given a secondary

Marshall's definition is known as material welfare definition of economics because of its emphasis on welfare. **Welfare is the well being of individual or community**. This definition by Marshal remained current for a long time, but early in the 1930's, a distinguished economist Lionel Robbins challenged the definition.

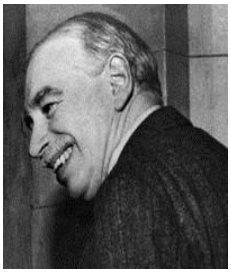
"Scarcity" Definition by Lionel Robbins

Lionel Robbins (1898-1984) has defined economics as follo
"Economics is the science which studies human behaviour a relationship between ends and scarce means which h alternative uses". Robbins has given the above definition in his b *"An Essay on the Nature and significance of Economic Science".* definition of Robbins is based on the following basic assumptions.

- Ends are various. The term "ends" mean wants. Human wants
- Means are limited. Means like time, money and resources are limited.
- We can put means to alternative uses. For example, though time is limited, we can use it for different purposes. We can use time for earning money or we may enjoy it as leisure, and
- All wants are not of equal importance.

We know time is limited. There are only 24 hours in a day. If a worker wants only money he has to work for long hours and forgo leisure. If he wants leisure, he has to forgo his income. He cannot have both at the same time. We may, however, note that all means which satisfy human wants are not limited. For example, air and sunshine are available in abundance. They are free goods. But many things we want are scarce in relation to our wants. **So, economics studies human behaviour as a relationship between unlimited wants and scarce means**. As means are limited, we have to pay a price for them. We study in economics how the prices of scarce goods are determined. We have to choose among different wants. That is why we say that **scarcity** and **choice** are central problems in economics. Economics is a science of **scarcity**. Economics is a science of **choice.**

"Growth" Definition by Lord Keynes



During the last 40 years or so, economic thinking has moved further from Robbins's view. The credit for bringing about a revolution in economic thinking goes to Lord Keynes (1883-1946). He defined economics as **"the study of the administration of scare resources and of the determinants of employment and income".** Thus, besides studying the resource allocation, Economics studies how the levels of income and employment in an economy are determined. In other words, it also studies the causes of economic fluctuations to see how economic stability could be promoted.

Micro economics	Macro economics
It studies economy at unit or individual level.	It studies economy as a whole. i.e. at national level.
It includes Consumption, Production, Exchange and Distribution as its subject-matter.	It includes national income, employment, welfare economics, interest, tax, growth etc. as its subject matter.
It is also known as price theory.	It is also known as growth theory.
It emphases on efficiency i.e. efficient use of resources.	It emphases on equity i.e. equal distribution of money generated by economic system.
It is a traditional view of economics.	It is a modern view of economics.

IMPORTANCE OF ECONOMICS

Economics has become one of the important branches of social sciences. It is of great practical value in our daily life. Economics is considered these days as one of the most important branches of knowledge. Study of Economics is useful in several ways. Economics has got theoretical as well as practical importance.

(A) Theoretical Importance

1. Informative

Economics teaches us many interesting facts about man's behaviour when he is engaged in economic activity. We come understand the various motives which guide men in economic affairs.

2. Mental training

Economic reasoning trains our mind. It enables us to think clearly and judge correctly.

3. Understanding functioning of economic system

The study of economics helps us to understand how the complicated economic system of today functions almost automatically without any central control. Every economic disturbance somehow tends to smoothen itself out. For example, if there is shortage of a commodity, its price will rise. This will cut down unnecessary demand so that the demand will be brought down to the level of supply. If there is bumper production of a commodity, then its price will go down which will create new demand and thus the stock will be cleared. This is how economic system adjusts itself in all spheres.

4. Teaches mutual dependence

Economic teaches us the important lesion of the mutual dependence of man on man. We come to realize how we depend on others for the satisfaction of our wants, and how others depend on us. This knowledge adds to our sense of responsibility and understanding and thus leads to better work and a happier society.

5. Useful citizenship

Most of the problems of today are economic in nature. The study of economics makes us useful and intelligent citizens. The knowledge of economics enables everyone to perform one's duties more intelligently and, therefore, more efficiently.

(B) Practical Importance

1. Professional value

The study of economics is very useful in several professions. It is useful to the bankers, to the businessmen, to the agriculturist, to the serviceman, to the workers, etc. As a matter of fact, it is useful to all.

2. Useful for householders

A householder will arrange his expenditure much better if he has studied economics. He can prepare a family budget and put his household expenditure on rational basis.

3. Useful for political leaders

A political leader who knows economics is able to fight for the rights of people more effectively. The knowledge of economics will help them in policy planning in several problems of the country such as poverty, unemployment, etc.

BASIC CONCEPTS

Every science has its own language. Economics has its own language. There are certain terms which are used in a special sense in economics. So we must understand the meaning of some basic concepts like wealth, goods, income, value, price and market. If we do not understand their meaning properly, it may result in a lot of confusion.

Wants

Want means desire. Human wants mean human desire. "Man is a bundle of desire". His wants are infinite in variety and number. Wants vary from person to person. Food,

shelter and cloths are the basic wants. These are the bare necessaries of life. The struggle now is for comforts and joy. As man becomes more civilized, his wants multiply. He wants better food, fashionable clothing, comfortable housings, higher education, entertainments, etc.

GOODS AND SERVICES

Anything that can satisfies a human want is called a good in economics. There are two things with which he can satisfy these wants – goods and services.

Goods	Services
It means the commodities that we use.	It is any act or performance that one party can offer to another.
It is almost always **material**.	It is essentially **non-material**.
It is tangible.	It is intangible.
It results in ownership.	It dose not result in the ownership.
E.g.: land, house, foods, books, cloths, mobile, seeds, fertilizers, etc.	E.g.: the services rendered by doctor, teacher, lawyer, labourers, etc.

Goods

Anything that satisfies a human want can be considered as "good" in economics, In economics, the term "goods" refer to material and non-material things. Just as an apple or a chair is a good, music or the services of actors, musicians and teachers are some of the examples of goods.

Goods can be classified *into free goods and economic goods.* Goods like air and sunlight which are the gifts of nature are free goods. They are not scarce. So they do not command a price in the market. They are known as free goods. Economic goods command a price in the market. In other words, they have value-in-exchange. For, they are scarce in relation to demand. In this connection, we have to remember that what is a free good in one place can become an economic good in another place.

Wealth

In ordinary speech, when we refer to wealth, we mean money. But in economics, it has a special meaning. It refers to those scarce goods which satisfy our wants and which have money value. We may consider anything that has money value as wealth in economics.

All economic goods have value-in-exchange. So wealth includes all economic goods. Wealth has been defined as *"stock of goods existing at a given time that have money value ".*

Utility

We have seen that goods satisfy human wants. This want-satisfying quality in a good is called Utility. Hence, utility means the power to satisfy a human want. In other words, utility is the want satisfying power of a good.

In order to find out whether a good possess utility or not, ask a simple question: "Does it satisfy a human want? If so, it has utility, otherwise not. Air, water, etc. (free goods) and food, cloths, etc.(economic goods) satisfy human wants, and as such they possess utility.

Income

In economics, when we refer to income, generally we mean money income. According to Seligman, "Income in the economic sense, is the flow of satisfactions from economic goods". We know that all economic goods form wealth. The main source of income is wealth. For example, if you own a house, it is your wealth. If you get rent from it, it is your income. There are two points about income - time and amount.

There are two kinds of income - (1) money income and (2) Real Income. Generally people earn their incomes in the form of money.

Value

The term "value" refers to the exchange qualities of a good. According to Marshall, "the term value, is relative and expresses the relation between two things at a particular place and time".

Value is of two kinds (1) value-in-use and (2) value-in- exchange. Although air, rain and sunshine have value-in-use, they do not have value-in-exchange. In economics, we are interested only in those goods which have value-in-exchange. For a good to have value- in-exchange, it must possess utility, it must be scarce in relation to demand and it must be possible for us to exchange it. In other words, all economic goods have value-in-exchange.

Assets

An item of property owned by a person or company, regarded as having value and available to meet debts, commitments, or legacies.

An **asset** is a resource with economic value that an individual, corporation or country owns or controls with the expectation that it will provide a future benefit. **Assets** are reported on a company's balance sheet and are bought or created to increase a firm's value or benefit the firm's operations.

Price

When value is expressed in money, it is called price. Generally, economists make no distinction between value and price. All prices are related to one another. They form the price system. The prices most familiar to us are the prices we pay for goods sold in market, that is, retail prices. Many payments like rent, wages and interest are also prices which we pay respectively to land, labour and capital. Price system plays a very important role in a capitalistic economy. Buyers express their desire for goods only through prices. Every price we pay for a good is a vote in favour of it. It is the price system that regulates the economic activity of a society.

Money

Money is regarded as capital because it can be used to buy raw materials, tools, implements and machinery for production.**Money** is the circulating medium of exchange as defined by a government. **Money** is often synonymous with cash and includes various instruments such as checks. Each country has its own **money** that it and its residents exchange for goods within its borders.

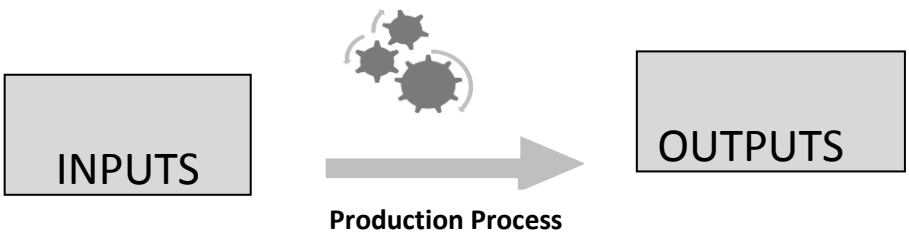
Capital

In the ordinary language, capital means **money**. In Economics, **capital** is the man made physical goods used to produce other goods and services**.** Thus**,** it is a produced means of production**.** Money is regarded as capital because it can be used to buy raw materials, tools, implements and machinery for production

THEORY OF PRODUCTION

WHAT IS PRODUCTION?

In economics, **production** is the act of creating **utility** that can satisfy a want or need. Any effort directed toward the realization of a desired product or service is a **productive** effort and the performance of such act is called **production**. It refers to the creation of those goods and services which have **exchange value**. Production is generally understood as the **transformation** of inputs into outputs.



Input determines the quantity of output i.e. output depends upon input. Input is the starting point and output is the end point of production process.

In economics, production means **creation or addition of utilities.** For example, a carpenter makes a table. He has produced wealth. But he has not produced wood; it was already there. What then, has he really done? He has changed the form of wood and given it to utility which it did not possess before. Conversion of cotton into cloth and sugarcane into sugar are some other examples. In economics, we are not concerned with the technical process of production. We do not learn the art of making it. For example, we do not study how cloth is actually woven. We are concerned with economic aspect, i.e. cost, price, profit etc. and not the technical aspect.

FACTORS OF PRODUCTION

In process of production, **inputs** are converted into **output**. Production of any good or services requires a set of various inputs. These inputs are known as **factors of production.** For example, in agriculture, production of wheat requires several **inputs** like land, labour, seeds, fertilizers, water, implements, etc. which are collectively called **factors of production**. These are also called **resources.** Most of the resourcesare **scarce**and they have **alternativeuses** and therefore, they should be used efficiently. Farmers generally face the problem of how to combine his resources in the best way in order to get maximum profit.

Productive resources required to produce a given products are called **factors of production.** Factors of production refer to those **goods and services** which help in the production process. The factors of production have been traditionally classified as **Land, Labour, Capital** and **Organizer** or Entrepreneur. Nowadays most of the things we need are produced in a field or factory. To make them workers gives his labour, the landlord his land, the capitalist his capital, while the businessmen organizes the work of all these. They all get a reward in money. In a production process, the **labour** earns **wages**, the **landlord** gets **rent**, and the reward to capitalis **interest**, while the **entrepreneur's reward** is **profit**.

LAND

Land as a factor of production refers to all those **natural resources** or **gifts of nature** which are provided free to man**.** It includes within itself several things such as land surface, air, water, minerals, forests, rivers, lakes, seas, mountains, climate and weather. Thus, land includes all things that are **not made by man**.

Characteristics of land

- It is a natural factor.
- It is imperishable.
- It is immobile.
- It is a passive factor of production.

LABOUR

Labour is the **human input** into the production process**.** Any **work**, whether **manual** or **mental**, which is undertaken for a monetary consideration is called **labour** in economics. Marshall defines labour as 'the use or exertion of body or mind, partly or wholly, with a view to secure an income apart from the pleasure derived from the work'.

Characteristics of labour

- It is anactive factor of production.
- It is a natural factor.
- It is perishable.
- It is mobile.

CAPITAL

In the ordinary language, capital means **money**. In Economics, **capital** is the man made physical goods used to produce other goods and services**.** Thus**,** it is a produced means of production**.** Money is regarded as capital because it can be used to buy raw materials, tools, implements and machinery for production.

Characteristics of capital

- It is a passive factor of production.
- It is man-made.
- It has the highest mobility.
- It lasts over time and therefore, it is perishable.

Forms of Capital

1. **Physical Capital :**All man-made physical assets like plant and machinery, buildings, tools, roads, dams and communication, etc.,
2. **Money Capital :**The investment that is made in the form of money or monetary instruments is called money capital.
3. **Human Capital:** Human capital refers to the quality of labour, which can be improved through investments in education, training, and health. Higher the investments in human capital, higher will be the productivity.

The comparison of various characteristics of land, labour and capital is as under:

LAND	LABOUR	CAPITAL
It is a **passive** factor of production.	It is an **active** factor of production.	It is a **passive** factor of production.
It is a natural factor.	It is a natural factor.	It is man-made.
It is imperishable.	It is perishable.	It is perishable.
It is immobile.	It is mobile.	It is highly mobile.
Its reward is **rent**.	Its reward is **wages**.	Its reward is **interest**.

ORGANIZER or ENTREPRENEUR

An organizer or entrepreneur is a **person who combines** the different factors of production i.e., land, labour and capital in the right proportion and initiates the process of production and also bears the risk involved in it. The managerial and organizational skills needed to produce goods and services in order to gain a profit.

Functions of an Organizer or Entrepreneur

1. He identifies profitable investment opportunities.
2. He decides the location and size of production unit.
3. He identifies the optimum combination of factors
4. of production.
5. He decides the reward payment.
6. He takes risks.
7. He makes innovations.

PRODUCTION FUNCTION

In economics**, Function** is a mathematical equation that describes the relationship of a dependent variable to one or more independent variables. **Dependent variable** is a variable that is governed by another variable. e.g.: crop output (production). **Independent variables** are those variables whose value does not depend on other variable e.g.: labour, seed, fertilizer, land etc. Independent variables influence the dependent variable while dependent variables change values based on the changes of independent variables.

In regard to production, the dependent variable is the quantities of the product that is produced. The independent variable or variables are the resources committed to producing that product. In short, **output is the dependent variable while inputs or resources are the independent variables.**

- **Production function** is a function that describes the changes in the quantities of product produced due to changes in the resource or resources used in production.
- Thus**, the functional relationship between input and output is known as production function.**
- It shows the **maximum amount of production** that can be produced from a given set of inputs in the existing state of technology or the **minimum quantities of various inputs** required to produce a given quantity.

The **production function** can be expressed as under:

$$y = f(x_1, x_2, x_3, \ldots, x_n).$$

Where, y = quantity produced during a given period of time;

$x_1, x_2, x_3, ., x_n$ = quantities of different factors used in production.

OBJECTIVES

- **Production functions** are used in managerial economics to determine the most efficient combination of resources needed to produce a desire amount of products.
- **The production function explains how the output can be optimized.**
- As we increase the level of inputs, the output also increases. So, it is useful to know at which level of inputs, the **net returns** or the **profit is maximum**. This level is known as **optimum level** of input-use. Production Function helps to find out the optimum level of input-use.
- Thus, main objective of production function is **resource optimization**.
- It is very much useful in **decision-making** process of business management.

BASIC TERMS

Total Product (TP)	It is the **sum of output** which can be produced by using various units of inputs**.** It is denoted as **y**
Marginal Product (MP)	It is the **additional quantity of output**, added by an additional unit of input i.e., the change in output as a result of change in the variable input. $MP = \frac{\text{Change in Total Product}}{\text{Change in Input level}} = \frac{\Delta y}{\Delta x}$
Average Product (AP)	It refers to the **average productivity** of a resource. It is the ratio of total product to the total input used in producing that amount of product. $AP = \frac{\text{Total Product (TP)}}{\text{Total Input (x)}} = \frac{y}{x}$
Elasticity of Production (Ep)	It is defined as **percentage change** in output as a result of percentage change in input**.** It can also be defined as ratio of MP and AP. $Ep = \frac{\%\text{ change in Output}}{\%\text{ change in Input}}$ or $\frac{MP}{AP}$

LAWS OF RETURNS

- There are **three laws** of returns. (1) Law of increasing returns (2) Law of constant returns and (3) Law of decreasing returns.
- "There is said to be increasing, decreasing or constant returns according to the **marginal returns rise, fall or remain constant**" as the quantity of a factor of production is increased.

LAW OF INCREASING RETURNS

Every additional or marginal unit of input **adds more** to total product than the previous unit i.e., addition to the total product is at an increasing rate.

Input (x)	Output (y)	Marginal Input (Δx)	Marginal Output (Δy)	Marginal Rate of Return (Δy/Δx)
0	0	-	-	-
5	25	5	25	5
10	75	5	50	10
15	150	5	75	15
20	250	5	100	20
25	400	5	150	30

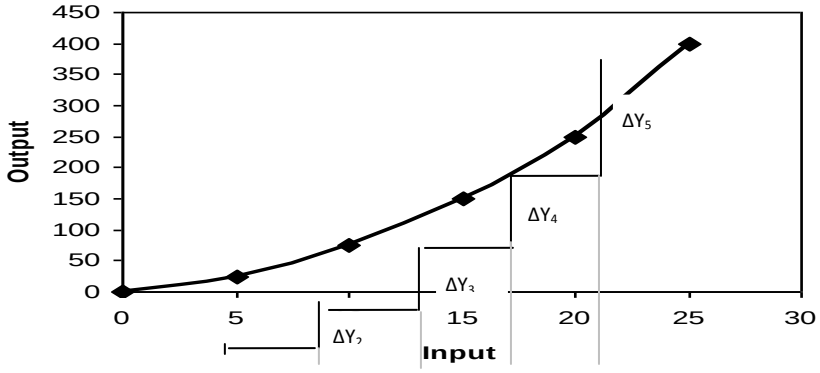


Fig. 1: Law of increasing Returns

The slope of the curve will go steeper and steeper with the added unit. i.e., its shape gets **convex** to the origin. This relationship can also be expressed as:

$$\frac{\Delta y_1}{\Delta x_1} < \frac{\Delta y_2}{\Delta x_2} < \frac{\Delta y_3}{\Delta x_3} < \frac{\Delta y_n}{\Delta x_n}$$

The law of increasing returns states that the ratioΔy/Δx will go on **increasing** as more and more units of input are added.

- This law operates in the economies where **non-human** and **non-animal** power resources (water and wind power, steam, electricity, atomic energy, etc.) are used or where automatic self-adjusting mechanism is applied.
- In agriculture, this law is normally observed at an **initial stage** of production.

LAW OF CONSTANT RETURNS

Every additional or marginal unit of input **adds an equal quantity** to total product i.e., addition to the total product is at a constant rate.

Input (x)	Output (y)	Marginal Input (Δx)	Marginal Output (Δy)	Marginal Rate of Return (Δy/Δx)
0	0	-	-	-
1	5	1	5	5
2	10	1	5	5
3	15	1	5	5
4	20	1	5	5
5	25	1	5	5
6	30	1	5	5

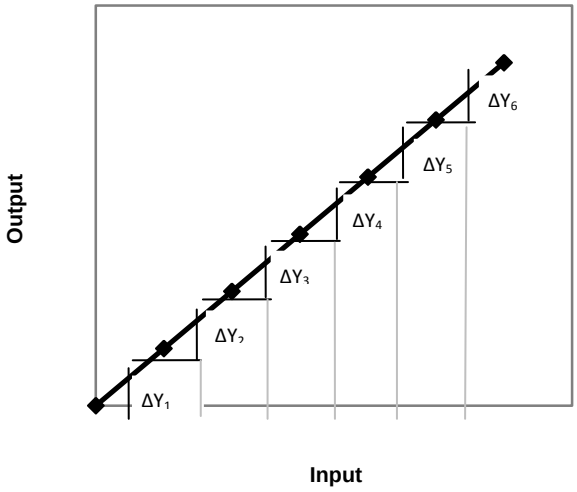


Fig. 3: Law of Constant Returns

This production function is a straight line or linear relationship having the same slope throughout its entire range. This relationship can also be expressed as:

$$\frac{\Delta y_1}{\Delta x_1} = \frac{\Delta y_2}{\Delta x_2} = \frac{\Delta y_3}{\Delta x_3} = \frac{\Delta y_n}{\Delta x_n}$$

- The law of constant returns states that the ratioΔy/Δx will remain **constant** as more and more units of input is added.

- This law operates in **manufacturing industries** where **non-human** like **machineries** play greater role.

LAW OF DECREASING RETURN

Every additional or marginal unit of input **adds less** to total product than the previous unit i.e., addition to the total product is at a decreasing rate.

Input (x)	Output (y)	Marginal Input (Δx)	Marginal Output (Δy)	Marginal Rate of Return (Δy/Δx)
0	50	-	-	-
10	140	10	90	9
20	210	10	70	7
30	260	10	50	5
40	300	10	40	4
50	330	10	30	3
60	350	10	20	2

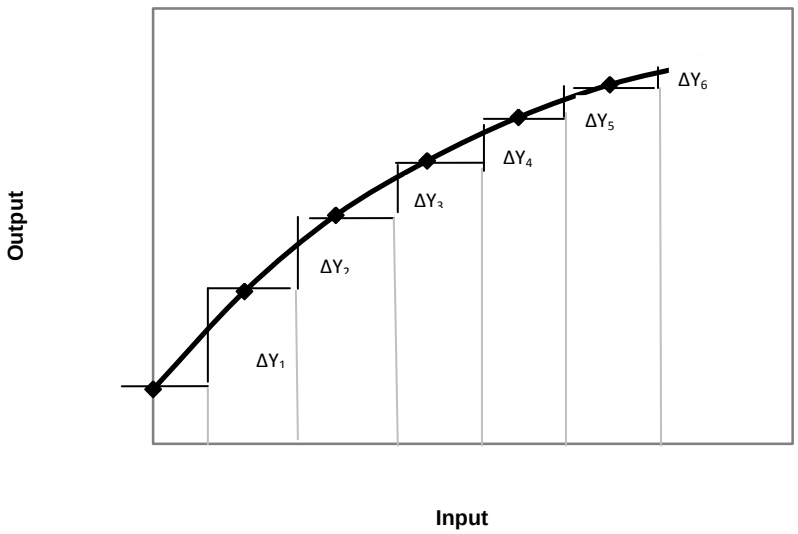


Fig. 2: Law of Decreasing Returns

The slope of the curve will **concave** to the origin with the added unit. This relationship can also be expressed as:

$$\frac{\Delta y_1}{\Delta x_1} > \frac{\Delta y_2}{\Delta x_2} > \frac{\Delta y_3}{\Delta x_3} > \frac{\Delta y_n}{\Delta x_n}$$

The law of decreasing returns states that the ratio$\Delta y/\Delta x$ will go on **decreasing** as more and more units of input is added.

- This law operates widely in **agriculture**, mining, fisheries, building industries, etc. where **human and animal** power resources are widely used.

SUMMARY

Law of Increasing Returns	Law of Constant Returns	Law of Decreasing Return
Marginal returns **rise** as the quantity of an input is increased.	Marginal returns **remains constant** as the quantity of an input is increased.	Marginal returns **fall** as the quantity of an input is increased.
Every additional or marginal unit of input **addsmore** to total product than the previous unit.	Every additional or marginal unit of input **adds** in total product **equal** to the previous unit.	Every additional or marginal unit of input **addsless** to total product than the previous unit.
$\frac{\Delta y_1}{\Delta x_1} < \frac{\Delta y_2}{\Delta x_2} < \ldots < \frac{\Delta y_n}{\Delta x_n}$	$\frac{\Delta y_1}{\Delta x_1} = \frac{\Delta y_2}{\Delta x_2} = \frac{\Delta y_n}{\Delta x_n}$	$\frac{\Delta y_1}{\Delta x_1} > \frac{\Delta y_2}{\Delta x_2} > \frac{\Delta y_n}{\Delta x_n}$
The shape of the curve gets **convex** to the origin.	The shape of the curve gets **straight line**.	The shape of the curve gets **concave** to the origin.
It operates in the economies where **non-human and non-animal** power resources are used.	It operates in manufacturing industries where **non-human** like machineries play a greater role.	It operates widely inagricu-lture, fisheries, mining, etc. where **human** power resources are widely used.
In agriculture, this law is normally observed at the **initial stage** of production.	In agriculture, this law is normally observed at the **middle stage** of production.	In agriculture, this law is normally observed at a **later stage**of production.

In actual, these three laws are only three aspects of one law i.e., **Law of Variable Proportion**. It represents three different stages of the same law. It is also known as **Law of Diminishing Marginal Return**.

LAW OF DIMINISHING MARGINAL RETURN.

- It examines the relationship between **one variable factor** and output, keeping the quantities of **other factors fixed**.
- Factor-Product Relationship is also known as **Classical Production Function**.
- It is a **short-run** production function.
- It explains**t**he **Law of Variable Proportion**
- It is also called the **Three Zones of Production Function**.

DEFINITION

The Law of Variable Proportion states that as the proportion of one factor in a combination of factors is increased, after a point, first the marginal and then the average product of that factor will diminish.

PRODUCTION FUNCTION USED

$y = f(x_1 \mid x_2, x_3, \ldots, x_n)$.

Where, y = output;

x_1 = variable input;

$x_2, x_3, \ldots, x_n$ = fixed inputs.

OBJECTIVES

- The main objective of this relationship is to find out optimum level of resource use or **resource optimization**.
- The management problem associated with this analysis is **how much to produce**?

Example

Input (x)	Output (TP)(y)	Marginal Input (Δx)	Marginal Output (Δy)	AP (y/x)	MP (Δy/Δx)	Law of Returns
0	0	-	-	-	-	Increasing
1	2	1	2	2.0	2	
2	5	1	3	2.5	3	
3	9	1	4	3.0	4	
4	13	1	4	3.3	4	Constant
5	16	1	3	3.2	3	Decreasing
6	18	1	2	3.0	2	
7	19	1	1	2.7	1	
8	19	1	0	2.4	0	
9	18	1	-1	2.0	-1	Negative return
10	16	1	-2	1.6	-2	

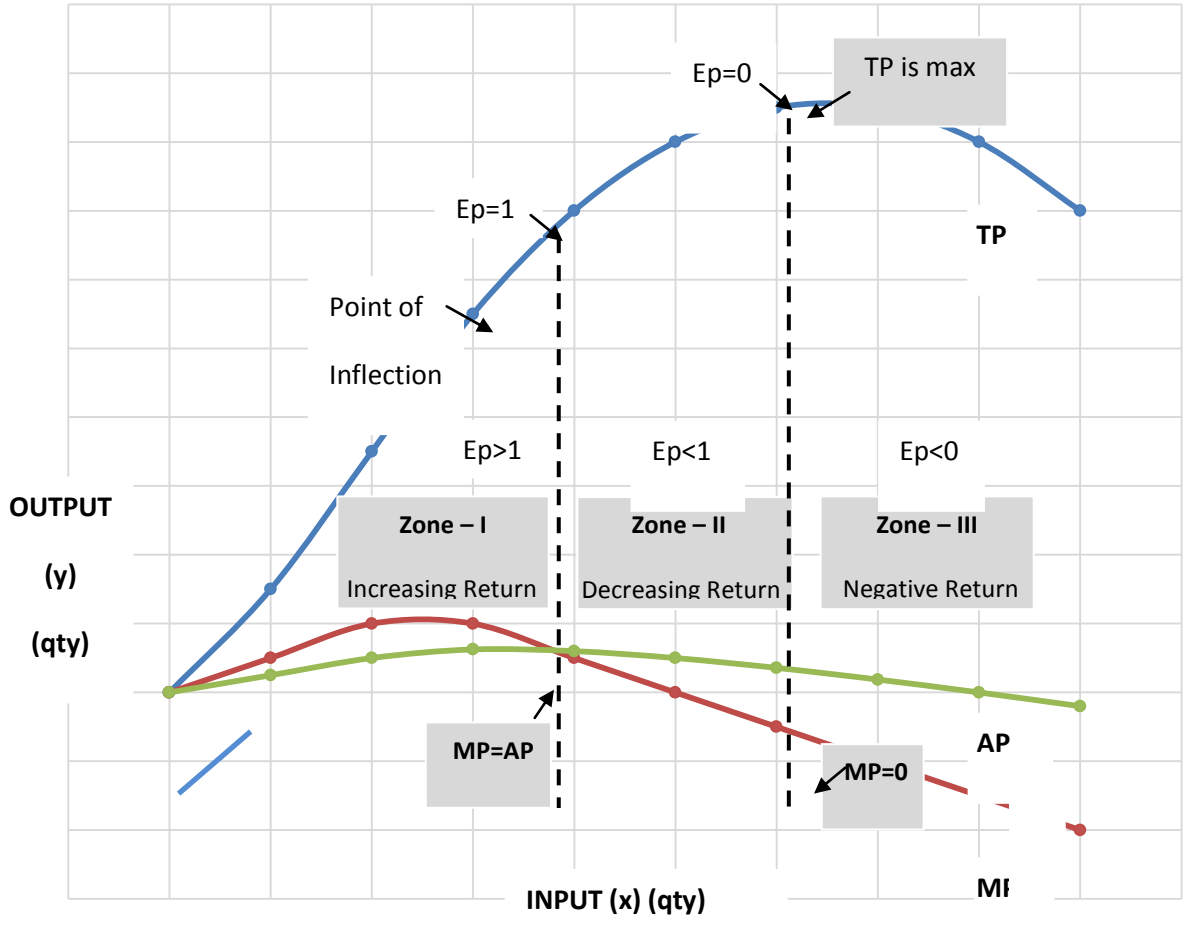


Fig.1: Classical Production Function

Nature of TP Curve	Nature of MP Curve	Nature of AP Curve
• TP increasing at increasing rate • TP increasing at decreasing rate • TP riches at maximum and remains constant • TP decreasing	• MP increasing • MP attains maximum • MP remains constant • MP decreasing	• AP increasing • AP attains maximum • AP is decreasing

Relationship between TP and MP

- When TP increasing at increasing rate, MP also increasing.
- When TP increasing at decreasing rate, MP also decreasing.
- When TP is maximum or remain constant, MP=0
- When TP decreasing, MP becomes negative.
- When TP changes its curvature (from increasing rate to constant or decreasing rate), MP is maximum. This point is known as point of inflection.

Relationship between MP and TP	Relationship between MP and AP
• MP > 0, TP increasing • MP = 0, TP maximum • MP < 0, TP decreasing	• When MP > AP, AP increasing; Ep>1 • When MP = AP, AP is maximum; Ep=1 • When MP < AP, AP decreasing; Ep<1

THREE ZONES OF PRODUCTION

The classical production function can be divided into three zones.

Zone-I:Stage of increasing returns

- This region starts from the point of origin and ends where the average product reaches its highest (maximum) or where MP=AP.
- During this stage, the TP, AP and MP are increasing.
- It is notable that the MP in this stage increases but in a later part it starts declining. Though MP declining, it is greater than the AP.
- AP increases throughout this region indicating that the efficiency of all the variable inputs keeps on increasing.

Zone-II: Stage of decreasing returns

- This region starts where 1st zone ends. i.e. MP=AP and extends to the point where MP=0 or TP is maximum.
- In this zone, the TP continues to increase but at a diminishing rate.
- The MP and the AP are declining but are positive.

Zone-III: **Stage of negative returns**

- This region starts when MP crosses zero and becomes negative.
- In this zone the MP becomes negative.
- The TP and the AP are declining.

Rational / Irrational Zones

Zone-III

- This is a**irrational zone** because in this zone the TP is decreasing and MP becomes negative which indicates that additional quantities of inputs reduces the total output.
- So, it is not advisable to operate in this region even if the additional quantities of inputs are available free of cost.
- If a farmer operates in this zone, he will have **double loss**: i.) reduced production and ii) unnecessarily additional cost of inputs.
- For example, many farmers in **canal area** operate in this zone. They use excess water which ultimately reduces the profit.

Zone-I

- This is also **irrational zone** because, the AP increases throughout this zone indicating that the efficiency of all the variable inputs keeps on increasing. So, farmer should not stop in this zone and he must produce up to the level where AP is maximum.
- Input-use should be continued until zone-II. Hence, **it is not reasonable to stop using an input** when its efficiency is increasing. If he stops in this region, some of his resource will remain **unused or underutilized**.
- For example, most of the tribal farmers operate in this region because they don't have sufficient inputs.

Zone-II

- This is a **rational zone.**
- In this zone, TP is increasing; MP is decreasing but remains positive.
- Within the boundaries of this region is the area of economic relevance.
- Optimum use of input is somewhere in this zone which, however, can be located only when input and output prices are known.
- This zone represents the range of rational production decisions.

SUMMARY

Zone - I	Zone - II	Zone - III
From origin to AP=MP	From AP=MP to MP=0	From MP=0 to onwards
TP, AP & MP all are increasing	TP is increasing but at a decreasing rate. MP & AP decreasing but are positive.	TP, AP & MP all are decreasing. MP becomes negative.
Ep> 1	Ep< 1	Ep< 0
Stage of **increasing return**	Stage of **decreasing return**	Stage of **negative return**
Irrational zone	**Rational zone**	**Irrational zone**
This Zone indicates **underutilization** of resource	This Zone includes **optimum** level of resource	This Zone indicates **overutilization** of resource

THEORY OF DEMAND

What is Demand?

Demand is defined as the quantity of a good or service that consumers are **willing and able to buy** at a **given price in a given time period**.

It is necessary to distinguish between demand and desire or need. Demand in economics must be **effective.** It means that when a consumers' desire to buy a product is backed up by **an ability and willingness to pay for it,** then only it actually affect the market. If a person below poverty line wants to buy a car, it is only a desire but not a demand as he cannot pay for the car. If a rich man wants to buy a car, it is demand as he is able and willing to pay for the car. **Thus, desire backed by willingness and ability to pay is called demand**.

Demand = Desire (Want) + Ability to pay + Willingness to pay

Demand Function

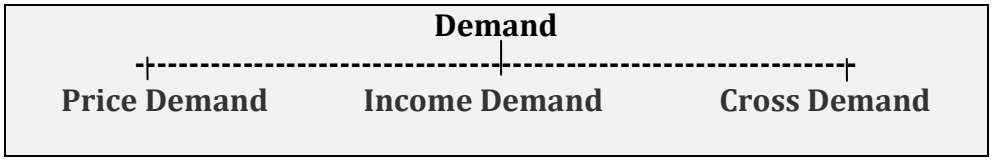
The demand for any commodity mainly depends on the price of that commodity. The other determinants include price of related commodities, the income of consumers, tastes and preferences of consumers, and the wealth of consumers. Hence the demand function can be written as under:

Dx = *f* (Px, Ps, Y, T, W, ...)

Where,

Dx = demand for good X
Px = price of good X
Ps = price of related goods (other thanX)
Y = income of the consumer
T = tastes and preferences of the consumer
W = wealth of the consumer.

Types of Demand



1. Price Demand

Price demand refers to the various quantities of a commodity or service that a consumer would purchase at a given time in a market at various hypothetical prices. It is assumed that other things, such as consumer's income, his taste and price of inter related goods remain unchanged.

2. Income Demand

It refers to the various quantities of a good or service which would be purchased by the consumers at various levels of income here we assume that the price of the commodity or service as well as the prices of inter related goods and the taste and desires of consumers do not changed. The Income Demand shows the relation between income and the quantities demanded.

3. Cross Demand

It means the quantity of good or service which will be demanded with reference to change in price not of this good but of other inter-related goods. These goods are either substitutes (e.g., tea and coffee) or complementary (e.g. bike and petrol) goods. A change in price of tea, for instance, will affect the demand of coffee. A change in price of tractor will affect the demand of trailer.

The Law of Demand

Other factors remaining constant (ceteris paribus) there is an **inverse relationship between the price of a good and its demand**. Demand varies inversely with price, not necessarily proportionately. If the price falls, demand will extend and vice-versa**.** Demand thus is a function of price. i.e. it varies with price. It can be expressed as:

D = *f* (P)

Where,

D = Demand

P = Price

The ceteris paribus assumption

Ceteris paribus means all other factors remaining the constant. Many factors can be said to affect demand. Economists assume all factors are held constant except one– the price of the product itself. Thus, the assumptions of the law are**:**

1. No change in the consumer's income.
2. No change in consumer's tastes and preferences.
3. No changes in the prices of inter-related goods.
4. No new substitutes for the goods have been discovered.
5. The use of a commodity does not confer distinctions.

Demand Schedule

Demand schedule is a tabular statement showing how much of a commodity is demanded at different prices. The demand of the individual consumer for a particular good or service at different prices is called **Individual Demand**. The sum of the individual demand for a product in the market is called **Market Demand**.

Market Demand Schedule				
Price of Milk (Rs./lit)	**Individual Demand**			**Market Demand**
	Qty demanded by "A"	Qty demanded by "B"	Qty demanded by "C"	**Total qty demanded (A+B+C)**
50	1	**2**	**15**	**18**
45	2	**3**	**20**	**25**
40	3	**4.5**	**25**	**32.5**
35	4	**6**	**30**	**40**
30	5	**8**	**35**	**48**
25	6	**10**	**40**	**56**
20	7	**13**	**45**	**65**

Demand Curve

The demand schedule can be converted into a demand curve by measuring price on vertical axis (Y) and quantity on horizontal axis (X) as shown in the figure below.

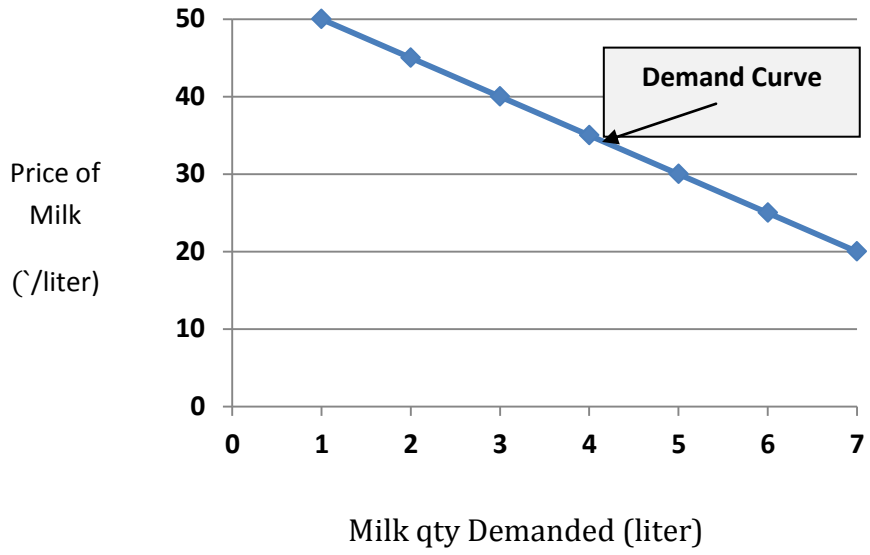
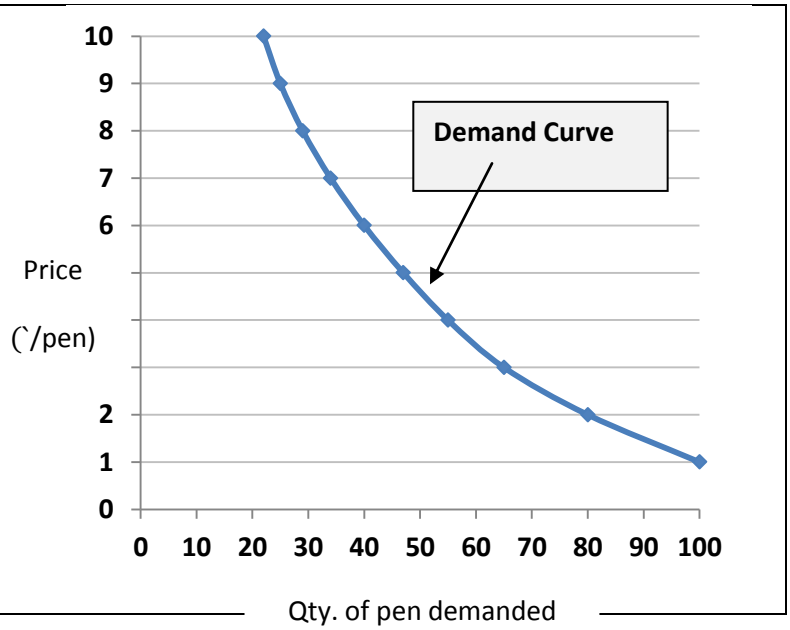


Fig. 1: Demand Curve of consumer "A"

A demand curve shows the relationship between the price of a product and the quantity demanded over a period of time. The curve **slopes downwards** from left to right showing that, when price rises, less is demanded and *vice versa*. Thus the demand curve represents the **inverse relationship** between the price and quantity demanded, other things remaining constant.

The demand curve is normally drawn in textbooks as a straight line suggesting a linear relationship between price and demand but in reality, the demand curve will be non-linear! No business has a perfect idea of what the demand curve for a particular product looks like, they use real-time evidence from markets to estimate the demand conditions and this accumulated experience of market conditions gives them an advantage in constructing demand-price relationships.

Market Demand Schedule of "X" pen in local area	
Price (`/pen)	Qty. of pen Demanded
1	100
2	80
3	65
4	55
5	47
6	40
7	34
8	29
9	25
10	22



Why demand curve slopes downward?

Generally, the demand curve slops downwards. This is in accordance with the law of diminishing marginal utility. The purchases of most of us are governed by this law. When the price falls, new purchasers enter the market and old purchasers will probably purchase more. Since, this particular commodity has become cheaper, it will be purchased by some people in preference to other commodities.

Why people buy more when the price falls?

1. A unit of money goes further and one can afford to buy more. He is willing and able to buy more because the thing being cheaper, his real income (i.e. income in terms of goods) increases. It is called **Income Effect.** For example, a person demands 2 lit milk at a price `30/lit. It means he spends `60 on milk. With the same amount of money he can buy 3 lit when price falls to `20/lit.
2. When the commodity becomes cheaper, it tends to be substituted wholly or partly for other commodities. This is called **Substitution Effect.** For example, a person demands 2 kg tomato and 2 kg brinjal every day (total 4 kg). If price of tomato falls (and price of brinjal remaining the same), he will buy more tomato say 3 kg and only 1 kg of brinjal (total 4 kg) to minimize his cost.
3. A commodity tends to be put to more uses or less urgent uses when it becomes cheaper. For example, additional qty of milk can be used for making sweets, ice-cream, etc**.**

Exceptions to the Law of Demand

As we have said above, generally the demand curve slops downwards from right to left. But sometimes the demand curve, instead of sloping downward, will rise upwards. In other words, sometimes people will buy more when the price rises. Such cases are very rare. The following is the list of few exceptions to the law of demand.

(1) Veblen Effect

Veblen has pointed out that there are some goods demanded by very rich people for their **social prestige**. When price of such goods rise, their use becomes more attractive and they are purchased in larger quantities. For example, demand for **diamonds** from the richer class will go up if there is increase in price. If such goods were cheaper, the rich would not even purchase.

(2) Giffen Paradox

Sir Robert Giffen discovered that the poor people will demand more of **inferior** goods if their prices rise and demand less if their prices fall. Inferior goods are those goods which are cheaper as compared to their substitutes. For example, in case of rice, normal rice is cheaper than basmati. Now, a middle class family demands 1 kg of basmati and 9 kg normal rice (total 10 kg) per month. If price of rice falls, he will demand more basmati say 2 kg and only 8 kg normal rice (total 10 kg). Thus, as price of rice decreases, demand of normal rice (inferior quality) also decreased. This is called 'Giffen Paradox'. In these cases, the law of demand has an exception.

Change in Demand (Extension / Contraction of Demand)

The demand curve does not change its position here. When change in demand for a commodity is entirely due to a change in its price, it is called extension or contraction of

demand. The extension or contraction in demand are movements on or along the given demand curve. It is shown in Fig. 3.

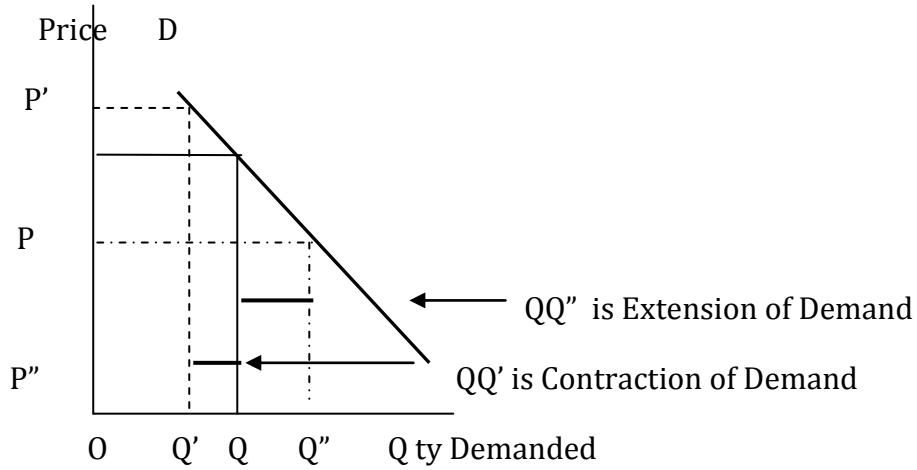


Fig. 3: Changes in Demand

When the price of a good is OP, demand is OQ. If the price of good falls to OP", demand expands to OQ". Thus extension in demand is QQ". On the other hand, when the price of good rises to OP' demand contracts to OQ'. Thus contraction in demand is QQ'.

Shift in Demand (Increase / Decrease in Demand)

One of the basic assumptions of economic theory is 'other things being equal'. Other things are income, tastes, population, government policy, technology, price of related goods etc. Change in such factors will bring about increase or decrease in demand. In Fig.4, the increase in demand is shown by the shifts of the demand curve to the right from D to D' and D". The increase in demand is shown by the shift to the right from D to D' and QQ' indicates increase in demand. The decrease in demand is shown by the shift to the left from D to D" and QQ" indicates decrease in demand.

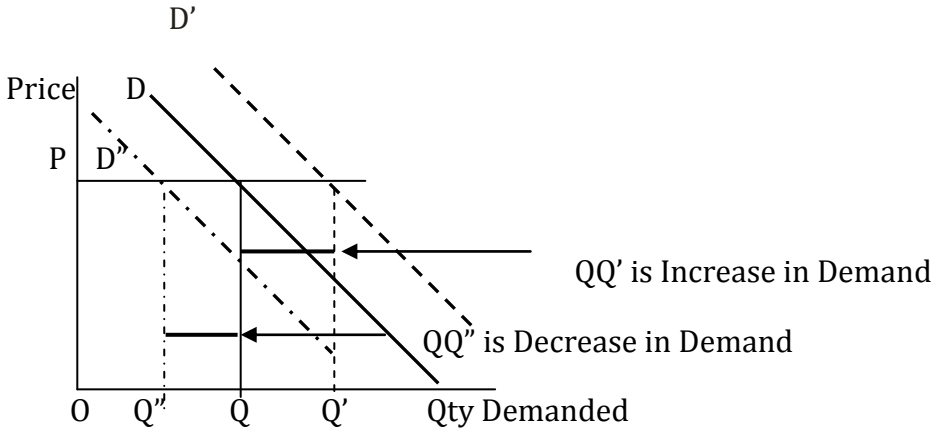


Fig. 4: Shifts in Demand

Factors determining demand

The following are the factors that affect the demand of a good:

1. **Change in fashion**: When some goods go out of fashion, they will be less in demand even though they may become cheap

2. **Change in weather**: Demand change when the weather changes. A fall in the price of woolen clothes does not increase their demand in summer.
3. **Change in the quantity of money in circulation**: If the quantity of money in circulation increases, the people will have more purchasing power and consequently demand will increase and vice versa.
4. **Change in population**: A change in size or composition of population will bring about a change in demand. If birth rate increase, more toys and perambulators will be demanded, country with old men will demand more walking sticks, false teeth and medicines.
5. **Change in wealth distribution**: Suppose wealth is distributed more evenly then the demand for necessaries and comfort commonly used by poor people will increase, while demand for luxuries will fall.
6. **Change in real income**: Increase in real income means things is cheap and with the same money/income people are able to buy more goods.
7. **Change in habit, test and customs**: Demand also depends on the tastes, habits and custom of a commodity. For example, if people develop tastes for tea in place of lassi, the demand for tea will increase.
8. **Technical progress**: Inventions and discoveries bring new things in the market and therefore demand for old things decline. For example, radio sets replaced gramophones and TV sets are replacing radio sets.
9. **Discovery of cheap substitutes**: Manufacture of vegetable ghee has made available a cheap substitute for ghee and therefore demand for pure ghee has decreased
10. **Advertisemen**t: A clear and persistent advertisement may create a new type of demand.

Inter-related Demand

1. **Joint demand:** When several things are demanded for a joint purpose, it is a case of joint demand. Milk, sugar and tea leaves are wanted for making a tea.
2. **Composite demand:** The demand for a commodity that can be put to several uses is a composite demand. Coal can be used for heating, cooking and for a running steam engine etc. Similarly milk can be used for making different dairy products like penda, cheese, curd, etc.
3. **Latent Demand:** It is probably best described as the potential demand for a product. It exists when there is willingness to buy among people for a good or service, but where consumers lack the purchasing power to be able to afford the product. Latent demand is affected by **advertising.**
4. **Speculative Demand:** The demand which is **not for consumption** purpose but for **profit making** is called speculative demand.

Elasticity of Demand

The law of demand explains that demand will change due to a change in the price of the commodity. But it does not explain the rate at which demand changes to a change in price. The concept of **elasticity** of demand measures the **rate of change** in demand.

Demand extends or contracts with change in price. This quality of demand by virtue of which it changes called **elasticity** of demand. Elasticity means **sensitiveness** or **responsiveness**. Elasticity of demand expresses the **degree of correlation** between demand and price. It is the measure of the responsiveness of demand to changing price.

Elastic and Inelastic Demand

A change in demand is not always proportionate to the change in price. A small change in price may lead to a great change in demand. In that case, we shall say that the demand is **elastic**. If, on other hand, even a big change in price there is followed only by a

small change in demand, it is said to be a case of **inelastic demand.** For example, demand of mobile is elastic, while demand of salt is inelastic.

Types of Elasticity

1. Price elasticity

The degree of responsiveness of quantity demanded to a change in price is called price elasticity of demand. It is the ratio of proportionate change in the amount demanded to a proportionate change in price.

$$\text{Price Elasticity (Ep)} = \frac{\%\text{ change in Demand}}{\%\text{ change in Price}}$$

2. Income Elasticity

Income elasticity is a measure of responsiveness of demand to change in income, when price remains the same. It is the ratio of proportionate change in the amount spent on commodity to a proportionate change in income.

$$\text{Income Elasticity (Ei)} = \frac{\%\text{ change in Demand}}{\%\text{ change in Income}}$$

3. Cross Elasticity

Here, a change in price of one good causes a change in the demand for other goods. This type of elasticity arises in the case of inter-related goods such as substitutes and complementary goods.

$$\text{Cross Elasticity (Ec)} = \frac{\%\text{ change in Demand for commodity X}}{\%\text{ change in Price of commodity Y}}$$

Measurement of Price Elasticity

Under this method, we measure elasticity by comparing the percentage change in price with percentage change in demand.

$$\text{Elasticity (Ep)} = \%\text{ change in Demand} \div \%\text{ change in Price}$$

$$= \frac{\text{Change in Demand}}{\text{Initial Demand}} \times 100 \div \frac{\text{Change in Price}}{\text{Initial Price}} \times 100$$

$$Ep = \frac{\text{Change in Demand}}{\text{Initial Demand}} \div \frac{\text{Change in Price}}{\text{Initial Price}}$$

$$Ep = \frac{|\text{New D} - \text{Old D}|}{\text{Old D}} \div \frac{|\text{New P} - \text{Old P}|}{\text{Old P}}$$

Example 1 : Find out price elasticity (Ep) for following demand schedule**.**

Price of X (`/kg)	**Qty of X Demanded (kg)**
250	10
200	15

$$Ep = \frac{|\text{New D} - \text{Old D}|}{\text{Old D}} \div \frac{|\text{New P} - \text{Old P}|}{\text{Old P}}$$

$$= \frac{|15-10|}{10} \div \frac{|200-250|}{250}$$

$$= 5/10 \div 50/250$$

$$= 1/2 \div 1/5 = 5/2 = 2.5$$

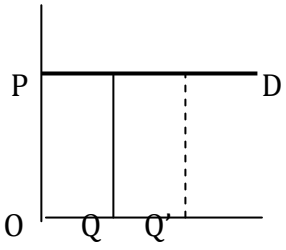
Conclusion: Ep > 1. Thus, the **demand is very elastic**.

There are five measures of elasticity

1. EP = 0 : Perfectly inelastic demand (e.g. products which are essential for existence)
2. Ep = α : Perfectly elastic demand (it is only a theoretical concept)
3. Ep > 1 : Elastic or very elastic demand (generally all luxury products)
4. Ep < 1 : Inelastic or less elastic demand (generally all food or agricultural products)
5. Ep = 1 : Unitary elastic demand (generally all products used for comforts)

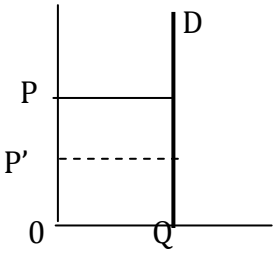
Degree of Price Elasticity: There are five types of elasticity of demand.

1. Infinite or Perfectly elastic demand (Ep=α)



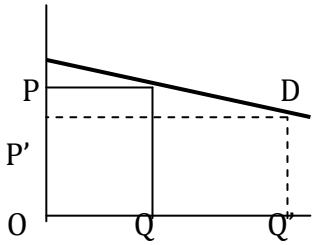
Elasticity of demand is infinity when even a negligible fall in price of the commodity leads to an infinite extension in the demand for it. .

2. Perfectly inelastic demand (Ep=0)



Perfectly inelastic demand means a great rise or fall in the price of the commodity, its demand remains absolutely unchanged.

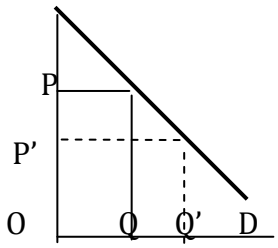
3. Relatively (very) elastic demand (Ep>1)



When even a small change in the price of a commodity leads to a considerable extension/ contraction P' of demand, demand is said to be very elastic.

(**PP' < QQ'**)

4. Unitary (unit) elastic demand (Ep=1)



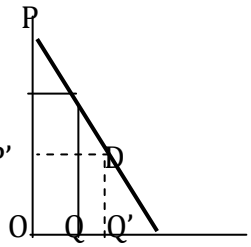
When a change in price brings equal (but negative) change in demand is refered as unit elasticity. For example, 10% increase in price results into 10% contraction in demand.

(**PP' = QQ'**)

5. Relatively inelastic (or less elastic) demand (Ep<1)

When even a substantial change in price brings only a small extension/contraction in demand, it is said to be a less elastic or relatively inelastic demand.

(**PP' > QQ'**)



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Total expenditure method / Total outlay method

This method measures elasticity of demand by examine the change in the total expenditure due to a change in price.

Example: Demand Schedule of Milk is as under. Calculate Ep at each level of change.

Price of Milk (`/ liter)	Qty Demanded (liter)	Total Expenditure (`)	Remarks
40	3	120	(1)
35	4	140	(2)
30	5	150	(3)
25	6	150	(4)
20	7	140	(5)

Calculation of Ep

Rule to decide Ep		Observations found in example
Situation	**Conclusion**	
When total expenditure increase with a fall in price (or decreases with a rise in price).	The elasticity is said to be greater than unity. **(Ep > 1)**	Between no.1 & 2 (140>120) and 2 and 3 (150>140).
When total expenditure remains the same. The rise in price is exactly balanced by reduction in purchases.	The elasticity is said to be a unity. **(Ep = 1)**	Between no.3 & 4 (150=150) and 2 and 5 (140=140).
When total expenditure decrease with a fall in price or increases with a rise in price.	The elasticity is said to be less than unity. **(Ep < 1)**	Between no.4 & 5 (140<150).

THEORY OF SUPPLY

Definition of Supply

Supply is defined as the quantity of a product that a producer is willing and able to supply into the market at a given price in a given time period. Supply means the quantity of goods offered for sale at a given price during a specific period of time.

Stock

Stock is the total volume of a commodity which can be brought into the market for sale at a short notice.

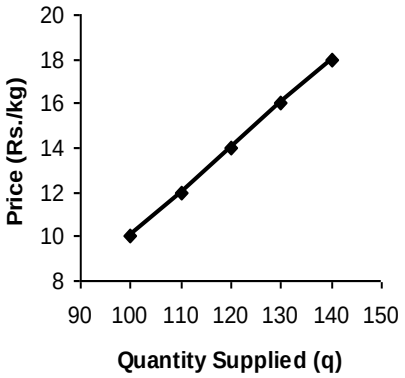
- Supply is drawn from the stock of the commodity.
- Supply is the actual quantity that a seller is willing to sell at a particular price.
- Depending on the demand of for a commodity stock is converted into supply.
- For perishable commodities stock and supply are the same. (e.g. Milk)
- For durable commodities stock and supply are different. (e.g. TV)

Supply schedule

A **supply schedule** is a statement of the various quantities of a given commodity offered for sale at various prices per unit of time. **Individual supply schedule** is a list of quantities of a given commodity offered for sale by an individual seller at different prices. By adding up the quantity supplied at various prices by all sellers in the market, we can get **market supply schedule.**

Supply Schedule of Banana in Anand Market

Price (`/kg)	Individual Supply (q)			Market Supply (q)
	Seller A	Seller B	Seller C	
10	100	80	150	330
12	110	100	160	370
14	120	120	170	410
16	130	140	180	450
18	140	160	190	490



It is seen that when the price is `10/kg, 100 q are offered for sale by "A" seller. As the price increases, the quantity willing to supply also increases.

Supply Curve

With the help of the supply schedule, a supply curve can be drawn. It shows the relationship between price and supply. It has a positive slope. It moves upward to the right. The price of the product and quantity supplied are **directly related** to each other indicating that as price increases, supply also increases and vice versa.

LAW OF SUPPLY

The basic **law of supply** is that as the price of a commodity rises, so producers expand their supply onto the market. **"Other things remaining the constant, as the price of commodity rises, its supply expands and as the price falls, its supply contracts".**

- The law of supply establishes a **direct or positive relationship** between price and supply**.**
- Firms will supply less at lower prices and more at higher prices.

There are three main reasons why supply curves for most products are sloping upwards from left to right.

1. **The profit motive:** When the market price rises (for example after an increase in consumer demand), it becomes more profitable for businesses to increase their output. Higher prices send signals to firms that they can increase their profits by satisfying demand in the market.
2. **Production costs:** When output expands, a firm's production costs rise, therefore a higher price is needed to justify the extra output and to cover these extra costs of production.
3. **New entrants coming into the market:** Higher prices may create an incentive for other businesses to enter the market leading to an increase in supply.

Change in Supply (Extension and Contraction of supply)

When more units are supplied at a higher price, it is called 'extension of supply'. When fewer units are supplied at a lower price, it is called 'contraction in supply'. It is illustrated in Fig. 2.

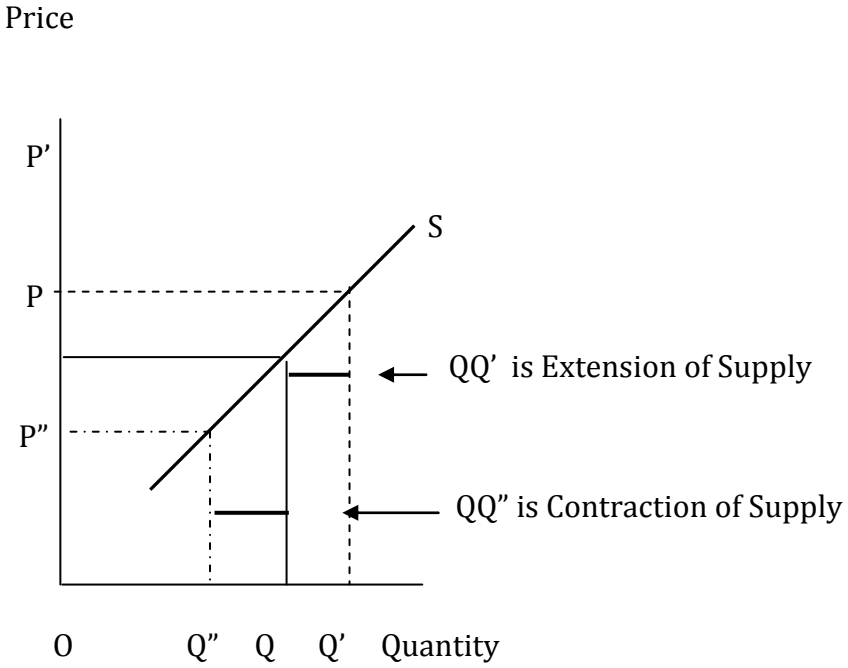


Fig. 2: Change in Supply

When the price is OP, OQ is supplied. When price increases to OP', the producer will supply OQ' units. The movement from OQ to OQ' shows the extension of supply. Original price is OP and original supply is OQ. When price falls to OP" the producer will supply OQ" units. The supply has contracted from OQ to OQ".

Shifts in Supply (Increase and Decrease in supply)

Increase or decrease in supply causes shifts in the supply curve. A shift in the supply curve is due to a change in other factors i.e., other than the price of the commodity. It is explained in the Fig. 3. At price OP, S is the supply curve before the change in other factors. S' shows an increase in supply because at the same price OP, more is offered for sale i.e., QQ'. S" shows decrease in supply because at the same price less is offered for sale ie. OQ".

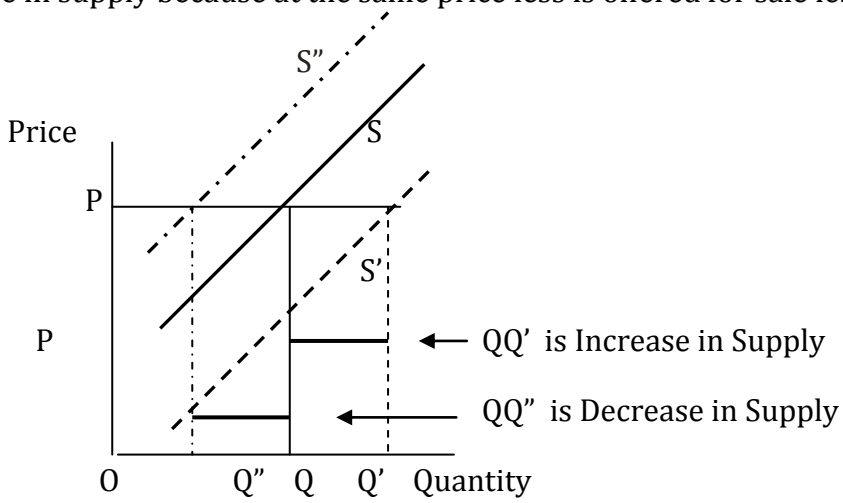


Fig. 3: Shifts in Supply

Factors determining Supply

1. **Price of the product**: As price of the product increases, its supply will **extend**.
2. **Prices of other products:** Any change in the prices of other products will influence the supply. An increase in the price of other products will influence the producer to shift the production in favour of that product. Supply of the original product will be **reduced**.
3. **Production technology:** State of production technology affects the supply function. If advanced technology is used in the country, large scale production is possible. Hence supply will **increase**. Old technology will not increase the supply.
4. **Prices of inputs:** When the prices of inputs rise, cost of production will increase. This will result in a **decrease** in supply.
5. **Number of producers:** If the number of producers producing the product increases, the supply of the product **will increase** in the market.
6. **Future price expectations:** If producers expect that there will be a rise in the prices of products in future, they will **not supply** their products at present.
7. **Taxes and subsidies:** If tax is imposed by the government on the inputs of a commodity, cost of production will go up. Supply will be **reduced**. When subsidy is given to the producer, it will encourage them to produce and supply more. Subsidy means a part of the cost of a commodity will be borne by the government.
8. **Non-economic factors:** Non-economic factors like, war, political climate and natural calamities create **scarcity** in supply.

Elasticity of Supply

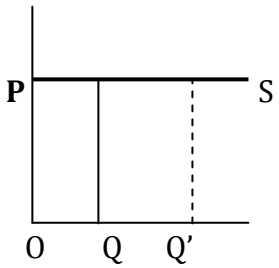
The law of supply tells us that quantity supplied will respond to a change in price. The **elasticity of supply explains the rate of change in supply as a result of change in price**. It can be measured by the formula mentioned below:

$$\text{Elasticity of Supply (Es)} = \frac{\%\text{ change in quantity Supplied}}{\%\text{ change in Price}}$$

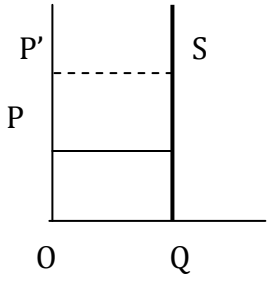
Degrees of Elasticity of Supply

1. Perfectly elastic supply (Es=α)

The coefficient of elasticity of supply is infinity. For a small change or no change in price, there will be infinite amount of supply.

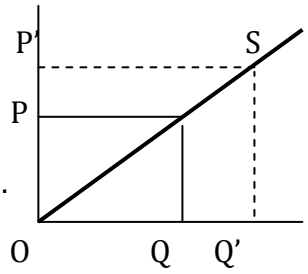


2. Perfectly inelastic supply (Es=0)



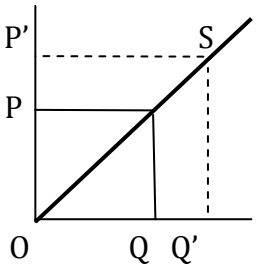
The coefficient of elasticity is equal to zero. change in price will not bring about any change in quantity supplied.

3. Relatively elastic supply (Es>1)



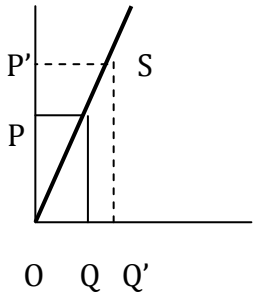
The coefficient of elastic supply is greater than 1. A small change in price brings large change in supply. (**PP' < QQ'**)

4. Unitary elastic supply (Es=1)



The coefficient of elastic supply is equal to 1. A change in price will cause a proportionate change in quantity supplied. (**PP' = QQ'**)

5. Relatively inelastic supply (Es<1)



The coefficient of elasticity is less than one. A large change in price brings only a small change in supply. (**PP' > QQ'**)

COST CONCEPTS

In cost theory, economists use different names for cost concepts under different contexts. They are as under.

Money cost, Real cost and Opportunity cost

Money cost or nominal cost is the total money expenses incurred by a firm in producing a commodity. It includes, cost of raw materials, wages and salaries of labour,

expenditure on machinery and equipment, depreciation on machines, buildings and such other capital goods, interest, insurance, taxes, normal profit of the entrepreneur, etc

Real cost is a subjective concept. It expresses the pains and sacrifices involved in producing a commodity. Thus, the money paid for securing the factors of productions is money cost whereas the efforts and sacrifice made by the capitalists and workers in foregoing leisure constitute real costs

The opportunity cost of any good is the income of next best alternative good that is sacrificed. For example a farmer who is producing wheat can produce potatoes with the same factors. Therefore the opportunity cost of a quintal of wheat is the amount of output of potatoes given up.

SEVEN COST CONCEPTS

It is assumed that every business firm has a certain data regarding how they are producing various levels of outputs with the given prices of inputs and outputs. With this data, we can understand the relationship between costs and output levels. Basically we require data on output, fixed costs, variable costs and prices of inputs and outputs. From this data we can finally derive all the seven cost concepts as under.

(1) Fixed Cost: Total Fixed Cost (TFC)

Costs which do not change in magnitude as the amount of output or production changes. Fixed cost has to be incurred even if the production is not taken. E.g. land taxes, interest, insurance premium, depreciation on capital investment, annual hired labour etc.

(2) Variable Cost: Total Variable Cost (TVC)

Costs which change in magnitude as the amount of output or production changes. Variable costs vary with the level of production. E.g. cost of seeds, fertilizers, irrigation and pesticides, cost of daily based labour, etc.

(3) Total Cost (TC) = TFC + TVC

$$\textbf{(4) Average Fixed Cost (AFC)} = \frac{TFC}{Y}$$

$$\textbf{(5) Average Variable Cost (AVC)} = \frac{TVC}{Y}$$

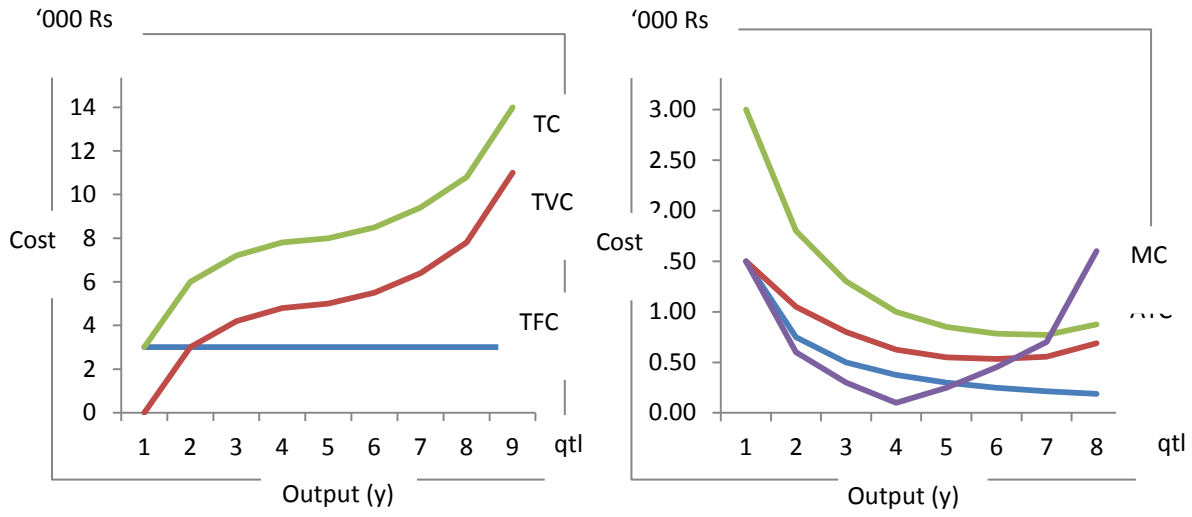
$$\textbf{(6) Average Total Cost (ATC)} = \frac{TC}{y}$$

$$\textbf{(7) Marginal Cost (MC)} = \frac{\Delta TC}{\Delta y}$$

EXAMPLE

Cost in ` (thousand)

y (q)	TFC	TVC	TC=TFC + TVC	AFC= TFC/y	AVC= TVC/y	ATC= TC/y	ΔTC	Δy	MC= ΔTC/Δy
0	3	0	3	-	-	-	-	-	-
2	3	3	6	1.50	1.50	3.00	3.00	2.00	1.50
4	3	4.2	7.2	0.75	1.05	1.80	1.20	2.00	0.60
6	3	4.8	7.8	0.50	0.80	1.30	0.60	2.00	0.30
8	3	5	8	0.38	0.63	1.00	0.20	2.00	0.10
10	3	5.5	8.5	0.30	0.55	0.85	0.50	2.00	0.25
12	3	6.4	9.4	0.25	0.53	0.78	0.90	2.00	0.45
14	3	7.8	10.8	0.21	0.56	0.77	1.40	2.00	0.70
16	3	11	14	0.19	0.69	0.88	3.20	2.00	1.60



Nature and characteristics of AFC, AVC, ATC and MC

AFC: It is a fixed cost per unit. It varies with the level of output, as y increases, AFC decreases. So it always slopes downward.

AVC: It varies with the level of output. AVC is decreasing first, attain minimum and then increasing. The shape of AVC is "U" shaped.

ATC: It decreases as y increases, attain a minimum of AVC

MC: It is change in total cost in response to a unit increase in y. As y increases, MC decreases due to more efficient use of variable inputs, reaches a minimum and then slopes upwards.

THEORY OF DISTRIBUTION

Firm and Industry

Firm is an individual or single unit engaged in production or marketing of a good or services. While a group of similar firms is known as industry.

Market

Meaning, concept and needs for marketing

Meaning of Market

Market is a derivative of Latin word 'marcatus' meaning merchandise, wares, traffic, trade or place where business is conducted. It may mean and include a place as an open space (in village) or a larger building where actual buying and selling take splace. An assembly or a meeting together of people for their private purchases and sale of goods at a stated time and place e.g. village fairs or periodical markets. An area of operation or geographical or economic extent of commercial demand for commodities. The course of commercial activity by which exchange of commodities is affected. It may mean all inhabitants of an area.

Marketing

American committee on marketing has defined marketing from the following

Three viewpoints.

Legalistic view: Marketing includes all activities, which are concerned with effecting changes in ownership and possession of goods and services.

Economic view: Marketing is that part of economics, which deals with the creation of time, place and possession utilities.

Descriptive view: Marketing is the performance of business activities that direct the flow of goods and services from the producer to the final user or consumer. Philip Kotler has defined, "Marketing, as the set of human activities directed at facilitating and consummating exchanges". In simple words, marketing is defined as the process of providing the right product in the right place at the right price and at the right time.

Concepts of marketing

Sales concept and marketing concept are clearly distinct from each other.

Sales concept Starts with the firm's existing products and considers the task as one of using selling and promotion to stimulate a profitable sales.

Marketing concept Starts with firm's existing and potential consumers and their needs; it plans a coordinated set of products and programmes to serve these needs; and it hopes to build its profits on creating meaningful value satisfactions. In the words of Philip Kotler, the marketing concept is a customer orientation backed by integrated marketing aimed at generating customer satisfaction and long-run customer welfare as the key to satisfying organizational goals. Integrated marketing means an intelligent adaptation and coordination of four P's viz., **Product, Price, Place and Promotion.** Price should be made consistent with quality. The channels of distribution should be made consistent with price and quality. The promotion be made consistent with channels, price and product quality. To achieve this type of integration, many companies have created product managers and market managers. Based on the new concept of marketing, the marketing process can be illustrated below: Here, the marketing process starts with the consumer and ends, with the consumer. After knowing consumer needs and wants, appropriate products and services are developed and demand for these products and services is stimulated and created by implementing suitable promotional polices. Then the said demand is satisfied through an optimum distribution strategy. Finally, by organizing appropriate marketing information system, feedback is collected and in the light of this information, appropriate changes are initiated so as to adopt the marketing elements to the changing situation in the market place.

Market means a place or a geographical area, where buyers with money and sellers with their goods meet to exchange goods for money. In Economics market refers to a group of buyers and sellers who involve in the transaction of goods and services.

Characteristics of a market

1. **Buyers and Sellers**: Existence of buyers and sellers of the commodity.
2. **Contacts**: The establishment of contact between the buyers and sellers. Distance is of no consideration if buyers and sellers could contact each other through telephone, agents, letter correspondence and internet, etc.
3. **Commodity**: Buyers and sellers deal with the same commodity or variety.
4. **Price**: There should be a price for the commodity bought and sold in the market.

Classification of Markets

Classification of markets

Markets can be classified on the basis of nature of commodity, time and nature of

business, area, nature of competition etc.

On the Basis of Location

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

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

Primary markets: These markets are located in big towns near the centres of production of commodities. In these markets, a major part of the produce is brought for sale by the producer-farmers themselves. Trans actions in these markets usually take place between the producers/farmers and traders.

Secondary wholesale markets: These markets are located generally at district headquarters or important trade centres or near railway junctions. Major transactions in commodities take place between the village traders and wholesalers. Bulk of the arrivals in these markets is from other markets. Produce in these markets is handled in large quantities. There are, therefore, specialized marketing agencies performing different marketing functions such as those of commission agents, brokers, weighmen etc.

Terminal market: 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. Commodity exchanges exist in these markets which provide facilities to forward trading in specific commodities. Such markets are located either in metropolitan cities or in sea-ports. Delhi, Mumbai, Chennai, Kolkatta and Cochin are terminal markets for many commodities.

Seaboard Markets: Markets which are located near the seashore and are meant mainly for the import and / or export of goods are known as seaboard markets. These are generally seaport towns. Examples of these markets in India are Mumbai, Chennai, Kolkatta and Cochin.

On the Basis of Area/Coverage

On the basis of the area from which buyers and sellers usually come for transactions, markets may be classified into the following four classes

Local or Village Market: A market in which the buying and selling activities are confined among the buyers and sellers drawn from the same village or near by villages. The village markets exist mostly for perishable commodities in small lots, e.g., local milk market or vegetable market.

Regional market: A market in which buyers and sellers for a commodity are drawn from a larger area than the local market. Regional markets in India usually exist for food grains.

National market : A market in which buyers and sellers are at the national level. National markets are found for durable goods like jute and tea.

World market: A market in which the buyers and sellers are drawn from the whole world. This is the biggest market from the area point of view. This market exists in the commodities which have a world-wide demand and /or supply, such as coffee, machinery, gold, silver, etc. In recent years many countries are moving towards aregime of liberal international trade in agricultural produce like raw cotton, sugar, rice and wheat. It is expected that the international trade in such commodities will become free from many restrictions as they exist now.

On the Basis of Time Span

On the basis of time span, markets are of the following types:

Short-period markets: Markets which are held only for a day or few hours are called short period markets. Products deal to within these markets are of a highly perishable nature, such as fish, fresh vegetables, and liquid milk. In these markets, the prices of commodities are governed mainly by the extent of demand for, rather than by the supply of, the commodity.

Long-period markets: These markets are held for a longer period than the short period markets. Commodities traded in these markets are less perishable and can be stored for some time; these are food grains and oilseeds. Prices are governed both by the supply and demand forces.

Secular markets: These are markets of a permanent nature. Commodities traded in these markets are durable in nature and can be stored for many years. Examples are markets for machinery and manufactured goods.

On the Basis of Volumes of Transactions

There are two types of markets on the basis of volume of transactions at a time.

Wholesale market: A wholesale market is one in which commodities are bought and sold in large lots or in bulk. These markets are generally located in either towns or cities. Economic activities in and around these markets are so intense that over time the population tends to get concentrated around these markets. These markets occupy an extremely important link in the marketing chain of all the commodities including farm products. Apart from balancing the supply and demand and discovery of the prices of a commodity, these markets and functionaries in them serve as a link between the production system and consumption system.

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. Retailers purchase the goods from wholesale market and sell in small lots to the consumers in retail markets. These markets are very near to the consumers.

On the Basis of Nature of Transactions

The markets which are based on the types of transactions in which people are engaged are of two types

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

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 i.e., time t+1. Sometimes even on the specified date in the future (t+1), there may not be any exchange of the commodity. Instead, the differences in the purchase and sale prices are paid or taken.

On the Basis of Number of Commodities in which Transaction takes place: A market may be general or specialized on the basis of the number of commodities in which transactions are completed.

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.

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.

On the Basis of Degree of Competition

Each market can be placed on a continuous scale, starting from a perfectly competitive point to a pure monopoly or monopsony situation. Extreme forms are almost non-existent. Nevertheless, it is useful to know their characteristics. In addition to these two extremes, various midpoints of this continuum have been identified. On the basis of competition, markets may be classified into the following categories.

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

a) There are 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 market

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.

Monopoly market: Monopoly is a market situation in which there is only one seller of a commodity. He exercises sole control over the quantity or price of the commodity. In this market, the price of a commodity is generally higher than in other markets. Indian farmers operate in monopoly market when purchasing electricity for irrigation(Tamil Nadu Electricity Board). When there is only one buyer of a product the market is termed as a monopsony market.

Duopoly market: A duopoly market is one which has only two sellers of a commodity. They may mutually agree to char ge a common price which is higher than the hypothetical price in a common market (Bus transport -Private and Public sector).Market situation in which there are only two buyers of a commodity is known as the duopoly market.

Oligopoly market: A market in which there are more than two but still a few sellers of a commodity is termed as an oligopoly market. A market having a few (more than two) buyers is known as oligopoly market.

Monopolistic competition: When a large number of sellers deal in heterogeneous and differentiated form of a commodity, the situation is called monopolistic competition. The difference is made conspicuous by different trade marks on the product. Different prices prevail for the same basic product. Examples of monopolistic competition faced by farmers may be drawn from the input markets. For examples, they have to chose between various makes of insecticides, pump sets, fertilizers and equipments.

Bilateral monopoly - single seller and single buyer

On the Basis of Nature of Commodities

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

Commodity markets: A market which deals in goods and raw materials, such as wheat, barley, cotton, fertilizer, seed, etc., are termed as commodity markets. Specific commodities are bought and sold in these markets. These may either be production goods or consumption goods. In such markets, transactions of specialized commodities take place. E.g. Mumbai cotton market, Punjab wheat market etc.

Produce exchange : Produce exchanges are the big and well organized markets for raw produce like wheat, cotton, jute etc. and are found in cities or developed industrial centres of a country. One exchange deals in one specialized product. Typical examples of such exchanges are the wheat exchange, Cotton exchange and Jute exchange.

Manufactured and semi-manufactured goods market

In these markets, different types of manufactured and semi-manufactured commodities are bought and sold. E.g. Leather goods market, Kanpur.

Bullion Market: Bullion markets are concerned with the purchase and sale of gold, silver and other precious stones. These are highly specialized and well organized markets of the world and are localized in civilized as well as industrially developed centres of a country. Bullion markets of Bombay, Calcutta, Delhi and Chennai etc., are of a few examples of such markets.

Capital markets: Capital market is responsible for meeting the financial requirements of big industrial and commercial concerns. Capital is required at every stage of business which comes from the money market, stock exchange and foreign exchange.

Money market: It includes a number of agencies providing finance to business and industrial concerns. Such markets, on one hand, help the people to invest or deposit their surplus funds either in industrial concerns or in banks and on the other, allow those who are in need of money to take loans through banks for a reasonable remuneration in turn by way of interest.

Stock exchange market: In this market, shares are purchased and sold in different parts of the country. Ex. BSE, NSE **.**These markets are highly specialized and command a very wide area of operation. Main purpose of such markets is to make investments in public and private sector undertakings.

Foreign exchange market: It is a market for buying and selling of foreign currencies. It can also be called as an international market concerned with the export and import trade of a country. Mumbai, London, New Delhi are examples of such markets.

On the Basis of Stage of Marketing

On the basis of the stage of marketing, markets may be classified into two categories

Producing markets: Those markets which mainly assemble the commodity for further distribution to other markets are termed as producing markets. Such market share located in producing areas. Ex. Uthukkuli Butter Market, Rasipuram Ghee Market.

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.

On the Basis of Extent of Public Intervention

Based on the extent of public intervention, markets may be placed in any one of the following two classes

Regulated markets: In these markets, 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.

Unregulated markets: These are the markets in which business is conducted without any set rules and regulations. Traders frame the rules for the conduct of the business and run

the market. These markets suffer from many ills, ranging from un standardized charges for marketing functions to imperfections in the determination of prices.

On the Basis of Type of Population Served

On the basis of population served by a market, it can be classified as either urban or rural market

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

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 f arm product between urban and rural demands.

On the Basis of Visibility

Black Market: In black markets, scarce commodities are sold at a very high price not openly but in a secret manner. The situation arises on account of excess of demand over limited supply. Black market is an anti-social activity which gives way to black money. Black money, hidden money or unaccounted money then passes into the money market where it is invested in different trades and business activities. Theinterest and profits so earned on the unaccounted money go on accumulating, till it attracts attention of the income tax authorities.

PERFECT COMPETITION or FREE MARKET

Perfect competition is a market situation where there are infinite number of sellers and buyers that no one is big enough to have any appreciable influence over market price.

Characteristics

1. Large number of buyers and sellers
2. Homogeneous Product
3. Perfect knowledge about market conditions
4. Free entry and Free exit
5. Perfect mobility of factors of production
6. Absence of transport cost
7. Absence of Government or artificial restrictions or collusions

Price determination

Under perfect competition, the market price is determined by the market forces namely demand and supply of the products. Hence there is uniform price in the market and all the units of the output are sold at the same price. Thus, perfect competition provides ideal market in which prices are set equal to **marginal cost**.

Advantages

1. There is consumer sovereignty in a perfect competitive market.
2. In the perfectly competitive market, the prices equal to **marginal cost**. It is beneficial to the consumer.
3. It is not necessary for the producers to incur expenditure on advertisement to promote sales. This reduces the wastage of resources.
4. In the long run, maximum economic efficiency in production is achieved. There is no idle or unused or excess capacity.

MONOPOLY

Monopoly is a market structure in which there is a single seller, there are no close substitutes for the commodity and there are barriers to entry.

Characteristics

1. There is **only one seller**; he can control either price or supply of his product. But he cannot control demand for the product, as there are many buyers.
2. **No close Substitutes** for the product. The buyers have no alternatives or choice. Either they have to buy the product or go without it.
3. The monopolist has control over the supply so as **control over the price**.
4. **No Entry:** There is no freedom to other producers to enter the market as the monopolist is enjoying monopoly power. There are legal, technological, economic and natural obstacles, which may block the entry of new producers.
5. There is no difference between a **firm and an industry**. As there is only one firm, that single firm constitutes the whole industry.

Causes for Monopoly

1. **Natural:** A monopoly may arise on account of some natural causes. Some minerals are available only in certain regions. For example, South Africa has the monopoly of diamonds; nickel in the world is mostly available in Canada and oil in Gulf Countries. This is natural monopoly.
2. **Technical**: Monopoly power may be enjoyed due to technical reasons. A firm may have control over raw materials, technical knowledge, special know-how, scientific secrets and formula that enable a monopolist to produce a commodity. e.g., Coco Cola. Pepsi, Bt Cotton.
3. **Legal:** Monopoly power is achieved through patent rights, copyright and trade marks by the producers. This is called legal monopoly.
4. **Large Amount of Capital**: The manufacture of some goods requires a large amount of capital. All firms cannot enter the field because they cannot afford to invest such a large amount of capital. This may give rise to monopoly. For example, iron and steel industry, railways, etc.
5. **State:** Government will have the sole right of producing and selling some goods. They are State monopolies. For example, like electricity and railways.

Price Determination

A monopolist tries to maximize his profits. The monopoly price is higher than the marginal revenue and marginal cost.

Advantages

1. **Low cost of production**: Monopoly firms have large-scale production possibilities. This will result in the reduction of costs of production. Output can be sold at low prices. This is beneficial to the consumers.
2. **Fast Innovation :** Monopoly firms have vast financial resources which could be used for research and development. This will enable the firms to innovate quickly.
3. **Expansion of market**: There are a number of weak firms in an industry. These firms can combine together in the form of monopoly to meet competition. In such a case, market can be expanded.

   Although there are some advantages, there is a **danger** that monopoly power might be misused for **exploiting the consumers**.

Disadvantages

- **High price** : A monopolist always charges a high price, which is higher than the competitive price. Thus a monopolist exploits the consumers.
- **Artificial scarcity** : A monopolist is interested in getting maximum profit. He may restrict the output and raise prices. Thus, he creates artificial scarcity for his product.
- **Uneven prices**: A monopolist often charges different prices for the same product from different consumers.
- **Inequality** : In a country dominated by monopolies, wealth is concentrated in the hands of a few. It will lead to inequality of incomes. This is against the principle of the socialistic pattern of society.

Comparison between Perfect Competition and Monopoly

Perfect Competition	Monopoly
Large no. of sellers.	Only one or single seller.
Free entry.	No entry.
No control over price. Hence, price will be lower.	Control over price. Hence, price will be higher.
The firm can earn only normal profit in the long run and may earn super profit in short run.	The firm can earn super profit both in long run and short run.
Consumers are benefited.	Consumers may be exploited.

MONOPOLISTIC COMPETITION

Monopolistic competition refers to the market situation in which there are **large number of sellers** and the products are similar but not identical. The particular brand of product will have a group of **loyal** consumers. In this respect, each firm will have some monopoly and at the same time the firm has to compete in the market with the other firms as they produce a fair substitute. The essential features of monopolistic competition are **product differentiation** and existence of **many sellers**.

Examples :

1. Shampoo : Sun Silk, Clinic Plus, Ponds, Chik, Velvette, Kadal, Head & Shoulder, etc.

2. Tooth Paste : Binaca, Colgate, Forhans, Close-up, Promise, Pepsodent, Ajanta, etc.

Characteristics of Monopolistic Competition

1. Existence of large number of firms
2. Product differentiation
3. Producer has to incur expenses to popularize his brand. This expenditure involved in selling the product is called selling cost e.g. advertisement.
4. Freedom of entry and exit of firms

OLIGOPOLY

Oligopoly refers to a form of imperfect competition where there will be **only a few sellers** producing either homogenous or differentiated products. E.g. agricultural inputs market such as hybrid seeds, fertilizers, pesticides, tractors, etc.

Characteristics

- **Sellers** : Only a few sellers
- **Products**: are either homogenous or differentiated products.
- **Interdependence:** The most important feature of oligopoly is interdependence in decision - making. Since there are a few firms, each firm closely watches the activities of the other firm. Any change in price, output, product, etc., by a firm will have a direct effect on the fortune of its rivals. Firms may realize the importance of mutual co-operation. Then they will have a tendency of collusion. At the same time, the desire of each firm to earn maximum profit may encourage competitive spirit.

Thus, **co-operative** and **collusive tendency** as well as **competitive trend** would prevail in an oligopolistic market.

PHYSICAL FUNCTIONS-GRADING, TRANSPORTATION, STORAGE AND AREHOUSING

Buying and Selling

Buying and selling are the complimentary functions, around which all marketing efforts revolve and they are basic to the entire marketing process and these two are known as exchange functions which are involved in the transfer of ownership of goods.

Physical functions:

1. Packing
2. Standardizing
3. Grading
4. Transport
5. Storage

These are essential to the main functions of marketing (Assembling, Processing and Dispersion).

1 **PACKAGING:** Packaging is a marketing necessity - consumer require explanation, assurance, encouragement, confidence, praise, under keen competition customer needs an effective means to recognize a difference and establish preference that will ensure repeat purchase. The package should have some of the following components.

1. attract immediate attention
2. build consumer confidence
3. tell true product story at a glance
4. be clean and sanitary
5. should have protective seal
6. be convenient to use
7. should look like a good value to the consumer

Importance of packing

Packaging and package labeling have several objectives

1. Physical protection
2. Grouping
3. Building value
4. Usability
5. Barrier protection
6. Providing information
7. Safety
8. Portion control

Packaging types

1. Primary packaging is the material that first envelops the product and holds it. This usually is the smallest unit of distribution or use and is the package which is in direct contact with the contents. Eg. : Aluminum foil covering milk sweets
2. Secondary packaging is outside the primary packaging – perhaps used to group primary packages together.
3. Tertiary packaging is used for bulk handling , warehouse storage and transport shipping. The most common form is a palletized unit load that packs tightly into containers .

2 **Standardizing:** Standardizing and Grading imply setting up of the basic measures which the goods must conform. A standard specifies what basic quality a product must have to be consistent with the established characteristics. Standards are set with regard to the shape, size, colour, flavour, composition, weight etc.

3 **Grading**: Grading is the act of separating goods into different lots according to established specifications. Purpose of grading is to establish a common language

easily understood by buyers and sellers as the basis of judging the quality of the product in relation to its price. Grading and standardization also help to cater to the special tastes and liking of different section of buyers.

4 **Transport:** It is one of the most important functions of the modern marketing system. This function is primarily concerned with making goods available at the proper place resulting in creating place utility of the products. Transportation is necessary not only to provide the goods to the consumers in time, but also to find remunerative market sat faraway places. An efficient transport system enables the goods to reach the markets far and wide without losing the precious time. Special type of transport is highly essential for the transportation of livestock products. E.g. Refrigeration facility is essential for the transportation of milk and meat.

5 **Storage:** It is the process of holding and preserving goods. Storage creates time utility whereby goods are made more useful. Farm products are stored to make them available throughout the year to balance the periods of plenty and periods of scarcity.

Reasons for storing farm products:

1. To even out the seasonal fluctuation in production
2. To lengthen the shelf life of the farm products which are mostly perishable
3. To improve the quality as well as the value of the products.

FACILITATIVE FUNCTIONS -

1. Standardization,
2. Risk bearing,
3. Market information
4. Market intelligence

Risk Bearing: It is accepting the possibility of loss when marketing a product.

Physical risks: Physical risks are those results in the destruction of the product itself and are due to fire, accident, rain etc. Risk attached to such natural hazards is often transferred to institutions (Insurance companies) that specialize in assuming such risk.

Market risks: Market risks are those which occur due to the changes in product prices and changes in consumer demand for the products. Market risks can be reduced through accurate forecasting and market research.

Marketing Information: In the field of marketing, information is of great importance. Like men, money, machines and materials and information is also a vital input. As defined by Philip Kotler, Marketing information system is continuing &interacting structure of people, equipment & procedure designed to gather, sort, analyze, evaluate, distribute, pertinent, timely and accurate information for use by marketing decision makers, to improve their marketing planning, execution and control.

Three type of information come out of the systems:

a. Recurrent information

b. Monitored information

c. Requested information

Sources of marketing information

Sources of marketing information are

1. **Executive experience** : It is the direct counter part of the casual experience that we accumulate from the process of everybody living.
2. **Internal reports:** Come from the authorities that work as specialists for the firms.
3. **Marketing research:** Studies are conducted using methods of enquiry, observation and experimentation and by using available internal reports.
4. **Marketing models:** At a general level, sources may include for example, daily newspapers, technical journals, hand books, and reference materials, government publication, corporation annual reports and computer data bases.

Functions of Marketing Information System (MKIS):

MKIS should perform the following six functions.

1 Assembly -Searching and gathering marketing data

2 Processing - Editing, tabulating and summarizing data

3 Analysis - Computation (percentages and ratios), combining sales and costs data andother mathematical tasks.

4 Storage and retrieval - Indexing, filing and locating data.

5 Evaluation - Determining the accuracy of information.

6 Dissemination - Routing useful information to appropriate decision-makers.

Marketing Intelligence

A marketing intelligence system is a set of procedures and sources used by managers to obtain their everyday information about pertinent developments in marketing environment. It is a product of market research and marketing research. In marketing intelligence, marketing managers scan the environment in four ways.

a. Undirected viewing

b. Conditioned viewing

c. Informal search

d. Formal search

Marketing managers carry on marketing intelligence mostly on their own by reading books, newspapers and trade publications, talking to customers, suppliers and other outsiders and talking with other managers, personnel within the company. Well-recognized companies take additional step to improve the quality and quantity of marketing intelligence. First they train and motivate the 'sales force' to spot and report new development. Sales representatives are company's “eyes and ears". They are in an excellent position to pick up information missed by other means. The company must sell its sales force on their importance as intelligence gatherers. The sales force should be provided with easy reports

to fill out. Sales representatives should know which type of information to be sent to different manager. Secondly, the company motivates distributors, retailers and other middlemen to pass along important intelligence.

Marketing Cost

It is the actual expense incurred in buying goods and services from producers to ultimate consumer. It is the difference between final price paid by consumer for a commodity and price received by the primary producer. It includes assembling charges, handling charges, transport and storage cost, processing cost, profit margin to different intermediaries, etc.

Market (Price) Spread

Marketing cost is measured by the concept called market or price spread. Price spread is the difference between price paid consumer and price received by producer. Market spread is expressed in percentage of consumer's rupee.

Marketing Channel

Marketing channel can be defined as path through which a product moves from producer to consumer. There are mainly tow types of marketing channel i.e. Organized and Unorganized. Organized marketing channel involve participation of government institution or co-operative federation. E. g Gujarat Co-operative Milk producer's Federation. It is basically a service motive organization where consumer price will not have any violent fluctuation. Unorganized marketing channel has many participation of private traders having profit motive e.g. Private milk vendors.

Factor affecting marketing channel

1. Consumer distribution
2. Product characteristics
3. Characteristics of consumer
4. New marketing technologies
5. Changes in management
6. Changes in policies of government
7. Cost requirement

Value chain

Marketing channel adds value to commodities when goods pass through. To reduce exorbitant price rise in the value chain, market integration is carried out. There are two types of market integration namely vertical or horizontal. Vertical integration occur when firms confine activities of different channel. e. g. wholesaler doing functions of both retailer and wholesaler. Sometime producers convert their produce from raw

material ready to cook or to ready eat forms. In this case value chain is maintained with heavy investment on value addition process , cold chain, specialized transportation vehicle, etc., Horizontal integration occur when firms gain control over other firms by performing similar activities at same level in marketing channel.

Procedure for import of livestock products into India

All live-stock products shall be imported into India subject to the following conditions, namely: No live-stock product shall be imported into India without a valid sanitary import permit issued under clause (3). All applications for a permit to import consignments by land, air or sea shall be made in either Form A (Application For Permit To Import Live-Stock Products For Personal Consumption) Or Form B(For Trading / Marketing) whichever is relevant, and sent in triplicate to the Joint Secretary, Trade Division, Department of Animal Husbandry and Dairying, Ministry of Agriculture, Government of India .The sanitary import permit shall be issued for import of livestock products if, after a

detailed import risk analysis, the concerned authorities are satisfied that the import of the consignment will not adversely affect the health of the animal and human populations of this country. The import risk analysis shall be conducted by the concerned officers of the Department on the basis of internationally recognized scientific principles of risk analysis and the analysis shall be conducted with reference to the specific product and

the disease situation prevailing in the exporting country vis-a-vis the disease situation in India .The issue of permits shall be refused if the results of the import risk analysis show

that there is a risk of the specific product bringing in one or more specific diseases, which are not prevalent in the country and which could adversely affect the health and safety of the human and animal populations of this country. The import permit shall lay down the specific conditions that will have to be fulfilled in respect of the consignment, including pre-shipment certifications and quarantine checks. The permit shall also specify the post-import requirements with regard to quarantine inspections, sampling and testing. The import permit issued under this clause shall be valid for a period of six months, but can be extended by the concerned authority for a further period of six months, on request from the importer and for reasons to be recorded in writing. All livestock products shall be imported into India through the seaports or airports located at Delhi, Mumbai, Kolkata and Chennai, where the Animal Quarantine and Certification Services Stations are located.

On arrival at the entry point, the livestock product shall be inspected by the Officer-in-charge of the Animal Quarantine and Certification Services Station or any other veterinary officer duly authorized by the Department Of Animal Husbandry and Dairying, wherever required, in accordance with the specific conditions laid down in the sanitary import permit and with general guidelines issued by the Department of Animal Husbandry and Dairying from time to time. After inspection and testing, where-ever required, the concerned quarantine or veterinary authority shall accord quarantine clearance for the entry of the livestock product into India or, if required in public interest, order its destruction or its return to the country of origin. Where ever disinfection or any other treatment is considered necessary in respect of any livestock product, the importer

shall, on his own or at his cost through an agency approved by the Department of Animal Husbandry and Dairying, arrange for disinfection or other treatment of the consignment, under the supervision of a duly authorized quarantine or veterinary officer.

It shall be the responsibility of the importer.

a. To bring the livestock product to the concerned Animal Quarantine &Certification Services Station, or to the place of inspection, disinfection or treatment or testing as directed by the Quarantine or veterinary officer duly authorized on this behalf;

b. To open, repack and load into or unload from the Animal Quarantine Station and seal the consignment; and

c. To remove them after inspection and treatment or testing, according to the directions of the Quarantine or veterinary officer duly authorized by the Department. The Central Government may, in public interest, r elax any of the conditions specified under this Schedule relating to the permit in relation to the import of any live-stock product

EXPORT PROCEDURES

Certain documentation takes place while exporting from India. Special documents may be required depending on the type of product or destination. Certain export products may require a quality control inspection certificate from the Export Inspection Agency. Some food and pharmaceutical product may require a health or sanitary certificate for export. Shipping Bill/ Bill of Export is the main document required by the Customs Authority for allowing shipment. Usually the Shipping Bill is of four types and the major distinction lies with regard to the goods being subject to certain conditions which are mentioned below

1. Export duty/ cess

2. Free of duty/ cess

3. Entitlement of duty drawback

4. Entitlement of credit of duty under DEPB Scheme

The following are the documents required for the processing of the Shipping Bill:

1. GR forms (in duplicate) for shipment to all the countries.

2. 4 copies of the packing list mentioning the contents, quantity, gross and net weight of each package.

3. 4 copies of invoices which contains all relevant particulars like number of packages, quantity, unit rate, total f.o.b./ c.i.f. value, correct & full description of goods etc.

4. Contract, L/C, Purchase Order of the overseas buyer.

5. AR4 (both original and duplicate) and invoice.

6. Inspection/ Examination Certificate.

The formats presented for the Shipping Bill are as given below:

White Shipping Bill in triplicate for export of duty free of goods.

Green Shipping Bill in quadruplicate for the export of goods which are under claim for duty drawback.

Yellow Shipping Bill in triplicate for the export of dutiable goods.

Blue Shipping Bill in 7 copies for exports under the DEPB scheme.

Documents Required for Post Parcel Customs Clearance

In case of Post Parcel, no Shipping Bill is required. The relevant documents are mentioned below:

Customs Declaration Form:

It is prescribed by the Universal Postal Union (UPU) and international apex body coordinating activities of national postal administration. It is known by the code number CP2/ CP3 and to be prepared in quadruplicate, signed by the sender. Dispatch Note, also known as CP2. It is filled by the sender to specify the action to betaken by the postal department at the destination in case the address is non-traceable or the parcel is refused to be accepted. Prescriptions regarding the minimum and maximum sizes of the parcel with its maximum weight

Minimum size: Total surface area not less than 140 mm X 90 mm.

Maximum size: Lengthwise not over 1.05 m. Measurement of any other side of circumference 0.9 m./ 2.00 m.

Maximum weight: 10 kg usually, 20 kg for some destinations.

Commercial invoice: Issued by the seller for the full reliable amount of goods as per trade term.

GATT, WTO AND AGRICULTURE

To facilitate increased flow of commodities across international border is to eliminate completely some of the non-tariff barriers. Non-tariff barriers (NTB) in AoA are quantitative restriction, giving preference to domestic supplies in government purchases, providing subsidy or advantageous taxation allowance to domestic producer, minimum import prices, discretionary licensing, variable import levies, voluntary export restrictions, etc.,

GATT

General Agreement on Tariffs and Trade (typically abbreviated GATT) was the outcome of the failure of negotiating governments to create the International Trade

Organization (ITO). GATT was formed in 1947 and lasted until 1994, when it was replaced by the World Trade Organization during the final round of negotiations in early 1990s.The history of the GATT can be divided into three phases: The first, from 1947 until the Torquay Round , largely concerned which commodities would be covered by the agreement and freezing existing tariff levels. A second phase, encompassing three rounds, from 1959 to 1979, focused on reducing tariffs. The third phase, consisting only of the Uruguay Round from 1986 to 1994, extended the agreement fully to new areas such as intellectual property, services , capital , and agriculture . Out of this round the WTO was born.

WTO

World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their parliaments. The goal is to help producers of goods and services, exporters, and importers who conduct their business. In 1993 the GATT was updated (GATT 1994)to include new obligations upon its signatories. One of the most significant changes was the creation of the World Trade Organization (WTO). The 75 existing GATT members and the European Communities became the founding members of the WTO on 1 January 1995. The other 52 GATT members rejoined the WTO in the following two years (the last being Congo in 1997). Since the founding of the WTO and 21 new non-GATT members have joined, 29 are currently negotiating membership. There area total of 153 member countries in the WTO. Whereas GATT was a set of rules agreed upon by nations, the WTO is an institutional body. The WTO expanded its scope from traded goods to trade within the service sector and intellectual property rights. Although it was designed to serve multilateral agreements, during several rounds of GATT negotiations (particularly the Tokyo Round) plurilateral agreements created selective trading and caused fragmentation among members. WTO arrangements are generally a multilateral agreement settlement mechanism of GATT.

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